

Sustaining SMEs and Entrepreneurial Innovation in the Post-COVID-19 Era



Neeta Baporikar



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Handbook of Research on Sustaining SMEs and Entrepreneurial Innovation in the Post- COVID-19 Era

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M. Dhanabhakym, Bharathiar University, Coimbatore, India

The global spread of the coronavirus (COVID-19) has left a clueless situation to all economies globally. Entrepreneurs of SME, during the contagion, have to build and rebuild many survival strategies for the upcoming times. Agility in the workforce will be one of the principal revivals plans to bring back the business on rails. This chapter mainly aims to enhance the understanding of the importance of SME know-how of how SME leads to creating jobs, grasping the present situation of SME employees, understanding different post-pandemic SMEs revival plans, and finding how workforce agility can be used as a revival plan. The study confirms that workforce agility can play a vital role in the SME sector in India to survive this pandemic and to bring back the growth rate. Apart from all the other strategies, agility tops with high priority among growing SMEs. To enable workforce agility in the practice, organizations can use techniques like cross-training, employee empowerment, employee compensation, information-sharing, and work design.

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Sulaiman Olusegun Atiku, Namibia University of Science and Technology, Namibia

Isaac Okoth Randa, Namibia University of Science and Technology, Namibia

The coronavirus pandemic has compounded the challenges of small and medium enterprises (SMEs). Apart from the operational challenges that business owners need to sort out for their SMEs, regulatory disruption is a factor in the business environment influencing business operations and sustainability. This chapter examines the place of ambidextrous leadership in sustaining SMEs in the post-pandemic era. A desktop research approach was adopted to analyze the impact of ambidextrous leadership on the innovative performance of SMEs through empirical studies conducted in big conglomerates, as well as SMEs. This chapter found that ambidextrous leadership is positively associated with the innovation of SMEs in the high-tech sector in developed and developing countries. Entrepreneurs may adopt an ambidextrous leadership style to drive the innovative performance of their businesses in the pandemic period. Ambidextrous leadership is fundamental in promoting workforce creativity, continuous business process improvement, and resource-efficiency.

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Mufaro Dzingirai, Midlands State University, Zimbabwe

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Florence Mudzurandende, Midlands State University, Zimbabwe

Although entrepreneurship is widely accepted as a driver of economic development and growth across the globe, the COVID-19 pandemic and several lockdowns have created a unique situation in the entrepreneurship discourse. Accordingly, this chapter aims at providing empirical evidence on the challenges and opportunities emanating from COVID-19 within the context of informal cross-border women entrepreneurs. This study establishes five challenges, namely, business closures, caregiving responsibility, the decline in demand, shortage of goods, and liquidity crisis. Moreover, it also establishes digital marketing and business networks as opportunities. The recommendations to deal with these challenges are proffered and the suggestions for further study are captured.

Chapter 4

Competency Framework for Managing Manpower Post-Pandemic 60

Shwati Sudha, National Institute of Technology, Jamshedpur, India

Ankita Singh, National Institute of Technology, Jamshedpur, India

Since the initial days of 2020, an array of radical transformations in every domain of business have been seen. This led to the efficient and effective management of manpower to welcome a novel normal era post-pandemic. It requires an updated set of competencies post-COVID-19. The objective of the study is to identify the upcoming challenges and changes to manage manpower post-pandemic, explore the strategic modifications in the competency framework and HR policy, and recognize the changes in the leadership style post-pandemic. The exploratory study uses a systematic review technique to analyze qualitatively the secondary data extracted from the different directory of journals. The study summarizes the findings under two different areas. The first deals with the challenges of the post-pandemic era which include maintenance of business continuity, management of remote work, mental health and emotional stability, employee engagement, etc. Along with these, changes in the roles, activities, skills, competencies, policies, and leadership style occur in the organizations.

Chapter 5

Contemporary Perspectives on Entrepreneurial Challenges and Innovation in Education: A Study
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COVID-19 has changed the way the whole world used to operate, and education is no exception. Worldwide, a massive transition has been observed in the education sector. During the pandemic situation, the world has experienced the mode of education shifting to a digital platform. This chapter investigates the impact of COVID-19 on entrepreneurs, their challenges, and adoption strategies that have created a

pathway for innovation in the private education sector in Bangladesh. A qualitative investigation on 57 observations along with 18 detailed case studies was included in this study. The study sheds focus on primary, secondary, and tertiary levels of education in Bangladesh. The outcome of the study emphasized the strategies taken by the entrepreneurs that focus on the bright and dark sides of the educational sector. Private institutions face technological, financial, and operational challenges during the pandemic time. Urgent initiatives need to be taken by the government or other agencies for addressing these issues for the sustainability of this sector.

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Nyanjige Mbembela Mayala, Mwenge Catholic University, Tanzania

Many governments in developing countries cannot respond to COVID-19 as solely a health crisis given the economic and political crises that also emerge. Tanzania's unconventional approach to COVID-19 may be slow in response and may lack direction, but its uniqueness illustrates the need for governments to form context-specific smart containment strategies and recovery plans. The government can increase public health funding to local health centers to implement mass testing, enforce social distancing and sanitation measures, and invest in agriculture and other key sectors to produce for the domestic economy. These initiatives enable the government to maintain multiple competing priorities: managing the transmission rate while ensuring food security and protecting jobs.

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Tlou Maggie Masenya, Durban University of Technology, South Africa

The persistently high youth unemployment rate has long been one of the most pressing socio-economic problems in South Africa. This calls for a mix of innovative, creativity, digital skills, and entrepreneurial spirit to create job opportunities and prepare the youth for the digital economy. Digital entrepreneurship is perceived as a key pillar for job creation and economic growth. The purpose of this chapter was to investigate the role of digital entrepreneurship development in promoting youth employment through the application of novel digital technologies and the innovative application of such technologies. Barriers to effective digital entrepreneurship development were identified and among others include inadequate funding, lack of infrastructure and resources, lack of digital and entrepreneurial skills, poor collaboration between stakeholders, lack of awareness in digital entrepreneurship opportunities, and lack of appropriate mentors and role models. The chapter proposed a roadmap for promoting digital entrepreneurship development among youth in South Africa.

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Mercedes Barrachina, San Pablo CEU University, Spain
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This chapter has the main objective of investigating whether there is a relationship between the main pillars considered in the "Global Competitiveness Report" database and the rate of female entrepreneurship in OECD countries with available data using the fsQCA methodology. These pillars are the basic ones (institutions, infrastructure, macroeconomic environment, primary education, and health), the efficiency

enhancers (higher education, efficiency of the goods market, efficiency of the labor market, development of the financial market, technological preparation, size market), and the pillars related to innovation (business sophistication and innovation itself). It is based on the data available for the OECD countries for the year 2016, which cover different geographical areas. The purpose of this analysis is to extract specific conclusions about potential entrepreneurship policies that could be applied, government programs that could be developed, and specific measurements to be designed to improve female entrepreneurship at national level.

Chapter 9

Government Strategies to Minimize the COVID-19 Fallout on MSMEs in India..... 173
Palvi Bansal, P. G. Department of Commerce, University of Jammu, India

Currently, the whole country is going across a stressful era. Pandemic has swept the whole planet into its grasp and has smudged the lives of citizens as well as the global economies as a result. COVID-19 has been one of the 2020 mega tragedies. The correlation is clear since the primary issue does seem to be unemployment and financial losses, which causes a huge decrease in consumer spending for all industrialized nations. Consequently, workers have been eliminated, and consumers have a drastic lack of their wages, creating a large fall in prices. Findings reflect that economies all around the world are suffering from COVID-19, which has made the entire world panic and the pandemic virus has taken over almost 195 countries in its grip. It is quite evident that the enterprises in the MSME sector are the most vulnerable ones in the era of the COVID-19 pandemic because of their size, the scale of operation, limited financial managerial resources, and more importantly, they do not have the capacity to deal with something so unexpected.

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Human Resource Management Strategies of the Indian Information Technology Sector Post-Pandemic..... 191
Kannan Rajagopal, SCMRD, Symbiosis International University, India
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The objective of this chapter is to discuss the changes incorporated in the human resource management strategies post-pandemic situation owing to the COVID-19 pandemic which has instigated disaster across the Indian information technology sector. However, the information technology (IT) industry has been cruising through the situations steadily compared to the other sectors as it has adopted certain innovative human resource (HR) management strategy coupled with technological innovation. The theoretical investigation using the secondary data sources and views of HR professionals clearly reveals that the information technology sector has incorporated strategic changes to restore the balance and control the distortion caused by the COVID-19 pandemic to the industry. More specifically, the diverse HR strategies incorporated by the IT firms in their efforts were focused to combat the economic repercussions caused by the pandemic, keeping in mind the financial strength of the company, employee morale, future business outlook, and employer branding.

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Innovation of SMEs and Effect on Productivity in Jalisco 211

José G. Vargas-Hernández, University Center for Economic and Managerial Sciences,

University of Guadalajara, Mexico

Omar C. Vargas-González, Instituto Tecnológico de Cd. Guzmán, Mexico

Small and medium enterprises (SMEs) in Jalisco represent one of the main entities of economic activity that supports the bulk of the population living in the state; using statistics as a fundamental tool for conducting studies in the economic, natural, health sciences, among others, allows proactive foundations for decision making within companies by senior executives and in the field public by officials responsible for promoting the growth of the industry in the State of Jalisco. This research tries to represent, under a statistical scheme, the use and disposition of information and communication technologies (ICTs) as a tool to increase average productivity levels within companies and under the Cobb production function. Douglas determines the ICT impact.

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Key Enablers Assessment to Implement Industry 4.0 Technologies in the Future for the Turkish Manufacturing Sector..... 243

Ahmet Çalık, KTO Karatay University, Turkey

Industry 4.0 (I4.0), which reshapes traditional production and operation methods and causes companies to be under digital transformation, is currently an evolving research topic. Although advanced technologies can be easily adopted by large companies. In particular, there are still challenges in the adoption and implementation of I4.0 technologies in small and medium-sized enterprises (SMEs). This study examines the readiness of companies in the machinery manufacturing industry to implement I4.0 technologies in the context of SMEs. To achieve this goal, a multi-criteria decision-making (MCDM) approach including the pythagorean Fuzzy Analytic Hierarchy Process (PFAHP) and fuzzy VIKOR (FVIKOR) is proposed. First, existing readiness models linked to the implementation of I4.0 technologies have been studied to specify key enablers. Then, the PFAHP method is used to obtain weights of enablers on I4.0 technologies. Finally, FVIKOR is applied to obtain ranking for five companies. A case study is conducted to measure the level of readiness of five manufacturing companies in Konya.

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Non-Financial Reporting for SMEs and the Crisis 2019-nCoV 266

Ninel Ivanova Nesheva-Kiosseva, New Bulgarian University, Bulgaria

This chapter seeks to examine, above all, the need to create a model for non-financial reporting of small and medium-sized enterprises during an externally triggered pandemic crisis. The study attempts to defend the need for another philosophy of non-financial reporting of small and medium-sized enterprises – that of creating information that serves the state and local authorities to support them effectively. This is because then these small and medium enterprises are able to prepare without unbearable workload and costs and which will support the anti-crisis management of small and medium enterprises themselves. With this, the authors aim to create a link between the state and company anti-crisis management of small and medium-sized enterprises in a pandemic crisis.

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Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs..... 285

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Maria Teresa Ramirez-Garzon, La Salle University, Colombia

Maria Del Pilar Ramirez-Salazar, EAN University, Colombia

COVID-19 has placed the MSMEs of the world and Latin America in a difficult situation. With the region's economies in the middle of the march, many of them have been liquidated or their activity has been drastically reduced, reflected in lower incomes, among other situations. Faced with this situation, the governments of the countries have developed actions to protect the health of the population and the economy of the countries. This chapter presents and analyzes the strategies that have been developed and are being developed in times of the pandemic and are going to be developed in the post-COVID period by Colombian micro, small, and medium-sized enterprises (MSMEs).

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Emil Joseph, Bharathiyar University, India

Dhanabhakiam M. M., Bharathiyar University, India

SMEs are the backbone of India's economy; due to the serious effect of the pandemic COVID-19, almost all the sectors are in a serious threat. This also reflects the SME sector more than any of the sectors. In this chapter, the researcher will analyze the problems faced by SMEs due to the pandemic. For the purpose of analysis, the researcher uses various statistical tools. Most of the data are collected from secondary sources and some of the data are collected using primary sources by issuing questionnaires through social media. SMEs are key players in the global landscape, especially in emerging economies. According to the World Bank, SMEs account for 90% of businesses and more than 50% of jobs. SMEs around the world focus on services, which are characterized by low access costs and low resource requirements. However, there is also a large diversity of SMEs due to different market conditions. According to the country's Ministry of Economy, SMEs represent more than 98% of the total number of companies operating in the country.

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SMEs and Business Sustainability: Achieving Sustainable Business Growth in the New Normal.... 331

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Daisy Mui Hung Kee, Universiti Sains Malaysia, Malaysia

The COVID-19 pandemic is an unprecedented global crisis affecting the worldwide socio-economy. Many SMEs have ceased operations due to various obstacles during the pandemic period. The chapter identifies challenges faced by SMEs, specifically in Malaysia. The chapter also proposes that having a sustainable business solution protects SMEs from experiencing a crisis by diluting the impact of the pandemic and the critical challenges related to the financial impact, supply chain disruption, changing customer behavior, and evolving business environment. Post-lockdown, SMEs must revisit, realign, and implement practical operating procedures to stay relevant. Moving forward, SMEs depend on reliable and proactive leadership in revamping some of their business strategies – strengthening financial position, supply chain management, digital transformation, and organizational agility. SMEs must be vigilant and operate within the sustainable business framework involving the environmental, social, and governance (ESG). Consequently, this will fulfill the United Nations' sustainable development goals.

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SMEs and Entrepreneurship Development Determinants in Practice: Case of Uganda..... 352

Susan Akino, Independent Researcher, Uganda

The dawn of the global pandemic has prompted more need to pay attention to entrepreneurship development because it is profoundly important to find ways of stimulating the economy towards sustainable development, especially during this difficult time, and this is through SMEs. This chapter focuses on the determinants of SMEs and entrepreneurship development as an integral part of bigger picture-entrepreneurial sustainability in the post-COVID-19 era. This chapter identifies different triggers of SMEs and entrepreneurship, and it brings forth contextual evidence and views that are currently in place. The chapter further highlights different strategies that SMEs can use to cope and provides some recommendations for future development.

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SME Financial Inclusivity for Sustainable Entrepreneurship in Namibia During COVID-19..... 373

Isaac Okoth Randa, Namibia University of Science and Technology, Namibia

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The general reduction in the supply of labor, disruptions of supply chains, sudden loss of demand, and revenue by COVID-19 pandemic have negatively affected SMEs leading to their inability to operate normally causing liquidity constraints. Presumably, financial systems that reduce information asymmetry, transaction costs, ease external financial constraints, moderate market frictions, and ameliorate structural impediments limiting entrepreneurs and economic agents are instrumental. This chapter adopts an interpretive research perspective mainly employing documentary and secondary data analysis to explore descriptively the state of financial inclusivity and sustainable entrepreneurship in Namibia. Financial inclusivity explains entrepreneurship resilience through reduction of credit constraints embedded in irrecoverable start-up costs, limits operational innovations, hinders building production facilities and constructing distribution networks. Adopting SMEs' financial health framework, this study concludes that a multi-sectoral approach to SMEs' financial inclusivity is promising.

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Chux Gervase Iwu, Cape Peninsula University of Technology, South Africa

The relatedness of the factors that slow down the sustainability and growth of SMEs in emerging markets is discussed in this chapter. The chapter further argues that even though the factors that have encumbered SMEs have gained traction in enterprise development and business management research, how their multidimensional interrelationship can harm the sustainability and growth of SMEs in emerging markets is yet to receive considerable attention. The entrepreneurial ecosystem framework of Mazzarol is used to present a novel approach in this review by attempting a richer explanation of the extent of the mutual connectedness of these factors and how they shape the entrepreneurial ecosystem. This chapter concludes that the factors that inhibit the realization of an impressive sustainable growth of SMEs are interrelated. For instance, the high cost of electricity significantly reduces the profit that can be made by a small business owner, and, in this case, the small business owner may have difficulty paying back a loan obtained in favor of the business.

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<i>Vannie Naidoo, University of KwaZulu-Natal, South Africa</i>	

COVID-19 has spread across countries throughout the world. This deadly virus has had devastating effects on government, society, healthcare, education, business, and the economy. As researchers and scientists throughout the world are searching for a cure, the virus remains deadly, and the infection rate is on the rise. SMEs throughout the world have been affected by this global pandemic. Since many countries imposed lockdown, SMEs were one of the most vulnerable in the business sector and suffered some devastating financial losses. During COVID-19, lockdown Stage 5 in South Africa occurred, where many SMEs that were non-essential were asked to shut down during this period.

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State Support of Russian Small and Medium-Sized Business in the COVID-19 Pandemic and Development Prospects.....	438
<i>Elena Viktorovna Burdenko, Plekhanov Russian University of Economics, Russia</i>	
<i>Elena Vyacheslavovna Bykasova, The Moscow University of Finance and Law of Russia, Russia</i>	
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The chapter provides a retrospective analysis of entrepreneurship development in Russia from the 9th century to 2020. It highlights four periods in the development of SMEs in Russia and gives characteristics of each of the periods. It also highlights criteria for classifying enterprises as small and medium-sized businesses according to Russian legislation. A retrospective analysis of government programs to support SMEs from 1994 to 2020 was carried out. The state support program, effective since 2016, “Strategy for the Development of Small and Medium-Sized Businesses in the Russian Federation for the Period Ending 2030,” is considered in detail. Attention is paid to target indicators of SME development until 2030. An analysis of measures of state support for SMEs in the context of the COVID-19 pandemic has been carried out, highlighting the most affected industries. An analysis of SMEs by region of Russia was also carried out. An analysis of SMEs in effected industries in the post-pandemic period is carried out.

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<i>Mukund Deshpande, Independent Researcher, India</i>	

SMEs contribute up to 60% of total employment and up to 40% of GDP in emerging economies. These SMEs recently faced, due to COVID-19 pandemic, chaotic circumstances resulting in business shut down, loss of man-hours, halt of machinery and material movement by which they lost their economy. Quick solutions to address the challenges were out of view. Moreover, making major changes swiftly in the set business system was impractical and probably impossible. Getting normalcy back on track delayed extensively owing to the unavailability of vaccines. Ignorance in terms of the remedy made the businesspersons helpless to bear with the situation. Literature exposed that the pandemic situation paralyzed the business functions entirely. Obviously, to safeguard the SMEs from such incidences in the future, this study became essential in understanding remedial, innovative, and sustainable strategies.

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Dileep Baburao Baragde, G. S. Moze College, Savitribai Phule Pune University, India

Ever since independence, industries have been the temples of modern India. Now, with a fast-growing IE3H sector, policymakers have focused on strengthening IT, hospitality, and hygiene with investments in basic services such as health and education. When it comes to public infrastructure, they have also predominantly supported development in India. The Indian economy was weakening even before the pandemic struck the world. Yet, this is not co-morbidity. The economy has always displayed remarkable resilience and has the ability to face the challenge. However, the economic blueprint for the country will need to be redrawn, at least for one or two years, with survival and revival taking precedence over expansion and growth. This is the time to strengthen the foundations of the economy, such as the IT, hospitality, hygiene, health, and education sectors.

Chapter 24

Sustainability of MSMEs in Indonesia: Learnings From COVID-19 Impact 504

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Ngadi Ngadi, Indonesian Institute of Sciences, Indonesia

Yulinda Nurul Aini, Indonesian Institute of Sciences, Indonesia

Yanti Astrelina Purba, Indonesian Institute of Sciences, Indonesia

This chapter is aimed to discuss the condition of the MSMEs in Indonesia at the beginning of COVID-19 as well as the strategies that the government has undertaken to minimize the impact of COVID-19. The data for analysis is data from online survey results that carried out between 24 April-2 May 2020 with a total of 204 MSMEs participating. The results of the survey show that more than half (53%) of the MSMEs suffered from a decrease in income/production; even 43% stopped production at the beginning of the pandemic. Most of the MSMEs in various sectors admitted that they were only able to survive for less than three months, with the worst sectors being trade, corporate services, and construction. The government has implemented wage subsidy policies, loan interest subsidies, and tax abolition to save the MSMEs from the impact of COVID-19. For this matter, efforts to save MSMEs must continue, especially through expanding wage subsidies, increasing the realization of the low subsidy budget, and transforming to digital-based businesses.

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Monish P., Bharathiar University, India

M. Dhanabhakym, Bharathiar University, India

Increasing concern about the environment and sustainability has forced industries to introduce innovations and reduce the environmental impact. SMEs provide large employment opportunities at lower cost apart from enabling industrialization of rural backward areas, thereby reducing regional conflicts and imbalances in the distribution of income and wealth. Globalization brings many new opportunities. The SME sector has emerged as a highly vibrant sector in the Indian economy over the last six decades. We know that in the long run all the aspects of sustainability should be given equal importance. We should consider environmental, social, and economic sustainability. All these three components help create a good value for the firm.

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<i>Yanamandra Ramakrishna, School of Business, Skyline University College, UAE</i>	

The COVID-19 pandemic has negatively affected the small and medium-sized enterprises (SMEs) in a significant manner. It has thrown some SMEs into a financial crunch, forced them to reduce/remove their workforce, hampered production due to prolonged lockdowns, halted their logistics and supply chain activities, and delayed their delivery schedules enormously. The revival of the SME sector is very important for the survival of the economy. One of the most important aspects of this revival strategy would be to innovate their existing supply chains for more visibility, transparency, and robustness through the adoption of affordable digital technologies. In spite of advanced studies in SC innovation, the in-depth studies related to this area of SMEs towards sustainability are still very scanty and inadequate. Therefore, this chapter proposes to develop a framework of SC Innovation for the sustainability of SMEs through a systematic literature review. This framework will be very useful to the owners and employees of SMEs and various researchers.

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<i>Wilfred Isak Aibs April, University of Namibia, Namibia</i>	

COVID-19 (coronavirus) has significantly affected small-medium enterprises (SMEs) and entrepreneurs in the Republic of Namibia in terms of the massive shift in which all businesses were required to go online or find alternative means to operate or function. Despite the theatrical change, there is a lack of understanding amongst SME owners and entrepreneurs as to what it means to conduct business in the new normal, and thus proper communication channels, with bold leadership need to be followed especially in developing nations such as Namibia, where language barrier and the diversity of people can create challenges. This chapter first reviewed literature that discusses how SME owners/entrepreneurs are dealing with the challenges, followed by an entrepreneurial response Namibians has to implement, brought about by the COVID-19 pandemic. Twenty Namibian SME owners were interviewed to understanding how they deal with the COVID-19 pandemic.

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Preface

SMEs and Entrepreneurship is a key factor in promoting proper economic development and ensuring entrepreneurial innovation and sustainability (Baporikar, 2020a). This is going to be even more crucial post-pandemic. It is going to be difficult in the coming years for SME organizations to become global players and ensure that they remain competitive. Yet, as long as proper SMEs and entrepreneurship policies and mechanisms are in place to ensure that ethics and legal compliance occur, it will be achievable. Policymakers and leaders must be proactive and design policies apart from not indulging in unfair practices for short-term benefits. The role of government and leaders is to create a sustainable competitive advantage. This is possible only through effective SMEs and Entrepreneurship policies, mechanisms, and that in turn would ensure innovation and long-term sustainability even post-pandemic (Baporikar, 2020b). Entrepreneurship is the capacity and willingness to develop, organize and manage a business venture along with any of its risks to make a profit. Thus, entrepreneurship comprises both “enterprising individuals” and “entrepreneurial opportunities” (Baporikar, 2018b; 2014). The knowledge economy has already paved the way to a different breed of entrepreneurs and enterprises (Baporikar, 2016). The shift has been from mortar to mental models and brick to e platforms. Hence the need to study not only the nature of the individuals who identify opportunities when others do not but also the opportunities themselves and the nexus between individuals, opportunities and prevalent economic systems. Over the last decade, the concept of the sustainable SMEs, innovations and entrepreneurship gained attention, especially related to efforts to achieve a more sustainable society and hence there is the global shift from one model of the economy to another also concerns entrepreneurs and smaller companies on a micro-level and their sustainability (Baporikar, 2018a).

Entrepreneurs and entrepreneurship has always been the key to prosperity but in today’s post pandemic economies, who are these entrepreneurs and what does entrepreneurship include? What are the developments sweeping over economies? A multidimensional approach to entrepreneurship, especially in the post COVID era, will have an important influence on the state of business and government, especially when considering the effects of technological development, innovation, glocalization and nationalization policies that need to be adopted for inclusive sustainable growth and enhanced and efficient utilization global resources. That means there is likely to be a shift in how entrepreneurship development and entrepreneurial opportunities will be perceived, developed and resourced. Hence, the focus of this book will be to examine sustaining SMEs and entrepreneurial innovation in the post-COVID-19 era. Thus, comprehensive research and knowledge on designing policies and approaches to ensure sustaining of SMEs and entrepreneurial innovation in the post-pandemic times seen as global crisis are essential to sustain, stimulate and foster SMEs, entrepreneurship and entrepreneurial innovations. The scholarly value of the proposed publication is self-evident because of the increase in the emphasis placed on SMEs and

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Entrepreneurship, innovation, and sustainability, and the difficulties that will arise in the post-pandemic era. Moreover, there is a dire need for understanding comprehensively the complexity in the process of SMEs and entrepreneurship and its development since entrepreneurial innovation and sustainability are contextual. Competences and skills today are a crucial resource in SMEs and entrepreneurship, entrepreneurial innovation and sustainable development.

Further, the book dedicates to “entrepreneurship” with a special emphasis on sustainability of SMEs and entrepreneurial innovations in the Post-COVID-19 Era. It is important to know what is happening on both national and international fronts to be able to understand and develop effective responses to meet these new demands. It provides discussion and the exchange of information on principles, strategies, models, techniques, methodologies, and applications of entrepreneurship in the Post-COVID-19 Era in the field of public and private organizations. It aims to communicate the latest developments and thinking on the entrepreneurship subject worldwide. Drawing on the latest developments, ideas, research, and best practice, this book intends to examine the implications of the changes taking place due to the COVID-19.

The subject area is a combination of entrepreneurship, sustaining of SMEs, entrepreneurial innovations for post Covid to ensure growth, and development. The goal of this book is to be an international platform to bring together academics, researchers, decision-makers, policymakers, and practitioners to share new theories, research findings, and case studies to enhance understanding and collaboration in issues for sustaining of SMEs and promoting of entrepreneurial innovation in the post-COVID-19 period.

The proposed topic for publication will not only facilitate in identifying the SMEs and entrepreneurship mechanisms, frameworks, competencies, and skills, which is imperative for economic development in the post-COVID-19 period but will help in benchmarking with global practices. It will also aid entrepreneurs and global organizations to develop innovatively and become more sustainable. It will also aid the institutions of higher learning and educators to focus properly and help policymakers in designing and implementing policies that are more effective in the post-pandemic era.

OBJECTIVE OF THE BOOK

The scholarly value of the proposed publication is self-evident because of the increase in the emphasis placed on SMEs and Entrepreneurship, innovation, and sustainability globally and more so it would be at centre stage post-pandemic for both developed and developing economies. Moreover, there is a dire need for understanding comprehensively the complexity in the process of SMEs and entrepreneurship and its development since entrepreneurial innovation and sustainability are contextual. Competences and skills today are a crucial resource in SMEs and Entrepreneurship, entrepreneurial innovation, and sustainable development. Hence understanding competences and skills for SMEs and entrepreneurship needs analysis and understanding as the world of business is becoming more and more complex and complicated apart the embeddedness in a knowledge-based globalized environment today. Providing a qualified reference book to its proposed target market/constituents will expand the fields of entrepreneurship, sustainability, business, SMEs and Entrepreneurship, economics, international business, and management learning. The proposed topic for publication will not only facilitate in identifying the SMEs and entrepreneurship mechanisms, frameworks, competencies, and skills, which is imperative for economic development but helps in benchmarking with global practices. It will also aid the entrepreneurs, organizations globally to develop innovatively and become more sustainable. It will also aid the institutions of higher learning

and educators to focus properly and help policymakers in designing and implementing policies that are more effective in the post-pandemic era.

TARGET AUDIENCE

The primary intended audience is scholar-practitioners who have the need for qualified Reference material regarding the subject matter of the proposed publication as outlined above. The secondary intended audience is managers, organization development specialists, consultants, educationalists, policymakers and undergraduate/graduate business students who require the same Reference material. At the same time, while having academic rigor, the writing of the book will be in a way such that non-academics and non-specialists can understand it; it will be appealing to the public.

The primary intended audience is scholar-practitioners who require qualified Reference material regarding the subject matter of the proposed publication as outlined above. The secondary intended audience is managers, organization development specialists, consultants, educationalists, policymakers and undergraduate/graduate business students who require the same reference material. At the same time, while having academic rigor, the writing of the book will be in a way such that non-academics and non-specialists can understand it; it will be appealing to the public.

TOPICS OF INTEREST

The book includes, among others, the following topics of interest for academics and practitioners:

- Theories and Philosophies of SMEs and Entrepreneurship and Leadership
- SMEs and Entrepreneurship Regulatory Framework, Models, Classification
- Understanding the Changed Scenario Post Pandemic
- Government Role for Better Policies in Post Pandemic Era
- Determinants for SMEs and Entrepreneurship and SMEs and Entrepreneurship in Practice
- Strategies for Developing SMEs and Entrepreneurship
- Strategies for Entrepreneurial Innovation and Sustainability
- Strategies for Competencies and Frameworks Post Pandemic
- Strategies for Sector Development - Education, Health, Hygiene, IT, Hospitality, etc
- Post-Pandemic Future for SMEs and Entrepreneurship and Entrepreneurial Innovation and Sustainability Leadership
- Post-Pandemic Best Practices and Case Studies in SMEs and Entrepreneurship Innovation and Sustainability

This book presents a collection of 27 chapters contributed by academicians, researchers, practitioners, and managers, who are experts in the field and each chapter, address a key topic. A brief outline of these 27 chapters follows.

Chapter 1, “Agile Workforce a Post Pandemic Revival Plan for SMEs,” enhances the understanding of the importance of SME and know-how of how SME leads to creating jobs, grasp the present situation

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of SME employees, understand different post-pandemic SMEs revival plans, and find how workforce agility can be used as a revival plan.

Chapter 2, “Ambidextrous Leadership for SMEs in COVID-19 Era,” examines the place of ambidextrous leadership in sustaining SMEs in the post-pandemic era. Findings reflect that ambidextrous leadership is positively associated with the innovation of SMEs in the high-tech sector both in developed and in developing countries. Hence, entrepreneurs may adopt an ambidextrous leadership style to drive the innovative performance of their businesses in the pandemic period.

Chapter 3, “Challenges and Opportunities from COVID-19 vis-à-vis Informal Cross-Border Women Entrepreneurs Scenario in Zimbabwe,” aims at providing empirical evidence on the challenges and opportunities emanating from COVID-19 in Zimbabwe within the context of informal cross-border women entrepreneurs.

Chapter 4, “Competency Framework for Managing Manpower Post-Pandemic,” is an exploratory study to identify the upcoming challenges and changes to manage manpower post-pandemic. It explores the strategic modifications in the competency framework and HR Policy, and recognizes the changes needed in the leadership style post-pandemic.

Chapter 5, “Contemporary Perspectives on Entrepreneurial Challenges and Innovation in Education: A Study on Pandemic Situation in Bangladesh,” investigates the impact of COVID-19 on entrepreneurs, their challenges, and adoption strategies that have created a pathway for innovation in the private education sector in Bangladesh.

Chapter 6, “COVID-19 Impact on Tanzania’s Economy and Key Sector Prospects,” presents Tanzania’s unconventional approach to COVID-19, the uniqueness that illustrates the need for governments to form context-specific smart containment strategies and recovery plans.

Chapter 7, “Digital Entrepreneurship Development for Promoting Youth Employment in Digital Economy,” investigates the role of digital entrepreneurship development in promoting youth employment through the application of novel digital technologies and the innovative application of such technologies. The chapter also proposes a roadmap for promoting digital entrepreneurship development among youth in South Africa.

Chapter 8, “Entrepreneurial Pillars and Women Entrepreneurship Relationship in OECD Countries,” probes whether there is a relationship between the main pillars considered in the “Global Competitiveness Report” database and the rate of female entrepreneurship in OECD countries with available data using the fsQCA methodology. The purpose of this analytical study is to extract specific conclusions about potential entrepreneurship policies for application, development of government programs and designing of specific measurements to improve female entrepreneurship at any national level.

Chapter 9, “Government Strategies to Minimize the COVID-19 Fallout on MSMEs in India,” focuses on the Covid-19, which has been one of the 2020 Mega Tragedies and government strategies to minimize its fallout on the MSMEs in India. In the process, the chapter explores the problems of MSMEs in the pandemic period.

Chapter 10, “Human Resource Management Strategies of Indian Information Technology Sector Post Pandemic,” discusses the changes incorporated in the Human Resource Management strategies post pandemic situation owing to the COVID-19 pandemic, which has instigated disaster across the Indian Information Technology Sector.

Chapter 11, “Innovation of SMES and Effect on Productivity in Jalisco,” chapter presents, under a statistical scheme, the use and disposition of Information and Communication Technologies (ICTs) as

a tool to increase average productivity levels within companies and under the Cobb production function for SMEs in Jalisco.

Chapter 12, “Key Enablers Assessment to Implement Industry 4.0 Technologies in Future for Turkish Manufacturing Sector,” study examines the readiness of companies in the machinery manufacturing industry of Turkey to implement I4.0 technologies in the context of SMEs. The study uses Multi-Criteria Decision Making (MCDM) approach including the Pythagorean Fuzzy Analytical Hierarchy Process (PFAHP) and fuzzy VIKOR (FVIKOR) is proposed. A case study to measure the level of readiness of five manufacturing companies in Konya is unique contribution of this chapter.

Chapter 13, “Non-Financial Reporting for SMEs and the Crisis 2019-nCoV,” examines the need to create a model for non-financial reporting of small and medium-sized enterprises during an externally triggered pandemic crisis. The aim therein is to create a link between the state and company anti-crisis management of small and medium-sized enterprises in a pandemic crisis.

Chapter 14, “Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs,” presents and analyze the strategies developed in times of the pandemic and are and are in developing stages in for the post covid period 19 by Colombian micro, small and medium-sized enterprises (MSME’s).

Chapter 15, “Role of Digitalization Post Pandemic for Development of SMEs,” analyzes the problems faced by SMEs due to the pandemic and discusses the role of digitalization for development of SMEs post pandemic.

Chapter 16, “SMEs and Business Sustainability: Achieving Sustainable Business Growth in the New Normal,” identifies challenges faced by SMEs, specifically in Malaysia and proposes having a sustainable business solution to protect SMEs from experiencing a crisis and to dilute the impact of the pandemic. The chapter also discusses on the critical challenges related to the financial impact, supply chain disruption, changing customer behavior, and evolving business environment.

Chapter 17, “SMEs and Entrepreneurship Development Determinants in Practice: Case of Uganda,” focuses on the determinants of SMEs and entrepreneurship development as an integral part of bigger picture for entrepreneurial sustainability in the post-Covid-19 era in case of Uganda. It identifies different triggers of SMEs and entrepreneurship, and it brings forth contextual evidence and views that are currently in place at Uganda. Further, highlights different strategies that SMEs can use to cope, and provides recommendations for future development of SMEs.

Chapter 18, “SMEs Financial Inclusivity for Sustainable Entrepreneurship in Namibia During COVID-19,” adopts an interpretive research perspective to explore descriptively the state of financial inclusivity and sustainable entrepreneurship in Namibia. Financial inclusivity explains entrepreneurship resilience through reduction of credit constraints embedded in irrecoverable start-up costs limits operational innovations, hinders building production facilities, and constructing distribution networks. Adopting SMEs’ financial health framework, this study concludes that a multi-sectoral approach to SMEs’ financial inclusivity is promising.

Chapter 19, “SMEs Sustainability and Growth in Emerging Markets,” discusses the relatedness of the factors that slow down the sustainability and growth of SMEs in emerging markets. Arguments include that even though the factors that have encumbered SMEs have gained traction in enterprise development and business management research, how their multidimensional interrelationship can harm the sustainability and growth of SMEs in emerging markets is yet to receive considerable attention. Adopting the entrepreneurial ecosystem framework, the chapter presents a novel approach with richer explanation of factors mutual connectedness and these factors influence in shaping the entrepreneurial ecosystem.

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Chapter 20, “SMEs Sustainability in South Africa Post COVID-19,” reviews the devastating effects of COVID-19 on the government’s, society, health care, education, business, and the economy and explores SMEs sustainability during COVID-19 and lock-down stage 5 in South Africa, where many SME’s that were non-essential were asked to shut down during this period.

Chapter 21, “State Support of Russian Small and Medium-Sized Business in the COVID-19 Pandemic and Development Prospects,” provides a retrospective analysis of entrepreneurship development in Russia from the 9th century - 2020. It highlights 4 periods in the development of SMEs in Russia and gives characteristics of each of the periods. It also highlights criteria for classifying enterprises as small and medium-sized businesses according to Russian legislation. A retrospective analysis of government programs to support SMEs from 1994 to 2020 is undertaken. The state support program, effective since 2016, “Strategy for the development of small and medium-sized businesses in the Russian Federation for the period ending 2030” is in detail with attention paid to target indicators of SME development until 2030. An analysis of measures of state support for SMEs in the context of the COVID-19 pandemic, highlighting the most affected industries is distinctive contribution of this study.

Chapter 22, “Strategies for Entrepreneurial Innovation and Sustainability,” provides strategies for entrepreneurial innovation and sustainability as SMEs are facing crisis due to covid-19 pandemic. Chaotic circumstances resulting in business shut down, loss of person-hours halt of machinery and material movement by which they lost their economy. The focus of the discussion is how to get normalcy back on track, provide safeguard measures for the SMEs, and thereby provide enhanced understanding of remedial, innovative, and sustainable strategies.

Chapter 23, “Strategies for Sustainability of IE3H Sector in COVID-19 Era,” deliberates how to strengthen further the foundations of the Indian economy, by discussing strategies for sustainability in the IT, Hospitality, Hygiene, Health, and Education sector in the Covid-19 times.

Chapter 24, “Sustainability of MSMEs in Indonesia: Learnings From COVID-19 Impact,” aims to discuss the condition of the MSMEs in Indonesia at the beginning of Covid-19 as well as the strategies that the government has undertaken to minimize the impact of Covid-19.

Chapter 25, “Sustainability Strategies for Developing SMEs and Entrepreneurship,” focuses on the increasing concern about the environment and sustainability that has forced SME industries to introduce innovations and reduce the environmental impact and discusses on sustainable strategies for development of SMEs and entrepreneurship in the Indian context.

Chapter 26, “Sustaining SMEs Through Supply Chain Innovation in COVID-19 Era,” is about how revival strategy in the COVID-19 period is about innovating existing supply chains for more visibility, transparency, and robustness through the adoption of affordable digital technologies. Further, the unique contribution is the framework of SC Innovation for the sustainability of SMEs through a systematic literature review, which would be of practical utility to the owners, employees of SMEs.

Chapter 27, “Youth Entrepreneurship and SME Challenges: Namibia in COVID-19 Scenario,” discusses how SME owners/entrepreneurs are dealing with the challenges, followed by an entrepreneurial response Namibians need to implement, brought about by the COVID-19 pandemic. Interview responses and findings reflect interesting views of how the Namibian SME owners are dealing with the COVID-19 pandemic.

In short, this book includes a wide variety of approaches, problems, and discussions in the field of sustaining SMEs, entrepreneurial innovation, entrepreneurship development and opportunities in the post-COVID-19 era. It provides color and fresh look at some difficult concepts and a field that is difficult to unify as it is very dynamic and still emerging. The expertise provided herein comes from all over the

world, and although there are common themes among the chapters, each provides a unique viewpoint that result from cultural and geographic differences. I believe that such diversity of thought is a necessary component in the advancement of the body of knowledge, regardless of the discipline of inquiry. I hope that you agree and enjoy the contributions of our authors. Alongside the established theories and concepts, the reader will encounter several issues for discussion promoted and defended by different contributors from many countries. This book is aimed at a wide audience of potential readers, including students, teachers, researchers, entrepreneurs, managers, and policymakers.

I trust that the book will provide an opportunity to learn about new ideas and methods of SMEs and entrepreneurial innovations based on a cross-cultural context. The book also focuses on expanding and improving entrepreneurship teaching and knowledge-transfer activities, for policymakers to appropriate support initiatives and frameworks apart from enhanced understanding stimulating additional research in this area for this global crisis period of COVID 19. The need to ensure that SMES survive the pandemic and entrepreneurial innovations flourish in these trying times globally is ambitious. However, together, we can make minimize the impact of this global crisis and even treat it as an opportunity for all stakeholders to ensure that SMEs not only survive but also come out unharmed with a better world for all.

In sum, *Handbook of Research on Sustaining SMEs and Entrepreneurial Innovation in the Post-COVID-19 Era* is a step in that direction by presenting an inclusive analysis and blends of the research streams on sustaining SMEs, entrepreneurial innovation, entrepreneurship development and opportunities in the post-covid-19 era. It provides an understanding of this complex and multi-faceted process. It is useful in guiding future research as it presents comprehensive knowledge relating to SMEs, entrepreneurship and innovations in the COVID 19 era. It is the first book that gives systematic information about sustaining SMEs, entrepreneurial innovations, entrepreneurship development, opportunities, global implications, entrepreneurship education with some interesting sectored applications, practices and case studies in the post COVID19 era.

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I am indebted to my husband Jayant and daughter Neha. Their continued support in my writing and research journey enables me to see the value of discovering and applying new-fangled knowledge with a hope, that fresh opportunities open up for one and all.

Neeta Baporikar

Chapter 1

Agile Workforce a Post Pandemic Revival Plan for SMEs

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ABSTRACT

The global spread of the coronavirus (COVID-19) has left a clueless situation to all economies globally. Entrepreneurs of SME, during the contagion, have to build and rebuild many survival strategies for the upcoming times. Agility in the workforce will be one of the principal revivals plans to bring back the business on rails. This chapter mainly aims to enhance the understanding of the importance of SME know-how of how SME leads to creating jobs, grasping the present situation of SME employees, understanding different post-pandemic SMEs revival plans, and finding how workforce agility can be used as a revival plan. The study confirms that workforce agility can play a vital role in the SME sector in India to survive this pandemic and to bring back the growth rate. Apart from all the other strategies, agility tops with high priority among growing SMEs. To enable workforce agility in the practice, organizations can use techniques like cross-training, employee empowerment, employee compensation, information-sharing, and work design.

INTRODUCTION

The ongoing covid 19 pandemic is a deadly crisis facing all the business enterprises irrespective of size, nature and capital worthiness. Many of the businesses including large manufacturing units and offices were shut down and others are struggling to survive. Most severely, this pandemic will prolong for a number of years and will not be lifted as easily as expected. Among all businesses, MSME (Micro, Small and Medium Enterprises) are in dire straits since operational efficiency, professional management and cash reserves are limited or negligible. This crisis will affect millions of organised and unorganised workforce by way of layoffs and job losses.

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As per the annual report published by Ministry of MSME in 2018-19, More than 110 million employment opportunities are generated from 68 million MSMEs distributed as 36 million in manufacturing, 39 million in trade and 32 million in service sectors of which 107 millions are employing in Micro enterprises. This pandemic leave a question mark in the future of these employees since entrepreneurs of MSME are not able to cope with the needs of their employees due to nominal capital reserves available with them. Creating Agile Workforce will be the most sensible tactic to be implemented to survive for future. Workforce agility simply means employees are unlearning traditional system and learning new which the situation demands. Quick adaption to situation, ready to work efficiently from remotely, learn new techniques and technology which helps to do our job in an impressive way etc all come under agility.

OBJECTIVES

Objectives of this chapter are

1. To define and understand the importance of SME.
2. To know how SME leads to creating job and employment.
3. To find the present situation of employees of SME
4. To understand different post pandemic revival plans of SME
5. To find how workforce agility can be used as a revival plan

BACKGROUND OF THE STUDY

1. What are SMEs?

SME stands for Small and medium-sized enterprises (SMEs) or small and medium-sized businesses (SMBs) are business whose personnel numbers fall below certain limits. Actually the SME sector plays an extremely important part in modern economy, proving to be the most attractive and tremendous innovative system. The number of employees in SMEs varies from industry to industry. SMEs are jobs creators for employees where the motivation and flexibility are better. Also, competitive states of the market have created by the SMEs lead to better satisfaction of consumer's needs. Another important feature of SMEs is Focusing on innovative processes, both in technology and in management. Thus, they help in forming the GDP and increasing the national export and play role in maintaining the social-political stability in a country. Thus it is important to understand the revised definition of MSME notified by Ministry of MSME, Govt of India.

According to Micro, Small and Medium Enterprises Development Act, 2006

- (i) a micro enterprise, where the investment in Plant and Machinery or Equipment does not exceed one crore rupees and turnover does not exceed five crore rupees;
- (ii) a small enterprise, where the investment in Plant and Machinery or Equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees;
- (iii) a medium enterprise, where the investment in Plant and Machinery or Equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

2. Contribution of SMEs to Employment

The contribution made by SMEs to employment was analysed in a study by Ayyagari et al. (2011) clubbing views of the World Bank Group Enterprise Surveys. They conducted a most comprehensive study across 99 countries from 2006 to 2010. Since the study excluded formal non agricultural economies and micro enterprises, a large number of SMEs were not analyzed in their study. Further a study by the ILO and the German Agency for International Cooperation (GIZ, 2013), show that SMEs have a large share of employment in all countries, irrespective of the countries’ income level or region, and is especially high in developing countries. The median share of employment of the SME size class is 67 per cent.

The following table depicts how SMEs are vital in job creation process. The figure analyses the direct net job creation of SMEs at the different income class of economies. Net job creation is generally understood to be the difference between the jobs created by new or existing enterprises and the jobs destroyed either through contraction of existing enterprises or through business closures. Thus, the table covers entries and exits of enterprises, unless specified otherwise.

For the majority of countries, more than 50 per cent of total net employment creation can be attributed to the smallest size classes of enterprises of between five and 99 employees. It is clear from the table that the net employment creation is much significant in all countries irrespective of their income level. During times of economic downturn, the picture changes. Employment in SMEs seems to be less resilient to economic crises. Figures from the EU show that during the Great Recession of 2007–09, the number of jobs in SMEs fell by an average of 2.4 per cent annually, as opposed to 1 per cent in large enterprises.

Table 1. Share of total net job creation by enterprise size class and country income group

Percent		
Low income countries	5-19 employees	36
	20-99 employees	30
	100 or more employees	24
Lower middle income countries	5-19 employees	21
	20-99 employees	31
	100 or more employees	49
Upper middle income countries	5-19 employees	22
	20-99 employees	24
	100 or more employees	42
High income countries	5-19 employees	21
	20-99 employees	38
	100 or more employees	33

Source: De Kok et al. (2013), based on Ayyagari et al. (2011)

3. Workforce Agility

Compression of business cycle affects talent and skill cycles of workforce which leads to widespread shortage of talents. Rapid changes in demographic, technological, political, economic, and social shifts

are also playing a crucial role in talent shortages. Employers are frustrated and waking up to resolve the issues where one of the simple but effective solutions is workforce agility. Employers in require of adaptive employees who can be used for any challenging situations, and to ensure maximum productivity in an unpredictable business environment. Uncertainties and unpredictability in business are the most important tasks for organizations is to manage.

Review of Literature

Workforce Agility

Alavi, S., & Wahab, D. A. (2013), Agility is one of the foremost abilities that employees must possess. It refers to the ability of an employee to react and adapt to changes quickly and timely and take advantage of these changes to the benefit of the organisation. Great agile employees feel more comfortable with changes, new ideas, and technologies via commitment to continuous learning and assimilating.

Erande & Verma, (2008) opines Agility is the ability to respond to unpredictable changes with quick response and profitability. Giacomo (2017) posits that workforce agility has ceased to be a —nice-to-have and has become an urgent reality to both companies and employees. An agile workforce is required to achieve not only strategic outcomes but also tactical ones by leveraging new technology and engaging critical expertise. Firms must commence the journey to creating an agile workforce (Karpie 2018) as a strategy that will result in profitability in dynamic environments. Additionally, firms stand to benefit from quality improvement, learning curve acceleration, advanced customer service and economy of scope and depth.

State of SME during Covid Pandemic

Sebnam K et, al, (2020), tried to study the impact of the COVID-19 crisis on business failures among small and medium size enterprises (SMEs) using a large representative firm level in seventeen countries. Study found large increase in the failure rate of SMEs under COVID-19 of nearly 9 percentage points due to absent government support. Robert (2020), provides the first analysis of impacts of the pandemic on the number of active small businesses in the global scenario using representative data from the April 2020. Immigrant business owner experienced substantial losses, Asian business owner activity dropped were the major findings.

MEANING, IMPORTANCE AND STATE OF SMEs IN PANDEMIC AND ITS REVIVAL PLANS

Meaning and Importance of SME in Indian Economy

Micro, Small and Medium Enterprises (MSME) sector has become more competent and dynamic sector of the Indian economy for the past number of years. It helps economy to grow rapidly and create large employment opportunities at comparatively lower capital cost than large industries and also play a vital role in the development of rural & backward areas. MSMEs work as ancillary units to large industries help them to perform to the world standards contributes enormously to the socio-economic development

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of the country. MSMEs help in industrialization of rural & backward areas, reducing regional imbalances, ensure employment, and assuring more equitable distribution of national income and wealth.

The Micro, Small and Medium Enterprises Development (MSMED) Act 2006 assists the development of the MSMEs and enhance their competitiveness. The act provides legal framework for “enterprise” which includes the manufacturing and service entities.

According to Micro, Small and Medium Enterprises Development Act, 2006, MSME has defined as

- (iv) a micro enterprise, where the investment in Plant and Machinery or Equipment does not exceed one crore rupees and turnover does not exceed five crore rupees;
- (v) a small enterprise, where the investment in Plant and Machinery or Equipment does not exceed ten crore rupees and turnover does not exceed fifty crore rupees;
- (vi) a medium enterprise, where the investment in Plant and Machinery or Equipment does not exceed fifty crore rupees and turnover does not exceed two hundred and fifty crore rupees.

The following programs and schemes are undertaken by the Government to promote small scale industries by ensuring the fruitfulness:

1. Provide financial aids and adequate credit from financial institutions/banks
2. Funds for technology upgrading and modernization
3. Provide Integrated infrastructural facilities.
4. Set up modern testing facilities and quality certification laboratories to ensure world class quality products.
5. Access to modern management practices, entrepreneurship development and skill upgrading through appropriate training facilities.
6. Assistance for better access to domestic and export markets.
7. Cluster-wide measures to promote capacity-building and empowerment of the units.

Strength and Weaknesses of SMEs

Major strengths of SMEs are flexibility, self management, inexpensive labourforce, less operational cost and favourable capital- output ratio.

1. **Flexibility:** SMEs can easily adapt to new changes and innovations also can adapt to new method. The cost of reconstructing existing system will also be less.
2. **Self management:** In most of the Small and Medium Enterprises owner himself is managing the enterprise, which ensures quick decision making. This assures speed in operation and avoid red-tapism
3. **Inexpensive labour force:** The major problem of large scale industry is its labour problem and cascading wage bill. Small and medium enterprises run with relatively small number of labours and can be managed very easily.
4. **Less operational cost:** Operational cost of Small and medium enterprises is very low since number of branches and invested equipments and machineries are less when compared to large scale operations.

5. **Favorable capital- output ratio:** Small and medium enterprises are preferring labour intensive techniques for production than capital intensive. Small and medium enterprises can keep low level of capital investment per unit of output through proper utilization of resources.

Some of the weaknesses of Small and medium enterprises are discussed below:

1. **Compromised Quality:** It is the major weakness of the small industries. SMEs pay less attention to total quality programme and hence importance is less felt leading to quality problem.
2. **Under utilization capacity:** Due to many reasons, SMEs is facing a huge challenge in utilising optimal capacity of their resource-s. This problems mostly influence their performance and competitiveness.
3. **Lack of Financial Strength:** The Small and Medium Enterprises facing challenges in mobilizing capital through stock market and other sources. Thus they depend largely on banking finance.
4. **Lack of Industrial Work Culture:** Most of the labours may be locally recruited hence they may lack industrial work culture. They give more importance to their personal work and careless in regularity, discipline in reporting on time.
5. **Low competitiveness:** The main reason is lack of quality and increasing competition.

It is mandatory for Small and medium enterprises to face new challenges by adopting best strategies. Hence the SMEs should take immediate step to create quality awareness, and adoption of continuous improvement techniques.

State Of SME In Pre and During Pandemic Periods

State of SME In Pre Covid-19 Period

Small and medium enterprises (SME) sector, known as India's 'engine of growth', has shown tremendous growth over the years with the support of increasing awareness, digital advancements, better opportunities, govt supports and easy incorporation procedures, that have encouraged many entrepreneurs to emerge as success. They are thriving and standing tall despite several challenges they are facing like infrastructure constraints and lack of access to formal credit. From all these difficulties, SMEs are contributing huge to India's economic and social development. Following are the stats of SME contribution to Indian economy before pandemic

- MSME is contributing 30% of the GDP of India consistently for past 6-10 years
- Over 633 lakh MSMEs are registered and which provide more than 11.10 crore employment opportunities.
- Helps for the rural development by creating 4.97 crores of employment from 325 lakh registered MSMEs and also helps to reduce regional imbalances.
- It enhances women empowerment through increased entrepreneurial opportunities.
- With the growing penetration of technology into the mainstream ecosystem, SMEs are promoted convenience of digitisation to the economy.

State of SME In During Covid-19 Period

There will be catastrophic impact on Indian economy due to the pandemic of Covid-19. Every economic activity which reflects GDP of a country has been stopped. This standstill will decline the speed of growth of Indian economy. Cross border economic activity has been stopped. The pandemic and consequent lockdown have hit various sector of Indian economy. Pandemic affected worst to the SMEs of developing countries like India. It forced a sluggishness in the growth of economy. The position of MSME will be very unimaginable and unpredictable after this epidemic. Indian economy that desperately needs immediate assistance, it is Micro, Small and Medium enterprises to survive. In India there are over 63 million MSME units in India. The Indian MSME will be impacted significantly due to the outbreak of Covid19 in near future. Visualization of future existence of Indian MSME is completely impossible and uncertain at this moment. 19% to 43% of the MSME may disappear if epidemic persist for a long time. Over 20-40% of people loss their employment and livelihood leads to severe poverty.

Some of the worst impact is listed below.

- **Loss of employment:** As many as 41 lakh youth in India lost jobs due to the Covid-19 pandemic with most job losses in the construction and farm sector, according to a joint report by the International Labour Organization and the Asian Development Bank. It is estimated that four out of five people (81%) and 3.3 billion global workers are affected by the current or full-term job shutdown. this suggests that current national locks are the most devastating occupation in history. However, these plans only show the impact it has on the operation during the lockout period, and should not be taken as a risk to life.
- **Difficulty in getting govt aids:** Most of the Small, Medium Enterprises are not registered anywhere. A big reason for this is that they are just too small. Even GST has its threshold and most micro enterprises do not qualify. This apparent invisibility tends to work for enterprises as well as against them. Since they stay out of formal network, they do not have to maintain accounts, no tax liabilities or adhere to regulatory norms etc. This brings down their costs. But, as it is clear in a time of crisis, it also constrains a government's ability to help them. For instance, in some of developed countries, the government has tried to directly provide wage subsidy and extra credit to smaller firms but that could happen because even smaller firms were being mapped.
- **Financial Crisis:** Most of the MSME funding comes from informal sources like debt from hundis and temporary financial arrangements from their relatives or friends etc., and this fact is crucial because it explains why the Reserve Bank of India's efforts to push more liquidity towards the MSMEs have had a limited impact. RBI and MSME Ministry have tried to make more liquidity to SME through organised banking sectors.
- **Increased Bad Debts:** The other big issue plaguing the sector is the delays in payments to MSMEs — be it from their buyers (which includes the government also) since the customers of the Micro Smaall Enterprises are natives who usually avail credit facility from the business now either displaced from employment or things like GST refunds etc.
- **Impact in agriculture:** The nationwide lockdown will have significant impact on agriculture sector. Farmers are worry about government procurement and their ability to sell their agricultural product. Even markets are still closed, order from the home ministry to exempt all farming activities from shutdown. Unless the government acts soon, farmers in India will face bleak future leading to bankruptcies and they will suicide.

- **Education and Skilling:** all the education institution is closed to avoid large gathering. In India there are 39931 colleges and 933 universities (2018-19). Schools around the country have been impacted by Covid-19, closures of schools last several weeks during the crucial period of academic year ending. Low-fee private schools especially are likely face larger impact on teaching and learning. In higher education, most higher education institute are not fully geared to implement online learning.
- **Closure of Foreign Trade:** Covid outbreak forced all countries to close its territorial boundary which resulted flow of raw materials and also export and import.

3. Revival Strategies and Policies of SMEs: Post Covid Approach

The Covid-19 pandemic has left its impact on all sectors of the economy but nowhere is the worse as much as the Small and Medium Enterprises (SMEs) of India. All anecdotal evidence available, such as the hundreds of thousands of stranded migrant workers across the country, suggests that MSMEs have been the worst casualty of Covid-19 induced lockdown. It has also been reported that just like the first relief package, called the PM Garib Kalyan Yojana, which was announced by the government on March 26, the second package, too, would primarily focus on the MSME sector.

Competition is a good economic mechanism when the economy fully uses available resources, in a static perspective, grows through more efficient use of scarce resources. However, after the COVID-19 pandemic, in the medium term, we face the risk of economic depression, and high levels of bankruptcy and unemployment for several years. In such an environment, the priority goal is to stimulate economic growth as soon as possible, and create a mechanism of redistribution that will reduce economic suffering for the lower economic classes and to ensure that the economic framework that is created will be more resilient in the future. Thus the employment stimulus and helping companies is needed in the sectors affected by the crisis, especially SME and also a number of large companies, to prevent bankruptcy. Some of the strategies which will be useful are:

a. Workforce Agility

Simply agility of labour has been described as the ability to respond appropriately to changes timely and reap the benefits of change. In a similar view, others have described agile workers as having a broad vision and being capable of taking advantage of turbulent marketplace conditions, such as shifting customer preferences. It is also found in agile workers are more interested in learning and self-development, good problem solvers, good for change and new ideas and technologies, able to create new things thought, and ready to take on new responsibilities. Recognizing that organizational processes can support staff strengths, managers will be advised to design both effectively implement appropriate policies and practices regarding education and training, systemic remuneration, employment involvement, collaboration, and information systems. Specifically, teachers should promote a culture of instruction education and training that encourages action (Muduli,2015). For example, they may have a focus system and training programs, which bring about change. To further enhance the capacity of staff, managers can leverage the reward system of their organization by focusing performance is based on payment rather than payment. Traditional payment systems - for example, those that emphasize aging - may not be imperatives of competitive strategies for them reward employees no matter what plans they may have take, thus discouraging employees from being flexible and consistent. In other words, managers may want to check

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individual programs, one based on corporate programs. Leaders of a working group should consider a compelling system that pays people a minimum wage depending on their performance in group in addition to individual performance (Sumukadas & Sawhney, 2004).

b. Reset-Adapt-Engage

Reset Business Goals: In a crisis like the coronavirus pandemic, the fast paced growth is often impossible. It's essential that programs re-orient their short-term goals to helping businesses survive. Once the crisis passes, business can shift to the recovery phase, and programs can then return to their focus on growth.

Adapt to the changing Goals: Shifting from a growth orientation to a survival orientation has important implications for programs. Each one has to create a mindset for survival, manage organisation's finance for resilience, explore more opportunities for expanding current business.

Engage and Rebuild: Help financial institutions and private-sector actors tailor their services to micro and small businesses in difficult situations, make available information about complementary services, identify effective practices within our programs and promote their adoption across both our own organization and the broader ecosystem.

c. Internationalisation:

internationalization as a “process by which companies both increase their awareness of the direct and indirect impact of international trade on their future and the establishment and implementation of trade with other countries, This definition describes that globalization has both an economic and behavioral factor and it is a process and not an event. Luostarinen and Welch (Gibb, 1993) defines globalization as “the process of increasing participation in international affairs actions’. It is “the change in the level of international policy and / or activity over time” The process of globalization is strategic, gradual and gradual. Globalization can be called an adaptation process. In the past, international partnerships with major multinational corporations (MNE's) only but now SME's continue to use global systems. There is a lot of international debate. First, there is a lot of agreement that the application process of SMEs is a business model and this has been demonstrated by recent attempts to explain the concept of SME internationalization. More importantly, foreigners and foreigners have a significant impact on the process of globalization and small businesses. Another idea is, Internationalization is critical and small and medium enterprises do not have the resources to deal with the negative aspects of globalization, i.e., barriers to SME global development such as, information, performance, systems will be divided. and performance based on performance. Some others have argued that, although national planning can be considered as a source for corporate profits, it can also lead to huge losses, since the survival of companies around the world is difficult., SME has not paid full attention to effective implementation of their last-minute plans and concerns about performance.

d. Digitilisation

Digital business uses technology to create new value in business models, digital economic growth makes society easier and more familiar with digital service products that encourage companies to seek new advantages in the digital space. Digital business creates competitive advantage based on the extraordinary combination of digital and physical resources and builds comparative advantage. Digital business is changing the way organizations in using and thinking about technology, innovation, revenue, and

market growth. Key Resources need to be identified to make the business model works, which is in the form of; physical resources, intellectual resources, human resources, and financial resources. Good value propositions are made so that companies or SME can transfer intrinsic values and intangible values such as; making products / services accessible, offering an innovation, improving products / services by adding relevant features, using brands for identity, reducing product / service prices, reducing risks associated with products / services, and improving product design. At this time, SME need to consider developing digital businesses.

e. Efficient Negotiation With Different Stakeholders:

Communicate transparently with your customers, Maintaining healthy relationship with contracted parties, Managing employees & related optimization can also used as an effective revival plan. Consult with your investors or external experts to plan the right form of communication with stakeholders, most importantly customers and employees. Have an honest conversation about the situation and its impact on your business with your entire leadership team. All negative messages should be conveyed with the utmost empathy along with transparent reasons.

In these difficult times, it is important to stand together and help each other as much as we can. Be safe and healthy. Remember that some of the best practices are based on difficult times. Like all difficult situations, this will also pass!

Apart from these an organisation can also consider the following strategies as well.

- (a) Exploit-explore opportunities based on available resources
- (b) Efficient negotiation with different stakeholders
- (c) Utilisation of trade credit insurance
- (d) Leadership commitment

WORKFORCE AGILITY

Workforce agility refers to an organization’s ability to move people to support changes in the environment. Workforce agility enables you to easily move people from one place where demand is low to another place where demand is high, so it is just as same as supply and demand. Increasingly, companies find themselves, either by design or by situation, in a business environment that is accompanied by unprecedented, unparalleled, fearless and largely unpredictable changes. Maintaining a competitive advantage is a constant effort of all companies. Millions of words have been written aimed at identifying the principles and practices that are most likely to support companies to gain the desired competitive advantage and thereby enjoy a dominant market. Despite all the research that has been done and is still going on, management is without a doubt a test area where theory, experience, judgment and sometimes luck play a role.

Organizational executives, employees and managers, need to be proactive, be aware of the changes happening in the environment and modify their behaviour accordingly due to uncertainty in the environment which further has an effect on the organization. Adaptive performance is considered a separate dimension from contextual and task performance although successfully performing adaptive behaviours is likely to add to both task and contextual performance. Adaptive performance is “the expertise that an

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individual changes his or her behaviour when faced with the demands of a new project, event, situation or environmental constraints”. Adaptive performance is located in three contexts of work role and these three contexts are: individual level, team level and lastly at organizational level and then empirically differentiated measures of adaptability were obtained in each work context; however, each of their measures of adaptability is combined across behavioural dimensions (e.g. coping with change, learning) and has the core of adaptability overall.

When talking about agility, it is important not to overlook two other related aspects of agility, which are flexibility, adaptability and expectation. Expectation can be understood as a balance between planning for expected changes and preparing for unexpected changes. Adaptability is the institution’s ability for self-study and self-planning based on previous experience. The first step to becoming more flexible is to anticipate what might happen by planning the known and preparing for the unknown. Environmental change and uncertainty affect the organization. The proposed flexibility defines as the ability to identify all important areas early in a project and plan key response actions that may be necessary later. Product development teams must be able to both anticipate and respond to action, Verganti describes as building flexibility. Organizational flexibility is impossible unless the planned flexibility is based on the early stages of the project.

In the course of developing an appropriate response to external stimuli, a firm portrays its flexibility by making necessary internal adjustments to its structures and processes. Flexibility also reflects the readiness of a firm’s resources and the ease with which they are acquired and assembled while adaptability shows the fit of the firms operations relative to its environment. Agility puts much emphasis on speed and flexibility as the primary attributes of organizational agility. In addition to that, taking advantages of changes as opportunities, and crafting effective responses to change are also seen as main factors of organizational agility. Furthermore, organizational agility is defined as the successful exploitation of competitive bases, which are; speed, innovation, proactiveness, flexibility, quality and profitability by means of integrating reconfigurable resources and best practices in a knowledge-rich environment.

Table 2. Workforce agility-oriented attitudes and behaviours

Proactivity	Adaptability	Generative
Initiation; Of opportunities to contribute to organizational success and take the lead in pursuing those that appear promising.	Assuming Multiple Roles; Perform in multiple capacities across levels, projects, and organizational boundaries – often simultaneously.	Learn; Continuous pursuit the attainment of proficiency in multiple competency areas, avoiding over-specialization and complacency.
Improvisation; Devise and implement new and creative approaches to pursuing opportunities and dealing with threats.	Rapidly Redeploying; Move quickly from role to role. Spontaneous Collaboration; Engage often and easily with others with a singular focus on task accomplishment (and disengage just as easily when contribution is no longer needed).	Educate; Actively participate in the sharing of information and knowledge through the organization, as well as with its partners and collaborators.

Source: Dyer, L., & Shafer, R. A. (2003)

Competencies of Agile Workforce

In an age of rapid technological progress, globalization, mergers and acquisitions, team-based projects, the demand for speed-capable and flexible labour is paramount. It consists of an organized and talented team of individuals who deliver quickly and appropriately the right skills and knowledge at the appropriate time accordingly the needs of the company. It is well trained and easily adapts to new opportunities and markets and thus prepare the organization for vigorous environment. Agile labour consists of individuals with the ability to cope turbulence in the market and industry innovative and effective response to account changes, customer structure and preferences. It was emphasizes the importance of employees working in line with the needs of the company and can only do this when they have many options. Breu et al. (2001) suggest five higher-class talent groups that are important in creating a truly agile workforce, i.e. intelligence gathering, collaboration, culture, information systems and fitness. The analysis is related to common environmental responses employees in connection with reading and interpreting external changes. This can be in areas customer needs, competitors' strategies and business development or new opportunities to set goals in the right direction. Collaboration is about talent successful collaboration across practical, project and organizational boundaries. Culture involves creating an internal environment that supports decision-making and empowerment of employees. The capabilities of information systems are a reference for flexible distribution the structure of information technology, which makes it possible to adopt new systems easily and efficiency. Finally, skills are related to acquiring new skills such as software skills, business process integration and management as appropriate current and future policy (Breu et al. 2002.)

The core competencies needed for every agile worker are

- a. **Intelligence:** The intelligence capacity of the agile workforce consists of the response of the company's knowledge staff to the changes in business environment in order to change the goals and objectives of companies. In addition, the answer was thought out should also be quick for example in recognizing customer needs and perception in market conditions
- b. **Collaboration:** Workers demonstrate agility when they collaborate effectively across different projects, functional and organizational boundaries, in addition to moving swiftly between projects. A team operates within specific or non-specific functions, interact interdependently, adaptively and dynamically to accomplish more work than employees working individually. Collaborative teams are built when a job assignment allows more than one worker to do it doing tasks simultaneously. Most commonly, multi-functional and dynamic teams formed to achieve end benefits that include efficiency and collaborative tasks relationship.
- c. **Autonomous decision making:** An agile workforce has a culture which is deeply rooted in autonomous decision making. It emphasizes empowering employees and rewards them for involvement in decision making. Agile workers are supportive of the culture of autonomous decision making through engaging in making the decisions independently or distribution of the authority to make them.
- d. **Information Technology proficiency:** The agile workforce demonstrates software and information technology (IT) skills so that they are able to use new applications with devices such as palm tops and modern technologies such as artificial intelligence, the Internet of Things (IoT) and virtual reality. These technologies incorporate digital culture into the company's DNA, that said to increase their productivity and increase the brand of employers.

- e. **Learning:** Agile labor is characterized by its ability to acquire quick and skilful knowledge, especially information technology, software, business process integration and management skills that are in line with the company's goals. Taking the initiative to assess potential risks and opportunities, appropriate resource allocation, collaboration for fast results, innovative and learning continuously are also key capabilities of an agile worker.

Practicing Workforce Agility

Organizational practices are programs initiated and implemented by management which create or reinforce workforce agility. Management of every organisation can determine the most vital practices to implement for the purpose of promoting workforce agility, without wasting the resources of the enterprise on unnecessary programs. This can be achieved by understanding what motivates the employees and which activities enhance their capabilities.

a. Cross Training

Dale S. Beach defines training as “an organized process in which people learn knowledge and / or skills for a specific purpose.” Training refers to the teaching and learning activities that are the main purpose of assisting the members of an institution in acquiring and applying the knowledge, skills, abilities and attitudes needed in work and organization. Equipping employees with a range of necessary skills ensures the ability to perform a wide task-range which includes but is not limited to statistical analysis, problem solving, group decision making and capabilities which are specific to the job. training is a major approach when building an agile workforce because in addition to creating new knowledge, it aligns the development needs of employees to the strategic aim of the organization.

Cross-training is an approach that is very useful for building and maintaining versatility and redundancy in an integrated way. Multitasking is doing numerous tasks at a time that each employee is able to perform while redundancy refers to the number employees with the ability to perform a specific task. Versatility and redundancy are invaluable for systems that have a large project mismatch and are often the result complications of goods and services within the company. Externally, project inequality can be caused from a product or service combination. Different customer groups need employees with special knowledge or skills and custom products are made by a team of employees who have skills to perform specific tasks. Furthermore, cross-training is especially helpful in providing flexibility to address uncertainty about employee supply and demand and work distribution for any system with large project inequalities proving to be vulnerable. In addition, constraints lead to higher quality, lower labour costs and shorter lead times.

b. Employee Empowerment

Employee empowerment is defined as the ways in which institutions give their employees a certain degree of autonomy and management in their daily work. This can include having a voice in process improvements, helping to create and manage new systems and technologies, and running smaller departments with less control over higher-level management. A key principle of employee empowerment is to provide employees with ways to make important decisions and help ensure that those decisions are correct. Properly distributed, this should lead to increased productivity and better quality of workers

and the economy. Allowing for employees to have a high degree of control over the tasks assigned, for example solving miniature operation problems without the need for a chain of supervisors to oversee the operation produces and enhances the ability to understand the problems better and develop creative, more flexible solutions to address them. Employees with more freedom to choose when, what and how they get the task done are more likely adjust to unpredictable changes and even pursue opportunities leading to positive changes.

c. Employee Compensation

Employee compensation refers to benefits (cash, holidays, etc.) that an employee receives in exchange for the services they provide to their employer. Job benefits are usually one of the biggest costs or expenses of any business. Compensation systems are crucial from the perspective of workforce agility. Besides Gain sharing, traditional approaches to compensation such as Profit Sharing, Employee Stock Ownership plans and individual incentives have not been considered effective in fostering employee involvement and participation as non-traditional approaches. The most effective of the nontraditional approaches is skill-based pay which is determined using how many skills possessed by the employees rather than merely the job or position they hold. The nontraditional compensation approaches appear to promote workforce agility better than the traditional ones.

d. Information-sharing

Information sharing can be understood as “a collection of activities where information is provided to others, either preventively or on request, so that the information affects another person’s (or individuals) of the world and creates a common, or mutually compatible work, and helps in understanding of the organization”. Knowledge sharing can facilitate decision-making capabilities, build learning organizations (through a learning routine) and stimulate cultural change and innovation, hence it is essential for a company to achieve success. Still, overall performance in a company improves just when people do things differently. It is becoming increasingly hard to manage the amount of information churning through organizations and thus making it easier to use and share in a timely manner is key. It facilitates the organisation make the best problem-solving experiences reusable, enable better and faster decision making, stimulate innovation and growth, Improve delivery to customers and reduce the loss of know-how. Information communication technology-based applications such as the internet, Enterprise Resource Planning systems, and Electronic Commerce applications improve integration and ease decision making, problems solving and planning for knowledge workers and thereby leading to agility.

e. Work Design

Work design comprises five dimensions namely; skill variety, complexity of the job, job autonomy, supervisor support and job demands. Skill variety refers to the extent to which the performance of various tasks requires an equally wide variety of abilities or skills. Hackman & Oldham (1976) attaches skill variety to the design of a job and the degree to which the design makes an allowance for workers to put different skills to use. Skill variety is a knowledge characteristic of work design or organization reflective of the type of knowledge or abilities required of an individual as a function of what the job entails). Tasks which challenge or test the intellectual or physical abilities, are more likely to have a positive ef-

fect on employees' attitude and behaviours towards that specific job. Job autonomy refers to the degree of freedom an individual is given to determine work schedules and methods concerning when and how they will execute a given task. Another dimension of work organization is supervisor support. A high level of supervisor support is conducive to the agility of employees. Research links supervisor support to adaptive behaviours in employees.

Organizational Barriers to Workforce Agility

It has become increasingly clear in recent decades that the marketplace is full of rapid changes in the political, social and business spheres characterized by unprecedented events and short product cycles, to name a few. This has led to a search for agility in the organization by making the workforce agile in the hope of repelling the waves of changes. However, the initiative to achieve this is often guessed by mistake for two main reasons. Firstly, resistance to change and secondly, poor communication of the organization's strategy.

Employees' resistance to change could stem from their desire to act in accordance with their ethical principles in the case that the organizations' are contrary or because they are seeking the attention of top management on important issues that need to be addressed. Moreover, resistance to change is inherent and is part of human nature but failing to change can have disastrous effects on the firm. In view of the above, it is important for the change leaders to keep a close eye on the reasons why employees are resist to change initiative. This allows them to stimulate prevention, adaptability and formative behavior. Failure to change management or the individuals responsible for resisting change. Essentially, leadership must eliminate the gap that exists between the intention to implement change programs and leadership skills to bring about change successfully, perhaps using the balance scorecard method.

Poor communication of the strategic direction of a firm is a major barrier in impeding agility of employees, as they are uncertain of which opportunities to pursue make or which decisions to make. How effectively a firm communicates determines its overall agility.

FUTURE RESEARCH DIRECTIONS

When it comes to the future of the workforce, nobody knows with certainty what new industries will emerge and the skills that will be in high demand. What we do know is that the future will be radically different than the work environment of today, and the pace of change will be faster than anyone expects. For learning and development leaders, educators and HR professionals tasked with preparing the workforce of tomorrow, this raises a very important question: "How can you expect employees to chart out a career path when the future jobs likely haven't even been invented yet?" the only answer for this question is make your workers agile. Make your team adaptive, quick to respond and ready to move in all the situations. It's absolutely crucial for small and medium sized businesses to retain best talent. Every time someone leaves, you have to go through the process of sourcing and hiring their replacement, training them up and then waiting for that new hire to make an impact to your bottom line. In short – it costs time and it costs money.

This chapter focus only how SME can survive after covid 19 pandemic with workforce agility as their core revival strategy. Researchers can research on how other revival strategies work for SMEs also there

is a research gap on what will be effect of pandemic on Small and tiny sectors and how would they can survive. It is also beneficial to the policy makers to understand other revival strategies work for SMEs.

CONCLUSION

Small and medium-sized industries play a very important role in the modern economy and prove to be so attractive and extremely innovative system. An important contribution to small and medium-sized enterprises in economic development is a reality and recognized unanimously. This shows its economic and socially positive effects led to reflection on the SME sector as a forum for strategic interests for the economy. The pandemic has strongly affected the vast majority (60%) of the businesses operated across the globe. While small businesses feel the effect across all regions. Measures to contain the virus, such as lockdowns and quarantines, have had devastating repercussions for business operations and disrupted many existing local and international value chains. Surveyed business managers report their sales having significantly decreased and that accessing inputs has become increasingly difficult. In other words, companies face difficulties both on the demand and on the supply side. An organized and talented team of individuals who deliver quickly and appropriately the right skills and knowledge at the appropriate time accordingly are the needs of the company during the pandemic to revive. It is well trained and easily adapts to new opportunities and markets and thus prepare the organization for vigorous environment. Agile labour consists of individuals with the ability to cope turbulence in the market and industry innovative and effective response to account changes, customer structure and preferences.

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KEY TERMS AND DEFINITIONS

Pandemic: It describes as a disease which is prevalent over a whole country or the world.

Revival Strategies: Strategies used by SMEs to survive and to grow in future in the post-pandemic period.

Workforce Agility: Workforce agility described as the ability of the employees to respond appropriately to changes timely and reap the benefits of change.

Chapter 2

Ambidextrous Leadership for SMEs in the COVID-19 Era

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ABSTRACT

The coronavirus pandemic has compounded the challenges of small and medium enterprises (SMEs). Apart from the operational challenges that business owners need to sort out for their SMEs, regulatory disruption is a factor in the business environment influencing business operations and sustainability. This chapter examines the place of ambidextrous leadership in sustaining SMEs in the post-pandemic era. A desktop research approach was adopted to analyze the impact of ambidextrous leadership on the innovative performance of SMEs through empirical studies conducted in big conglomerates, as well as SMEs. This chapter found that ambidextrous leadership is positively associated with the innovation of SMEs in the high-tech sector in developed and developing countries. Entrepreneurs may adopt an ambidextrous leadership style to drive the innovative performance of their businesses in the pandemic period. Ambidextrous leadership is fundamental in promoting workforce creativity, continuous business process improvement, and resource-efficiency.

INTRODUCTION

The challenges of Small and Medium Enterprises (SMEs) in the pre-Coronavirus (COVID-19) era include lack of the access to finance, poor infrastructure, lack of research and development, strict labour regulations, low workforce level, lack of government support, high crime rate, less access to market, lack of skills and competence and lack of managerial and operations skills (Small Enterprise Development Agency, 2016). There is no doubt that the COVID-19 pandemic has compounded the challenges of SMEs. Apart from the operational challenges that business leaders need to sort out for their SMEs, COVID-19

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is an external factor demanding an overhaul of their business operations to ensure sustainability. The COVID-19 pandemic has created a gap for SMEs which must be filled by entrepreneurs operating in different sectors of the economy. A business leader should be able to answer the question relating to leading and ensuring the sustainability of SMEs in the post-COVID-19 era. Due to the foregoing, this chapter examines the place of ambidextrous leadership in sustaining SMEs during the pandemic.

Ambidextrous leaders employ opening leader behaviours to encourage employees to proactively seek novel ideas and solutions and then shift to closing leader behaviours to encourage workers to implement these ideas and solutions (Luu, 2017; Rosing, Frese & Bausch, 2011). Accordingly, ambidextrous leadership has three elements: 1) opening behaviours that encourage exploration, 2) closing behaviours that encourage exploitation, and 3) flexibility to temporarily switch between the two as the situation requires (Martínez-Climent, Rodríguez-García & Zeng, 2019). Based on the social distancing impact of COVID-19 on the sustainability of SMEs, an ambidextrous business leader must be flexible in leading change by simultaneously exploiting the current business opportunities and exploring the future business opportunities in the post-COVID-19 period. Therefore, ambidextrous leadership can promote the proactiveness, innovativeness and risk-taking capabilities of the workforce (Luu, 2017; Martínez-Climent et al., 2019). In short, ambidextrous leadership combines opening leader behaviours, such as promoting creativity, and closing leader behaviors, such as accomplishing objectives and adhering to norms (Martínez-Climent et al., 2019). The proposed chapter holds that the sustainability of SMEs during the pandemic is largely dependent on the ability of business leaders to transform their enterprises into ambidextrous SMEs. For example, apart from the social distancing negative impact of COVID-19 on SMEs, it also creates several opportunities in the global business environment for SMEs that are willing to be innovative in meeting their business goals and objectives.

The objective of this chapter is to examine the ambidextrous leadership style as a fundamental leadership behaviour for the sustainability of SMEs during COVID-19. This chapter seeks to establish the relationship between ambidextrous leadership and the transformation of SMEs during the COVID-19 through a desktop research.

BACKGROUND

The Coronavirus (COVID-19) pandemic emanated from Wuhan, China in late 2019 and was later declared in February 2020 as a global health emergency by the World Health Organization (WHO) (Okoyere, Forson & Essel-Gaisey, 2020). The widespread of COVID-19 poses a serious threat to the sustainability of business conglomerates, private and public institutions, as well as Small and Medium Enterprises (SMEs) across the globe. SMEs in different categories and stages of development in both developed and developing countries were adversely affected, based on the need to observe social distancing (Loayza & Pennings, 2020). Social distancing is the practice of maintaining a greater than usual physical distance (such as six feet or more) from other people or of avoiding direct contact with people or objects in public places during the outbreak of a contagious disease to minimise exposure and reduce the transmission of infection (Merriam-Webster, n.d). The need to enforce social distancing orders by many countries led to the total/partial lockdown of many economies across the globe for over a month. The purpose of lockdown was to reduce human-to-human transmission of the COVID-19 pandemic. For example, many public places on shutdown were malls, schools, higher education institutions, restaurants, as well as public gatherings such as conferences, marriage ceremonies and many sports events worldwide (Manjunatha,

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Kumar & Math, 2020). This action by governments posed a serious challenge to the sustainability of SMEs, especially those operating or rendering non-essential services during the COVID-19 pandemic (Fairlie, 2020; Indriastuti & Fuad, 2020). For example, informal markets, cinemas, fitness centres, hotels, restaurants, artisans, among others suffered losses.

The foundation of ambidexterity as a concept was introduced by Duncan in 1976 (Alghamdi, 2018). Accordingly, the concept was contextualised in a business organisation to provide insight into the importance of a dualistic organisational design to support innovation. The concept gained more popularity after two decades based on the usefulness of this concept in explaining two modes of organisational learning - exploration and exploitation - through which a business organisation could use its resources (Alghamdi, 2018). In the context of leadership, Rosing, Frese and Bausch (2011) developed an ambidextrous leadership theory. The theory explains the variations in leadership behaviours towards exploration and exploitation (Martínez-Climent et al., 2019; Oluwafemi, Mitchelmore & Nikolopoulos, 2019; Rosing et al., 2011). Ambidextrous leadership is a leadership behaviour through which a leader can explore future business opportunities while exploiting the current opportunities, and the ability to switch in-between (Ma, Zhou, Chen & Dong, 2019; Rosing et al., 2011). When a leader switches to explorative capability it enhances workforce creativity and innovative performance of an organisation (Zuraik & Kelly, 2019). For example, an innovative leader usually exhibits explorative capabilities in transforming business operations and the development of new products and services (Kindström, Kowalkowski & Sandberg, 2013; Schoemaker, Heaton & Teece, 2018). Ambidextrous leadership is unique, based on the ability to strike a balance or switch between explorative and exploitative capabilities, studying development in the external business environment to meet expectations and ensure sustainability (Rosing et al., 2011). Therefore, driving innovative performance of SMEs during COVID-19 rests on the ability of business owners to balance their explorative and exploitative strategies in meeting stakeholders' expectations.

Research on the adoption of ambidextrous leadership style in SMEs (Oluwafemi et al., 2019) found that a complex relationship exists between ambidextrous leadership behaviours and employee innovative behaviours in high-tech SMEs in the United Kingdom (UK). The study shows a positive relationship between ambidextrous leadership and an employee's innovative behaviour. Similarly, a study conducted in Ghana revealed a positive relationship between organisational learning ambidexterity and the innovative performance of SMEs (Tian, Dogbe, Pomegbe, Sarsah & Otoo, 2020). Explorative and exploitative learning strategies were utilised in measuring organisational learning ambidexterity of selected SMEs. Ambidexterity is an effective and efficient strategy that offers superior innovation advantage to SMEs (Tian et al., 2020). Strategic orientations (Sahi, Gupta & Cheng, 2020) and environmental dynamism (Mammassis & Kostopoulos, 2019) will assist ambidextrous SMEs (Alcalde-Heras, Iturrioz-Landart & Aragon-Amonarriz, 2019; Oluwafemi et al., 2019; Partanen, Kohtamäki, Patel & Parida, 2020; Sahi, 2020) in exploring new business opportunities in the post-COVID-19 era. Therefore, this chapter examines the role of ambidextrous leaders in transforming operations and ensuring the sustainability of SMEs during the pandemic. The next section explains the methods adopted in this chapter to provide insights into ambidextrous leadership and sustainability of SMEs during the pandemic. The next section focuses on the challenges of SMEs during the pandemic to propose alternative solutions for the sustainability of SMEs and economic recovery in the post-COVID-19 period.

METHODOLOGY

This chapter adopted a literature approach to examine the relationship between ambidextrous leadership and the sustainability of SMEs during the crisis. A desktop research approach was adopted in investigating the possible impact of ambidextrous leadership on the innovative performance of SMEs through empirical studies conducted in big conglomerates, as well as SMEs. A critical examination of literature was engaged in this chapter by providing the background information on COVID-19, its impact on economic activities and the place of ambidextrous leadership in influencing employees' creativity and driving innovative performance of SMEs. Through this approach, the challenges of different SMEs across sectors were highlighted and explained. This approach provides an understanding of the link between ambidextrous leadership and innovative performance for the sustainability of SMEs. The next section focuses on the challenges of SMEs during the pandemic to propose alternative solutions for the sustainability of SMEs and economic recovery in the post-COVID-19 period.

Challenges of SMEs During the COVID-19 Pandemic

SMEs faced different challenges during the pandemic across the globe (Jamil, 2020; Juergensen, Guimón & Narula, 2020; Narula, 2020; Saidu & Aifuwa, 2020), these challenges vary or depend on the peculiarities and types of SMEs (Juergensen et al., 2020). One of the safety precautions to curtail the spread of COVID-19 in business organisations is social distancing or physical distancing (Loayza & Pennings, 2020), which means that SMEs needed to improve their business operations using technology, such as e-commerce. Due to lockdown and supply-chain disruption, some SMEs suffered more than others (Narula, 2020; Skidmore, 2020). For example, the travel ban affected SMEs operating in the tourism and hospitality industry, as they suffered a great loss of revenue and profitability (Kalidas, Shakeel & Rajapopau, 2020). Loss of revenue and profitability during the pandemic led to pay cuts and high levels of retrenchment in the majority of small enterprises (Beraha & Đuričin, 2020). For example, more than 40% of all SMEs in South Africa have already reduced capacity and laid-off employees, including large businesses with revenues of over 100 million Rand (Kalidas et al., 2020).

Although the pandemic also paved way for process improvement (Kalidas et al., 2020), some of these small businesses operating in saturated markets with poor chances of survival lack the creativity and funds required for the development and/or acquisition of new technologies for such a transformation. The International Labour Organization (ILO) puts it that small businesses operating in the informal sector have limited abilities and resources to manage the effects of the pandemic on their operations (ILO, 2020). The right support for business growth such as access to loans and boosting the entrepreneurship ecosystem was truncated by the economic impact of COVID-19 in developing countries (Beraha & Đuričin, 2020; Kalidas et al., 2020). Governments in developed countries were able to provide relief packages or loans for the sustainability of SMEs, because of the contributions of small and medium businesses on economic development. Sustaining SMEs in the COVID-19 period goes beyond access to loans; issues such as lack of financial intelligence of business owners and strategic capability challenges must be adequately addressed.

Due to the decline in economic activity as a result of the COVID-19 pandemic, small businesses that are in extreme distress will be pushed out of business. For example, micro-enterprises are particularly vulnerable because they tend to have fewer assets and more limited cash reserves than larger enterprises, as well as lower levels of productivity (ILO, 2020). The pandemic posed a great threat to the sustainability

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of micro-enterprises, which account for 32% of the total SME debt in India, and confronted with a decline in revenue and dwindling working capital (SME World, 2020). The main challenges bordering on the sustainability of SMEs during the COVID-19 pandemic (Erin, 2020) are highlighted and explained below.

- **Taking action and moving forward:** Many micro business owners lack the strategic capability and flexibility required in exploring future business opportunities (SEDA, 2016). They are struggling in exploiting the current business opportunities. Taking action and capitalising on the opportunities brought about by the pandemic is fundamental for ambidextrous SMEs and crucial for their economic sustainability.
- **Keeping up with legislation:** Keeping up with the government regulations to curtail the spread of COVID-19 in line with the guidelines provided by the World Health Organization (WHO), the internal operations of many SMEs were adversely affected (Erin, 2020). To overcome this challenge, there is a need for government support to SMEs in terms of creating awareness on the new policy, and guidelines on how to navigate the trials in the external business environment (ILO, 2020; Juergensen et al., 2020). The support extends to providing virtual training for small business owners, identifying the opportunities associated with the new norms and framework on how to seize such opportunities for sustainability.
- **Finding balance and achieving a healthy mindset:** The pandemic has not only had a devastating impact on the health of people who were infected with the virus, but it has also had a multiplier effects on people not infected. Entrepreneurs and employees of different types of SMEs across sectors experienced fear, anxiety and hopelessness (Erin, 2020) based on the economic impact of COVID-19. The economic crisis of COVID-19 has slipover effects on the psychological well-being of small business owners and their employees due to loss of sales revenue and jobs respectively (Beraha & Đuričin, 2020; Kalidas et al., 2020; SME World, 2020). Finding a balance and achieving a positive psychological state of mind is a challenge for business owners and their employees who have suffered huge economic losses. Entrepreneurs and their employees needed a high level of psychological capital, which emphasised hope, efficacy, realism and the need to remain optimistic (Atiku & Fields, 2019).
- **Dealing with information overload:** There was a series of information at the inception of the pandemic which turned out to be false information in recent times. For example, conspiracy theories about the pandemic and other false information from WHO that an asymptomatic patient can or cannot transmit the virus (Gao et al., 2020). A study conducted by the Massachusetts Institute of Technology found that false news travels faster than true stories on social media (Erin, 2020). To make sense of all the conflicting information about the pandemic, entrepreneurs needed to take a moment to step back and evaluate the source and authenticity of such information. The verification process of information overload and making informed decisions based on authentic information is another challenge to small businesses during the crisis.
- **Selecting the right focus:** Enforcing social distancing precautions necessitated the lockdown, which led to supply chain disruption and reduction of economic activity across sectors. The economic impact of COVID-19 has created many concerns for business owners. Prioritising time, resources and stakeholders' (employees, customers, vendors and partners) needs and expectations during the pandemic is a major challenge to the leadership of SMEs worldwide. For example, priority could be given to the safety and well-being of the employees, followed by communicating with the customers and then business operations to ensure sustainability. Presumably, average

business owners would prefer to prioritise their dwindling working capital and revenue during the crisis based on the primary motive of setting up their businesses. Setting the right focus during the pandemic is sensitive and highly subjective, it therefore depends on the side of the coin that a stakeholder belongs to, and what the stakeholder stands to lose. Therefore, these considerations compounded the challenges of the leadership of SMEs across sectors of the global economy. Given these challenges, with the right support from the government, SMEs could play a vital role in responding to the crisis and propelling a sustainable economic recovery for a nation.

- **Leadership issues:** Lack of strategic foresight is one of the greatest challenges confronting SMEs in adapting to the changing business environment (Arbussa, Bikfalvi & Marquès, 2017). The reason is that strategic sensitivity is critical for business model innovation, which is fundamental in ensuring the sustainability of SMEs and excellent recovery from the economic crisis brought by the pandemic. Therefore, strategic capabilities and foresight of entrepreneurs/business managers are essential in developing new business models. Great leadership and managerial skills are significant for effective coordination of available resources, understanding of stakeholders and accommodating change (Atiku & Abatan, 2020).

FACTORS INFLUENCING INNOVATION IN SMEs

The operating environment of SMEs and the strategic capability of business managers influence creativity and innovation (Arbussa, 2014; Bayarçelik, Taşel & Apak, 2014). The safety guideline to curtail human-to-human transmission of COVID-19 (Erin, 2020) provided an opportunity to transform business operations to meet customers and government expectations. However, finance, technology, research and development, consumer preferences and economic factors are some of the factors capable of promoting or hindering the innovative performance of SMEs (Bayarçelik et al., 2014). These factors are highlighted and explained below.

Managerial Skills

Leadership and/or management style is fundamental in predicting the innovative performance (Bayarçelik et al., 2014) and the sustainability of SMEs in the post-pandemic period (Petetin, 2020). Innovative leadership is positively associated with workforce creativity, business process improvement and the development of innovative products and services (Le & Lei, 2019). Leadership behaviour and/or management style is one of the most important organisational characteristics predicting innovation adoption among organisations (Bayarçelik et al., 2014). For example, a transformational Chief Executive Officer (CEO) of a business organisation is committed to visualising the future business opportunities, communicates the new vision and sets strategic direction to actualise desired objectives, and develop and inspire the workforce towards sustainability (Zuraik & Kelly, 2019). This chapter holds that ambidextrous leadership style is essential for innovative performance and sustainability of SMEs since it is based on the premise that a business leader could exploit current and explore future business opportunities simultaneously (Luu, 2017; Martínez-Climent et al., 2019). Interpersonal skills as a set of managerial skills are essential in creating cultural values and enabling the environment for generating creative ideas and innovative performance (Custódio, Ferreira & Matos, 2019).

Economic Conditions

An economic condition or situation is capable of activating the creativity of business leadership and the workforce towards the development of innovative products and services. Empirical evidence in developed and developing countries reveals that the economic situation is an important factor that often influences a decision on whether an innovative activity should be undertaken by a company (Tomaszewski & Świadek, 2017). For example, the economic crisis associated with COVID-19 does activate the innovative and technological capabilities of the businesses across the globe. In an attempt to comply with government legislation enforcing social or physical distancing during the pandemic, many businesses have gone virtual in reaching out to their customers. Conversely, technological innovation is also capable of influencing economic conditions. Previous studies reveal a reverse causality on the relationship between economic conditions and innovations (Cao, Wan, Zhang, Zhang & Zhou, 2020; Tomaszewski & Świadek, 2017). In as much as the economic situation is capable of influencing technological innovation, the innovative performance of SMEs consequently influenced the economic growth of a nation. The foregoing inform the rationale for providing support for SMEs to innovate in developed countries. SMEs play a crucial role in achieving economic growth and creating new employment opportunities (Bayarçelik et al., 2014).

Financial Factor

The innovative performance of SMEs is positively associated with the level of their financial strengths (Bayarçelik et al., 2014). The ability to commit financial resources right from the initial stage of generating creative ideas to the final stage of developing innovative products and services is crucial for the sustainability of SMEs. Moreover, efforts towards business process improvement by entrepreneurs cannot be materialised without adequate investment in technological innovation in the digital age (Hessels & Naudé, 2019). The provision of loans to business owners by the government or micro-finance banks will go a long way in promoting the sustainability of small businesses during the crisis (ILO, 2020).

Firm Size

The size of the SMEs has a role to play in their innovative performance and sustainability. The size and viability of SMEs are used as a yardstick for the provision of loans to finance new product development or entry into new markets. Again, larger enterprises may have higher assets to use as collateral for loans compared to smaller enterprises. Aside from access to loans from external funding agencies, larger enterprises have robust cash flows to finance innovation (Bayarçelik et al., 2014). Larger businesses may have access to a wider range of resources, both human and financial capital, as well as other material resources for effective implementation of innovation, essential for the sustainability of SMEs (Lajqi & Krasniqi, 2017). The micro-enterprises on the other hand, have limited access to funds for the acquisition of expensive technologies for business process improvement and development of their products and services (De Massis, Audretsch, Uhlaner & Kammerlander, 2018).

Technological Capability

Flexibility or development of a new business model by an enterprise is dependent on in-house technological capability (Arbussa, 2017; Bayarçelik et al., 2014). The technological capability of entrepreneurs

and their employees is positively associated with the adoption of technological innovation and business sustainability in the digital age (Salisu & Baker, 2020). The study found a positive relationship between technological capability, learning capability and SMEs' performance in Africa. However, small businesses lack the required funds for investment in capacity building to enhance technological capability and improve SMEs' performance during the pandemic (Bayarçelik et al., 2014; Lajqi & Krasniqi, 2017). For example, an empirical study reveals that uncertainty and financial or technological-related constraints are the major factors constraining the innovative performance of SMEs in Ghana (Tuffour, Agbaam, Edzeame, Aye-Darko & Darko, 2018).

Consumer Preferences

The customer needs and requirements can particularly drive innovation in SMEs (Bayarçelik et al., 2014). For example, when an enterprise works closely with the changes in customers' taste, this often results in new product development to meet customer expectations requirements. At times, creative ideas may arise from the customers' requirements. Ambidextrous SMEs explore future business opportunities by paying attention to future customers' needs, leading to investment in research for the development of new products and services targeted at meeting those needs (Oluwafemi et al., 2019; Partanen et al., 2020). Hence, customer orientation has a positive impact on product development (Bayarçelik et al., 2014). Accordingly, consumer preference is particularly important for new product ideas, new product launches, process innovation and SMEs' performance. Ambidextrous SMEs are capable of exploiting current and future business opportunities concurrently. The next section provides a detailed analysis of the usefulness of ambidextrous leadership in ensuring the sustainability of SMEs.

AMBIDEXTROUS LEADERSHIP

Ambidexterity is the ability of an organisation to engage in the exploitation of current organisational capabilities, achieve desired results, explore future opportunities and innovate to meet customers' needs or expectations (Alghamdi, 2018; Ketkar & Puri, 2017; Tian et al., 2020). Exploitation is concerned with refinement, efficiency, selection and implementation, whereas exploration is concerned with the search for new opportunities, variation, experimentation and discovery (Ketkar & Puri, 2017). The sustainable competitive advantage of an organisation is dependent on the CEO's ability to exploit current opportunities while simultaneously exploring future business opportunities (Alghamdi, 2018).

There are three elements of ambidextrous leadership, namely: 1) opening behaviours that encourage exploration, 2) closing behaviours that encourage exploitation, and 3) flexibility to temporarily switch between the two (exploitation and exploration) as the situation requires (Martínez-Climent, Rodríguez-García & Zeng, 2019). Opening behaviours refer to actions taken by business leaders in promoting independent thinking, knowledge sharing, collective creativity and providing an enabling environment that encourages individual employees as well as teams to challenge the status quo (Ma et al., 2019; Rosing et al., 2011). Business leaders who exhibit opening behaviours are successive in influencing workforce creativity (Oluwafemi et al., 2019; Rosing et al., 2011), developing new business models (Tian et al., 2020; Zuraik & Kelly, 2019) and taking advantage of future business opportunities (Martínez-Climent et al., 2019). Therefore, opening behaviours promote continuous improvement and development of new

products and services (Kindström et al., 2013; Schoemaker et al., 2018) through the exploration of future business opportunities.

Conversely, closing behaviours are actions taken by business leaders to reduce workforce variability, encouraging utilisation of current workforce competencies in meeting current customers' needs and in achieving organisational objectives (Ma et al., 2019; Rosing et al., 2011). Closing behaviours are essential when new capabilities are developed with the expectation of translating such capabilities or competencies into current work outcomes. For example, work outcomes are essential for customers' satisfaction and improved sales revenue. Closing behaviours are usually exhibited by business leaders who are interested in improving workforce productivity through the exploitation of current business opportunities with the available workforce capabilities or competencies (Alghamdi, 2018; Ma et al., 2019). Effective ambidextrous leaders are versatile in switching between opening and closing behaviours based on the economic conditions and other situations in the external business environment affecting internal operations (Martínez-Climent et al., 2019; Oluwafemi et al., 2019). For example, reacting to a change in consumer taste may cause an ambidextrous business leader to start exhibiting opening behaviours targeted at influencing workforce creativity, developing a new business model and eventually introducing new products and services to meet customers' expectations. Sustainability of SMEs depends on the ability of entrepreneurs to think interactively by performing both opening and closing behaviours in a balanced way (Ma et al., 2019) during and after the pandemic.

The relationship between ambidextrous leadership and employee innovative performance has been empirically verified in many business organisations across the globe (e.g. Alcalde-Heras et al., 2019; Alghamdi, 2018; Luu, 2017; Mammassis & Kostopoulos, 2019; Martínez-Climent et al., 2019; Oluwafemi et al., 2019; Tian et al., 2020). Studies also confirm that ambidextrous leadership exerts positive effects on employee creativity and innovative performance of SMEs (Oluwafemi et al., 2019; Tian et al., 2020). However, none of the studies was conducted during a pandemic, coupled with the fact that the findings have no stipulated guidelines on how to deal with the economic crisis associated with the pandemic and in ensuring the sustainability of SMEs in the post-pandemic period. Therefore, this chapter seeks to fill these gaps by highlighting the challenges of SMEs due to COVID-19 and providing managerial implications for ambidextrous business leaders towards the sustainability of SMEs. The relationship between ambidextrous leadership behaviours and the sustainability of SMEs is presented below.

Ambidextrous Leadership and Sustainability of SMEs

Opening behaviours in ambidextrous leadership promote independent thinking, research and development and generate innovative ideas for competitive advantage. The exploration of future business opportunities and organisational capabilities to meet future demands and expectations is fundamental for sustainable competitive advantage (Mikalef, Krogstie, Pappas & Pavlou, 2020). Recent studies reveal that ambidextrous leadership exerts a positive influence on employee creativity, research and development (R&D) and sustainable innovation performance in medium and high tech firms in both developed and developing countries (Muñoz-Pascual & Galende, 2020a; Oluwafemi et al., 2019; Tian et al., 2020). Technopreneurs usually exhibit opening behaviours in exploring future expectations and developing capabilities, while making use of closing behaviours in exploiting present opportunities (Maijanen & Virta, 2017; Oluwafemi et al., 2019). Accordingly, exhibiting opening behaviours by technopreneurs is positively associated with tech-savvy and innovative performance in the information technology (IT) sector. Technological innovations in the IT sector are so vast in the sense that technopreneurs cannot

afford to be reactive to the changes in their business environments. Rather, the technological changes in the digital age require business owners or managers to be more proactive and innovate accordingly to meet future expectations. The foregoing explains the rationale for adopting ambidextrous leadership in medium and high tech firms. Therefore, innovative performance in the IT sector can be referred to as the variable output of opening behaviours and investment in organisational capabilities (Burlea-Schiopoiu & Mihai, 2019).

Based on the impact of SMEs on job creation and the economic growth of many nations (Gherghina, Botezatu, Hosszu & Simionescu, 2020), the sustainability of SMEs is of the greatest importance for consideration by government (Lamoureux, Movassaghi & Kasiri, 2019). Sustainability of SMEs could be contextualised from the three pillars of sustainability, namely economic, social and environmental sustainability (Atiku, 2020). In the context of economic sustainability, adequate working capital and investments, market expansion, customer satisfaction and substantial sales revenue are essential for the growth of SMEs. Therefore, strategic orientations and organisational capabilities (Sahi et al., 2020) are important in transforming the capital into innovative products and services (Le & Lei, 2019) for the sustainability of SMEs. Economic sustainability centres on adding economic value to a business for continuity. Social sustainability embodies the humanitarian context of SMEs and relates to issues of poverty and job creation, access to clean water and sanitation, community awareness, especially for females, and broader problems associated with economic development (Haugh & Talwar, 2010). For example, an investment in the creation of social ventures by social entrepreneurs often contributes to social and economic sustainability. Environmental sustainability considers the impact of SMEs' activities on water conservation and other natural resources, global warming, ecological concerns, waste management, energy management and alternative energy production and improved pollution and emission management (Yacob, Wong & Khor, 2019). For example, the creation of the green industry, green jobs and green supply chain by SMEs across sectors is fundamental to the sustainability agenda of various policymakers in the global environment. A sustainable development strategy alongside the three pillars of sustainability is instrumental in achieving a competitive advantage. It enables SMEs to improve economic security, pollution reduction and emission-related to climate change and waste generation as well as providing jobs in the area of green revolution such as green employees.

The sustainability of SMEs consists of accomplishing a balance between economic, human and material resources on the one hand and the social and environmental sustainability on the other hand (Burlea-Schiopoiu & Mihai, 2019). The study puts it that lack of finance is a factor that prevents SMEs from developing a sustainable strategy and making considerable investments in sustainability as a competitive advantage. Therefore, the sustainability of SMEs under the three pillars of sustainability is cardinal for sustainable economic development. The importance of government support for the sustainability of SMEs is discussed below.

Importance of Government Support for Sustainability of SMEs

SMEs are the productive drivers of economic growth and create jobs in many economies around the globe (Gherghina et al., 2020). Accordingly, these SMEs make significant contributions to the gross domestic product (GDP) of both the developed and developing countries. Therefore, government support becomes imperative for the sustainability of businesses. The implication is that small business development is crucial for the economic development of any nation. With SMEs being the main driver and backbone

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of any economy, it makes sense for the government to promote entrepreneurship for economic growth. The following explain the importance of government support for the sustainability of SMEs:

- Government is the key player in the economy and needs to support entrepreneurs and businesses with financial requirements to create jobs, thereby reducing the high rates of unemployment (Prasetyo & Kistanti, 2020). Government support is fundamental for the economic sustainability of SMEs through the provision of start-up capital or additional funding for business expansion and job creation. For example, small businesses require government support in the first three years of start-up to reduce the rate at which small businesses collapse in their early stage.
- Government support is also crucial for the sustainability of SMEs through training or provision of mentorship schemes for business owners (Csillag, Csizmadia, Hidegh & Szászvári, 2019). The mentorship should commence from the start-up to the growth stage of SMEs. For example, the provision of coaching and mentoring opportunities for entrepreneurs to discourage short-term gratification and promoting long-term objectives and gratification (Jabeen, Faisal, Al Matroushi & Farouk, 2019). This support includes developing entrepreneurial orientation, self-efficacy and promoting the culture of delayed gratification among business owners.
- Support from the government in developing human resources is essential in reducing the administrative burden of SMEs. Training and development opportunities organised by government agencies for business managers on networking, managerial skills and financial skills will go a long way in assisting small businesses in navigating the complex business environment (Csillag et al., 2019; Jabeen et al., 2019). The issue of managerial myopia hindering the sustainability of SMEs in the digital age can be addressed through such interventions by the government.
- Innovation support from the government is essential for the growth and sustainability of SMEs in the digital age. Provision of support for the innovative process of small businesses through research and development, digitalisation and technology is fundamental for the sustainability of SMEs in the fourth industrial revolution (Jabeen et al., 2019; Muñoz-Pascual & Galende, 2020a; Papadopoulos, Baltas & Balta, 2020; Singh, Luthra, Mangla & Uniyal, 2019). For example, innovation support will assist in developing new business models, the innovative performance of employees and the development of new products and services by the SMEs, influencing economic growth and development.
- Government supports through advisory services, collaboration, and access to finance to help businesses stay solvent, coordinate activities of SMEs, integrating SMEs in the supply chain and protecting the smaller business from larger businesses are essential for the economic sustainability of SMEs.
- Government support for SMEs' sustainability during the pandemic and post-COVID-19 includes tax relief, economic and social relief, a SME debt relief package, a wage subsidy scheme for SMEs and improved productivity/efficiency of businesses for economic recovery.
- Government support for expansion into international markets will increase the productivity levels of SMEs, causing an increase in the standard of living and quality of life of people in the country (Osano, 2019; Singh et al., 2019). There is no doubt that the relationship between government support and sustainability of SMEs is positively related. The implication is that the government plays a fundamental role in ensuring the growth of SMEs on the one hand, while SMEs serve as the real drivers of economic growth on the other hand.

Developing Ambidextrous SMEs for Sustainability During COVID-19

The ambidextrous SME has the ability to be efficient in its management of internal operations and is adaptive in coping with future demand or expectations. Ambidextrous SMEs stand a better chance of surviving the economic crisis associated with the pandemic. The purpose of opening the learning capabilities and exhibiting essential behaviours required in developing an ambidextrous SME rest on the shoulders of business managers or entrepreneurs. The reason is that empirical studies found a positive relationship between ambidextrous leadership and developing ambidextrous organisations (Oluwafemi et al., 2019; Tian et al., 2020).

Opening behaviours of ambidextrous business leaders are positively associated with the innovative performance of SMEs (Luu, 2017; Ma et al., 2019; Rosing et al., 2011). For example, through opening behaviours incubation centres are developed to promote new ways of doing things and inculcating the right capabilities for innovative performance. Therefore, the sustainability of SMEs in the post-pandemic period suggests the need to explore future capabilities and business opportunities. Entrepreneurs can achieve sustainability by exploring the challenges and opportunities in the post-pandemic period and developing technological innovation for sustainable development.

Entrepreneurs or ambidextrous leaders in SMEs must be willing to set up plans and provide necessary documentation towards accessing funds and other support from the external bodies or agencies to strengthen their internal operations for sustainable competitive advantage (Randhawa, Wilden & Gudergan, 2020). SMEs experienced regulatory, technological and strategic disruptions during the pandemic. The sustainability of small businesses in the post-pandemic period depends on the ability of business leaders and entrepreneurs to overcome these challenges and innovate to meet current and future expectations. The benefits of developing ambidextrous SMEs for sustainability during the pandemic are discussed in the next sub-section.

Benefits of Ambidextrous Leadership in SMEs

This section highlights and explains the benefits of ambidextrous leadership in SMEs. Through an extensive literature review, this section describes the benefits of ambidextrous leadership in SMEs. The review process focuses on the relationship between ambidextrous leadership and the innovative performance of SMEs in both developed and developing countries. The benefits of an ambidextrous leadership style in SMEs are diverse, particularly in promoting economic, social and environmental sustainability.

- SMEs can benefit from both exploration and exploitation innovation outputs (Oluwafemi et al., 2019). Accordingly, high-tech SMEs excel in their innovative performance and keeping abreast of technological innovation in the digital age using ambidextrous leadership (Sahi et al., 2020). SMEs across sectors need to balance explorative and exploitative capabilities and avail the necessary resources (Chang & Hughes, 2012; Oluwafemi et al., 2019). The essential resources for innovative performance in ambidextrous SMEs are finance, technology and talent. For example, financial resources are available for the acquisition of the latest technology for the development of new products and services. A business leader needs to commit substantial investment in developing workforce capability for innovative performance and sustainability of SMEs in the post-pandemic period.

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- Ambidextrous leadership is beneficial to SMEs in executing or combining the dimensions of innovative ambidexterity through superior access to internal and external resources. For example, the market orientation of a business manager and access to funds is necessary for promoting ambidextrous SMEs and meeting expectations. Ambidextrous leadership is fundamental in developing strategic alternatives, gaining access to the essential resources within the system and seeking support from funding agencies or government bodies.
- Ambidextrous leadership in SMEs promotes workforce creativity, which is fundamental for continuous business process improvement and resource efficiency. Opening behaviours in ambidextrous organisations help in promoting economic, social and environmental sustainability. Hence, a balanced dimension of ambidexterity is positively related to the sustainability of SMEs (Chang & Hughes, 2012; Oluwafemi et al., 2019; Muñoz-Pascual & Galende, 2020a).
- Ambidextrous leadership in SMEs helps in building an entrepreneurial culture and communicating entrepreneurial orientations within an organisation. It promotes individual and collective creativity leading to improved innovative performance and competitive advantage. For example, ambidextrous knowledge and dynamic learning capabilities through opening behaviours exert a positive influence on workforce creativity and sustainable innovation performance (Muñoz-Pascual & Galende, 2020b; Poon & Mohamad, 2020). Hence, ambidextrous leaders in SMEs should keep exploring future business opportunities and develop capabilities to meet expectations for sustainable competitive advantage. Therefore, ambidextrous leadership is effective in promoting collective creativity in SMEs.
- A balanced dimension of ambidexterity (Chang & Hughes, 2012) is necessary for developing the green industry and creating green jobs (Atiku, 2020). There is no doubt that the development of the green industry through ambidextrous leadership will have a spillover on sustainable development at the industrial level and sustainable economic development of a nation. The reason is that entrepreneurial activities have gained recognition as the backbone of the economic growth of both developed and developing economies around the globe.

MANAGERIAL IMPLICATIONS

This section provides plausible recommendations for business owners or entrepreneurs in sustaining SMEs during the pandemic period based on the findings from an extensive literature review. The findings show that the ambidextrous leadership style is effective in promoting workforce creativity, innovativeness, risk taking and strategic capabilities. The transformation of business operations of SMEs during the pandemic for success in the post-pandemic period is an antecedent of ambidextrous leadership. The following steps are essential in building ambidextrous SMEs for sustainability.

- Avoid falling prey to disruption by developing an ambidextrous market orientation: The changes and challenges in the global business environment in recent times have no respect for a business of any size. Smaller businesses suffered more than other business organisations in terms of the total lockdown of SMEs due to the pandemic. Smaller enterprises also suffered regulatory disruption from the government concerning the strict conditions for safety precautions. Technological disruption exerts a negative impact on smaller businesses compared to larger organisations. The reason is that small businesses lack the financial resources and will drive innovation during a pandemic.

No enterprise envisaged this kind of global crisis in 2020, and many enterprises were caught unaware. Therefore, business leaders need to apply opening behaviours to avoid falling prey to regulatory and technological disruptions that are associated with the widespread of COVID-19 across the globe.

- **Building a psychological capital:** There is no doubt that economic crisis arising from the pandemic has slipover effects on the psychological well-being of small business owners and their employees due to loss of sales revenue and jobs respectively (Beraha & Đuričin, 2020; Kalidas et al., 2020; SME World, 2020). However, building positive emotions within an organisation is fundamental for the sustainability of SMEs during and ultimately in the post-pandemic period. Achieving a sound mind is the sine qua non for workforce creativity and innovative performance of any organisation (Zuraik & Kelly, 2019). Ambidextrous leaders have a role to play in overcoming the fear, anxiety and hopelessness associated with the pandemic (Erin, 2020). Rather than focusing merely on the regulatory and strategic disruption of internal operations occasioned by COVID-19, business leaders should motivate their workforce towards overcoming these challenges through innovative performance. Entrepreneurs need to stay focused on change compelling strategy and share expertise within the business, coupled with an emphasis on hope, efficacy, realism, and being optimistic for competitive advantage (Atiku & Fields, 2019).
- **Change compelling strategy:** Change management strategy has to do with the way an organisation will generally address change in and around it. Change management is a mechanism that aims to minimise the adverse effects of change on the business, while at the same time capitalising on its transformation agenda (Ordenes, 2020). To develop ambidextrous SMEs, business owners need to get accurate data on the reality of the current business environment. Accepting the new norm and highlighting the key drivers of change, as well as the ability to figure out the desired future for the business, is crucial in sustaining SMEs in the post-pandemic period.
- **Build funding and capability requirements into the contract to create sustainability.**
- **Align around ambidextrous strategies:** Opening behaviours by business owners in line with ambidextrous ability promote creative ideas, leading to ambidextrous innovation capability of SMEs (Ferreira, Coelho & Moutinho, 2020; Poon & Mohamad, 2020). A team leader is responsible for coordinating the team's creativity and linking the ambidextrous strategies developed to meet new market orientations (Oluwafemi et al., 2019). Team cohesiveness, motivation and commitment of team members are fundamental for innovative performance (Tan, Ramayah, Teoh & Cheah, 2019). Tolerance is also essential in coordinating workforce creativity by ambidextrous business leaders.
- **Innovate:** There is a need for business leaders to build a learning culture that promotes knowledge sharing and enhances dynamic capabilities for the development of new business models. SMEs must be able to invest in capacity building for innovative performance and the emergence of digital products and services, which is essential in the era of virtual social interactions and exchange.

FUTURE AREAS OF RESEARCH

The chapter examined the relationship between ambidextrous leadership and the sustainability of SMEs through desktop research. The chapter highlights the place of ambidextrous leadership style in developing new business models for the sustainability of SMEs in the digital age. This chapter holds that open-

ing behaviours in ambidextrous leadership is fundamental in exploring future business opportunities and developing internal capabilities to meet future expectations. However, there is a need for empirical studies to establish the relationship between ambidextrous leadership and the innovative performance of SMEs in the post-pandemic period. Future studies may focus on investigating the impact of ambidextrous leadership on the sustainability of SMEs using a longitudinal approach and collecting data from SMEs across sectors. A quantitative approach could be adopted by future studies on the link between ambidextrous leadership and the sustainability of SMEs using an explanatory research design through structural equation modeling.

CONCLUSION

This chapter provided an evolution of ambidextrous leadership in SMEs and the challenges of small businesses during the pandemic. The challenges confronting SMEs during COVID-19 are regulatory disruption based on the need to observe social distancing, dealing with information overload, making strategic decisions coupled with leadership issues. Therefore, business owners need to consider the factors influencing innovative performance in SMEs as a way of overcoming the challenges. The factors include the managerial skills in developing strategic capabilities as well as financial and technological capabilities in meeting future expectations. Government support is also fundamental in ensuring the sustainability of SMEs and smooth economic recovery in the post-pandemic period.

This chapter found that ambidextrous leadership is positively associated with the innovative performance of SMEs in the high-tech sector in developed and developing countries through an extensive literature review. This result implies that business leaders and entrepreneurs may adopt an ambidextrous leadership style as a driver of the innovative performance of their businesses for sustainability during the pandemic. Ambidextrous leadership is essential in promoting workforce creativity, continuous business process improvement and resource-efficiency. Efforts must be geared towards developing ambidextrous SMEs. The steps required in developing ambidextrous SMEs are: 1) to avoid falling prey to disruption, 2) to build psychological capital, 3) to adopt an appropriate change management strategy, 4) to align around ambidextrous strategies, 5) to access financial resources and the right technology, and 6) to innovate to meet both current and future expectations. Therefore, the ambidextrous leadership style in SMEs is fundamental in driving creativity and eco-innovations for sustainability.

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KEY TERMS AND DEFINITIONS

Ambidextrous Strategies: The ability of a business to develop and apply multiple approaches or plans towards exploiting current opportunities and exploring future business opportunities simultaneously for innovative performance.

Closing Behaviours: These are actions taken by business leaders to institutionalise changes and shape desired work behaviour towards the attainment of current organisational objectives.

Creativity: The ability of an entrepreneur to challenge the status quo and encourage the workforce in generating new ideas to meet future business expectations.

Eco-Innovation: The development of processes, products and services in ensuring human, economic, social and environmental sustainability.

Flexibility: A swift responsiveness to the changes in the external business environment and align business strategies, structure, culture and developing capabilities to meet expectations.

Market Orientation: A business philosophy focusing on identifying either current and future customer needs or wants and developing business strategies to those needs.

Opening Behaviours: Actions taken by business leaders in promoting independent thinking, knowledge sharing, collective creativity and providing an enabling environment that encourages individual employees as well as teams to challenge the status quo.

Regulatory Disruption: A set of strict conditions or a regulatory framework by the government affecting business operations within a country or in an international business environment.

Chapter 3

Challenges and Opportunities From COVID-19 vis-à-vis Informal Cross-Border Women Entrepreneurs Scenario in Zimbabwe

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ABSTRACT

Although entrepreneurship is widely accepted as a driver of economic development and growth across the globe, the COVID-19 pandemic and several lockdowns have created a unique situation in the entrepreneurship discourse. Accordingly, this chapter aims at providing empirical evidence on the challenges and opportunities emanating from COVID-19 within the context of informal cross-border women entrepreneurs. This study establishes five challenges, namely, business closures, caregiving responsibility, the decline in demand, shortage of goods, and liquidity crisis. Moreover, it also establishes digital marketing and business networks as opportunities. The recommendations to deal with these challenges are proffered and the suggestions for further study are captured.

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INTRODUCTION

Recently, the COVID-19 pandemic has caused a significant economic crisis around the world. It is common knowledge that this pandemic has caused a catastrophic effect on the business of both large and small operators (Maritz, Perenyi, De-Waal, & Buck, 2020). It is within this context that informal cross-border women entrepreneurs were not an exception. This pandemic has seriously threatened the sustainability of small businesses across Africa, Asia, and Latin America since the majority of entrepreneurs in these areas are necessity-driven entrepreneurs. To curb the spreading of COVID-19 pandemic, many countries have managed to come up with stringent measures such as lockdowns, social distancing, shelter-in-place orders, and quarantines. While the effective implementation of these measures has yielded positive outcomes in the context of health, negative impacts in terms of economic performance have been witnessed in form of retrenchments and massive closure of companies as well as a decline in disposable income. This means that entrepreneurship resilience plays a crucial role when it comes to the economic crisis (Liguori & Winkler, 2020; Bullough & Renko, 2013).

It is worth mentioning that the Informal Cross Border Trade (ICBT) has been witnessed around the world since time immemorial. For instance, countries like the United States of America (USA), China, India, North Korea, Pakistan, Thailand, Myanmar and other countries in Eastern Europe have witnessed the existence of ICBT (Hastings & Wang, 2018; Taneja & Bimal, 2017; Xheneti & Welter, 2013; Pisani & Richardson, 2012; Aung, 2009; Sword, 1999). Although ICBT is witnessed all over the world, it appears to be more practiced in Africa due to a myriad of socio-economic, legal, and political problems. Notably, ICBT is generally defined as an unofficial or informal exchange of goods and services between international borders (Kahiya & Kadirov, 2020). However, it is deemed necessary to mention that ICBT as a phenomenon has attracted much attention in the academic community in the past decades due to an upsurge in the contribution of the informal sector to economic development and growth. For instance, it is encouraging to note that the actual contribution of the informal sector to GDP in the context of Latin America during 2009 was about 43% and 40% in the case of Eastern European countries (Lesser & Moise-Leeman, 2009).

In light of the above discussion, African economies are dominated by ICBT activities in the face of fragile economies associated with extreme levels of poverty and youth unemployment, high levels of import and export duty levies, and complex tax frameworks. In fact, ICBT contributes approximately 30-40% in respect of the intra-Southern African Development Community (SADC) trade of which women significantly contribute to informal cross-border trade (Peberdy et al., 2015; Ama, Mangadi, & Ama, 2014; Makombe, 2011). For instance, informal exports in Uganda were USD231.7 million during 2006 which translates to approximately 86% of all formal export flows of Uganda and then the informal imports of Uganda were approximately USD80.6 million which translates to an estimated 19% of all formal imports of Uganda (Lesser & Moisé-Leeman, 2009). Similarly, Ethiopia is also experiencing an upsurge of informal cross-border livestock trade with Kenya since there is a high demand for cattle species from Ethiopia. In this respect, women dominate the ICBT in Ethiopia as they account for about 70-75% of participants in ICBT (Berhanu, 2016).

In the context of SADC, Zimbabwe is not an exception with regard to ICBT. The emerged trend in the upsurge of ICBT was more evident since the early 2000s exacerbated by the fragility of the Zimbabwean economy, visa restrictions, complicated export and import laws, and exorbitant tariffs as well as contraction of the formal sector. This development has led to the establishment of the Zimbabwe Cross-Border Traders Association (ZCBTA) on 16 April 2000 and it is now subscribed to by over 7

000 members (ZCBTA, 2015). Therefore, it is common knowledge that ICBT is a survival strategy for many Zimbabweans (Kachere, 2011). Interestingly, Finmark Trust (2014) carried out a study and then established that the number of Micro, Small and Medium (MSME) in Zimbabwe was about 3.5 million and individual entrepreneurs accounted for 71% of all MSME. Moreover, owners of 50% of MSME highlighted that informal trading was the sole income-generating activity and 85% of all MSME were not formally registered. Given these statistics, it is justified to underscore that informal trading ensures the sustenance of citizens of Zimbabwe. It is within this context that Chikanda & Tawodzera (2017a) stressed that the informal sector of Zimbabwe is dominated by necessity entrepreneurs. This suggests that informal entrepreneurs such as cross-border traders are pushed into entrepreneurial activities. More strikingly, it is widely accepted that women entrepreneurs dominated ICBT in Zimbabwe (Chikanda & Tawodzera, 2017b).

Going forward, many of the entrepreneurs are female cross-border entrepreneurs who aim at survival (Muzvidziwa, 2015). Although women are still marginalized when it comes to economic empowerment, they are now fighting for their economic cake by focusing on cross-border trader since they are longer satisfied with their housewives activities (Chikanda & Tawodzera, 2017b; Muzvidziwa, 2015). It is evident that female entrepreneurs represent a greater number of entrepreneurs than their male counterparts since women of the 21st century are more entrepreneurship-oriented (Halim, Morais, Barbieri, Jakes, & Zering, 2016). In this respect, women entrepreneurship is gaining momentum in Zimbabwe as supported by various initiatives and programs that were put in place to support female entrepreneurs such as women bank (Dumbu, 2018).

In light of the above, it is in the public domain that many international borders were closed. As such, it is discouraging to note that cross-border entrepreneurs were finding it hard to replenish their stocks. This means that many cross-border traders were facing many challenges in respect of day to day running of their businesses. Despite the significant contribution of cross-border entrepreneurs when it comes to socio-economic transformation in developing countries, to the best of authors' knowledge, there is no study that has been carried out on the post-pandemic future of informal cross-border women entrepreneurs in Zimbabwe. Therefore, this study adds value in two ways: adding to the literature on managing crisis of this kind and empirically ascertaining the challenges and opportunities presented by the COVID-19 pandemic in Zimbabwe.

BACKGROUND

The impact of COVID-19 pandemic on entrepreneurship has attracted scholarly and media attention in the past few months. It has been noted that coronavirus well known as COVID-19 has started in China at the end of December 2019 in Wuhan. This pandemic has spread from China to other parts of the world at an alarming rate such that on 11 March 2020, it was declared a pandemic by the World Health Organisation (WHO). The lockdowns as a measure to curb COVID-19 has transformed the traditional way of doing business since many entrepreneurs were forced to work from home (Maritz et al., 2020). With this in mind, many business transactions were done online since more restrictive measures were put in place in order to avoid personal contact. However, it is very hard for all business transactions to be done online since some entrepreneurs do not have access to the internet. Notably, it of great importance to note that COVID-19 has transformed the entrepreneurial engagement of cross-border traders. It is well known that pandemics affects the outcomes of entrepreneurship (Wach, Stephan, & Gorgievski, 2016).

Going forward, it is deemed necessary to mention that majority of the cross-border entrepreneurs were forced by their respective governments to close their businesses temporarily and others were allowed to operate their businesses within the parameters of the prescribed schedules. More interestingly, their respective governments are starting to come up with intervention programs such as advisory, financial support, and tailor-made policies aimed at delivering information (Turner & Akinremi, 2020; Kuckertz et al., 2020). Nonetheless, drawing from the available entrepreneurship literature, it is vital to observe that cross-border trading can be categorized into two mutually exclusive groups, namely formal and informal cross-border trade. In this regard, it is evident that many governments across the world appear to be reluctant when it comes to the formulation of policies that can assist informal cross-border trading. The reason behind this state of affairs is attributed to the fact that informal trading is regarded as a way to evade tax which is a major source of revenue of the government.

It is vital to note that many definitions of ICBT were proposed in the mainstream literature of entrepreneurship. According to Lesser & Moise-Leeman (2009), ICBT refers to the exchange of goods and services that pass the national borders illegally. This means that such goods and services can pass through routes that are not official as a way to evade tax obligations. Moreover, ICBT comprises activities linked to under-invoicing, misclassification of products so as to lower tax, and misdeclaration of the country of origin (Njikam & Tcshouassi, 2011; Alusala, 2010). Similarly, ICBT refers to trading practices normally practiced by MSMEs related to unofficial businesses, exchange of goods and services legitimately produced that escape tax bracket set by authorities (Njiwa, 2013; Afrika & Ajumbo, 2012). ICBT is well-known as smuggling in many countries. Nonetheless, Little (2007) defined ICBT as a response by the market to difficult, tight import-export regulation frameworks and distortion of regional price, and such response should be promoted so as to increase regionalization, ensure regional food security, and ensure that local demand is met.

A closer look at the existing literature concerning ICBT illuminates two diverging views. One view supports that ICBT is a powerful tool for socio-transformation of the society. It is very crucial to pinpoint that many scholars support this view. In this respect, Peberdy et al., (2015) clearly stated that ICBT is credited for ensuring food security, reducing poverty, and supporting household livelihoods of South Africans. In the same vein, Aung (2009) documented that ICBT is of great importance as it covers the gaps in the formal trade. The ICBT normally benefits individuals that stay around the border. This suggests that people who are involved in ICBT thrive because of loopholes in the formal systems. The loopholes may include delays in the formal processing of goods and services, and inconsistent legal frameworks.

Moreover, Muzvidziwa (2005) underscored that ICBT is crucial when it comes to employment creation in the face of contraction of formal employment in Zimbabwe. This means that ICBT can ensure self-employment especially for women who were marginalized for a long period. In fact, ICBT is more dominant in African countries since many African countries are prone to high unemployment levels, especially for women and youths. Additionally, Ama, Mangadi, Okurut, & Ama, (2013) highlighted that ICBT is a survival strategy, especially for economically disadvantaged people. It is within this context that many individuals in Zimbabwe are now focusing their attention on ICBT in order to survive in the current tough situation exacerbated by a fragile economy. Notably, it is not surprising that academicians are advocating for ICBT as a mechanism that can support women empowerment so that this mechanism can be used by women for sourcing school fees for their children (Ama et al., 2013).

On the other hand, some scholars view ICBT as a danger to society. In this context, Chiliya, Masocha, & Zindiye (2012) stressed that informal cross-border traders in collaboration with customs officials and bus crews engage in serious organized crime with the intention of evading tax which leads to loss of

revenue in the eyes of the Zimbabwean government. Moreover, Ama et al., (2013) expressed that ICBT accelerates corruption and illegal trade at border points, promotes the serious violation of sanitary and health legal requirements, and induce tax revenue leakages. Despite these negative effects of ICBT, it appears that ICBT does more good than harm especially when it comes to employment creation and poverty reduction as well as women and youth empowerment in Zimbabwe.

Informal Cross-Border Women Entrepreneurs

Drawing from the available entrepreneurship literature, it appears that women entrepreneurship is gaining momentum in the past decade. According to Dumbu (2018), women entrepreneurship is considered as the backbone of many countries across the globe since it provides self-employment. In harmony with this view, Halim, Morais, Barbieri, Jakes, & Zering (2016) documented that the world is witnessing a paradigm shift towards more participation of female entrepreneurs in new venture creation. Moreover, Muhumad (2016) underscored that female entrepreneurs can be economically and socially empowered through entrepreneurial efforts in many countries. It is surprising to note that informal cross-border women entrepreneurs were not recognized widely by entrepreneurship scholars and policymakers despite their major contribution to employment creation and poverty elimination or reduction. Nonetheless, scholars, Non-Governmental Organisations (NGOs), and policymakers are now starting to consider the contribution of informal cross-border women entrepreneurs.

In light of the above, it is justified to look at informal cross-border women entrepreneurs. More interestingly, United Nations Conference on Trade and Development (2019) and Titeca & Celestin (2012) expressed that women dominate informal cross-border trading and such trading is a major source of income to be used by women for economic survival. In fact, United Nations Women (2010) accentuated that approximately 70% of informal cross-border trading in the SADC region is done by women entrepreneurs. This is not surprising given that women are involved in informal cross-border trading as necessity-driven entrepreneurs. In fact, women are engaging in entrepreneurship owing to limited access to means of production especially in the context of African economies that are patriarchal societies (Zvitambo, Chagwasha, Dzingirai, & Musariri, 2020; Mbo'oTchouawou et al., 2016). Going forward, it is worth mentioning that informal cross-border women entrepreneurs face many challenges that are based on institutional, policy, economic, regulatory, and cultural issues (Ityavayar, 2013). These challenges include high taxes, corruption, poor border facilities, lengthy clearance processes, difficult bureaucracies, and weak governance at border points.

In the case of Zimbabwe, the number of informal cross-border women entrepreneurs is increasing exponentially for the past two decades due to the fragility of the Zimbabwean economy. Recently, the government of Zimbabwe managed to come up with various programs aimed at augmenting women entrepreneurship (Dumbu, 2018). Nevertheless, the macro environment in Zimbabwe is constraining the growth of their businesses (Dzingirai, 2020). Therefore, in order to survive, women are now engaged in informal cross-border trade (Dumbu, 2018; Mazonde & Carmichael, 2016). Although they are labeled as prostitutes, they are still focusing on cross-border trading (United States Agency for International Development, 2016). In fact, this type of business is lucrative in Zimbabwe given that about 90% of grocery and clothing products are imported since local companies cannot produce these products.

Going forward, economic decay in Zimbabwe since 2000 forced women to go to neighboring countries like Tanzania, South Africa, Zambia, Mozambique, and Botswana for trading purposes. On the other hand, the majority of men went to neighboring for looking greener pasture and very few focused on

cross-border trade (Dumbu, 2018). Given limited scholarly literature concerning informal cross-border women entrepreneurs, it appears to be the most appropriate time to enrich entrepreneurship scholarship through investigation on the challenges faced by informal cross-border women entrepreneurs with particular attention towards post-COVID-19 pandemic.

Informal Cross-Border Trade and COVID-19 Pandemic Crisis

It is of great importance to highlight that the COVID-19 pandemic has emerged as a great pandemic crisis that has negatively affected all countries across the globe. In fact, this pandemic has caused unprecedented nosedive of global economic performance. In order to deal with the COVID-19 pandemic crisis, many economies around the world have adopted a cocktail of measures. In this respect, Non-Pharmaceutical Interventions (NPIs) have been widely embraced. These measures include social distancing and lockdowns that were implemented in an effort to reduce the spread of the COVID-19 (Naude, 2020). Nevertheless, these measures have caused an exponential decline of global economic activity as substantiated by a rapid decline of production, and investment globally (Brown & Rocha, 2020). Moreover, the purchasing power of customers has been negatively affected by COVID-19 pandemic and massive layoffs are expected throughout 2020. Precisely, it is discouraging to mention that 22 million individuals in the USA lost their jobs owing to the COVID-19 pandemic and the unemployment rate doubled in the case of Austria (Krauss et al., 2020). This suggests that businesses were confronted with huge operational challenges emanating from the COVID-19 pandemic crisis. Nonetheless, there is an increase in demand for healthcare due to the COVID-19 pandemic crisis.

Given the negative effects of COVID-19 on global economic activity, it is not surprising that SMEs appear to be more affected than big companies (Fzlinda, Hanim, & Juliana, 2020). The lockdowns and various legal policies that were implemented by the respective governments severely affected the growth prospects of SMEs in 2020 (Naude, 2020; World Trade Organisation, 2020). Although SMEs are very crucial when it comes to innovation, productivity growth, and new job creation, the COVID-19 pandemic crisis has caused long-term economic challenges linked to a reduction in start-up rates, sharp increase in unemployment rates, reduction of SMEs growth prospects (Fairlie, 2020). The shops linked to non-essential services were closed in an attempt to contain the spread of COVID-19 and the shops of essential services were allowed to operate with the limited scheduled period. With the effective adoption of lockdown and social distance, SMEs were affected more than large organizations in Malaysia (Ezlinda et al., 2020). Worryingly, Lindsay, Neha, Deepa, Marukel., & Abhijit (2020) underscored that 50% of Micro, Small and Medium Enterprises (MSMEs) in the US were already ceased their business operations or retrenched or furloughed employees, and 27% were about to adopt the same measures in the next few weeks if the scenario remains the same.

The COVID-19 pandemic crisis has negatively affected entrepreneurship. It is within this context that the informal sector was regarded as non-essential services in many countries despite its major contribution in terms of innovation, poverty reduction, and employment creation. The main argument that was being put forward by the authorities was based on the fact that the informal sector is more associated with the movement of many people that makes it very cumbersome to maintain social distance. As a result, the majority of the people have experienced a high level of poverty provided that many individuals in developing countries like Zimbabwe depend on the informal sector for survival. It is well known that informal cross-border trade was not spared from the negative effects of the COVID-19 pandemic crisis.

Moreover, as the COVID-19 pandemic crisis moves from a health-related crisis to an economic-related crisis, it is of great importance for scholars, government, entrepreneurship practitioners, managers, and NGOs to ascertain the emerged patterns under and post-COVID-19. In fact, it would be more interesting to focus on informal cross-border trade that is predominated by women entrepreneurs (Dumbu, 2018; Ama et al., 2013). According to Syriopoulos (2020), it is expected that the majority of SMEs will shut down their business operations after the COVID-19 pandemic provided that SMEs have limited financial muscles and a high level of operational risks owing to their small size. This suggests that even informal cross-border women entrepreneurs especially in developing countries appear to be confronted with a plethora of business viability challenges emanating from the work-from-home scenario. Given that many women are living in extreme poverty in Africa, the effect of COVID-19 pandemic on their informal cross-border activities is severe especially when it comes to female-headed households. The high unemployment of women and their over-representation in the informal cross-border trade increases their economic vulnerabilities during and after the COVID-19 crisis.

In light of the above, COVID-19 has placed more burden on the shoulders of women entrepreneurs in the sense that they are now caring for the sick, and the children since the schools are closed. This worrisome state of affairs induced by COVID-19 is a huge burden in the eyes of women entrepreneurs because they have very limited time to focus on their business activities. With the prolonged lockdown in Zimbabwe, it is not surprising that a greater number of people (about 2.2 million) who were employed in the informal sector found themselves in a poverty trap (United Nations Zimbabwe, 2020). This means that the individuals who were relying on informal cross-border trade are facing big challenges since the authorities have imposed travel restrictions. It is clear that the COVID-19 pandemic has negatively affected all sectors of Zimbabwe but with different magnitude in relation to gender, level of activities, age group, disabilities, geographical location, and socio-economic status.

The informal cross-border trade presents an interesting area of scholarly apprehension given that most of the products in Zimbabwe are imported from neighboring countries like Mozambique, Botswana, and South Africa. Given the unexpected emergence of COVID-19 that disrupted the socio-economic systems across the globe, it is not surprising to witness the paucity of literature on issues surrounding COVID-19 and entrepreneurship (Kuckertz et al., 2020). In addition, to the authors' best knowledge, there is no research that has been conducted on the post-COVID-19 scenario of informal cross-border women entrepreneurs in Zimbabwe. With this in mind, this study aims to close this knowledge gap by answering the question: What are the challenges and opportunities associated with informal cross-border women entrepreneurs?

RESEARCH METHODOLOGY

Research Philosophy

Interpretivism philosophy is a philosophical lens that supported this qualitative study on the challenges and opportunities associated with informal cross-border women entrepreneurs with respect to the COVID-19 pandemic crisis. It is within this context that there is an interconnection between qualitative inquiry and interpretivism philosophy (Dean, 2018; Ponelis, 2015; Thanh & Thanh, 2015; Yanow & Schwartz-Shea, 2014). This means that interpretivism is deemed appropriate in this qualitative study on the post-pandemic scenario for informal cross-border women entrepreneurs in Zimbabwe with particular

attention on the establishment of the challenges and opportunities emanating from COVID-19 pandemic crisis. Interpretivism philosophy provides comprehensive insights that are unstructured, contextual, non-numeric, and rich through effective engagement with key informants in their natural settings (Ponelis, 2015; Creswell, 2014; Thanh & Thanh, 2015; Goldkuhl, 2012; Bloomberg & Volpe, 2008). With this in mind, it appears to be justified to adopt interpretivism philosophy so as to tap into the opinions, attitude, and experience of informal cross-border women entrepreneurs in Zimbabwe.

Research Design

In harmony with interpretivism philosophy, exploratory research design supported this qualitative study on the challenges and opportunities associated with informal cross-border women entrepreneurs with respect to the COVID-19 pandemic crisis. Research design refers to the logic that connects the purpose of the research and research questions and then data gathering and analysis in a manner that warrants robust conclusions to be drawn from the research findings (Ponelis 2015; Bloomberg & Volpe, 2008). More importantly, research design must be in tandem with the research philosophy (Creswell, 2014). With this in mind, an exploratory research design fits well into interpretivism philosophy. This research design allowed the researcher to explore the challenges and opportunities associated with informal cross-border women entrepreneurs with particular attention on the COVID-19 pandemic.

Sampling Procedure

This study focused on the informal cross-border women entrepreneurs in Ascot and Mkoba 16 in Gweru. Ten women were selected using judgemental sampling. With judgemental sampling, the participants we selected based on predetermined criteria. The inclusion criteria include five years of experience in informal cross-border trade, owner of an unregistered business, and member of a voluntary savings and loans associations (mukando or turns) as well as willingness to be part of the study. The judgemental sampling permitted the researchers to choose participants who can supply the best and rich qualitative information based on their experiences and knowledge of the subject under investigation (Etikan & Bala, 2017; Etikan, Musa, & Alkassim, 2016; Bernard, 2002; Patton, 2002). More interestingly, judgmental sampling as a non-probability technique is mainly applied in exploratory research (Sharma, 2017). Keeping in mind these justifications and the purpose of this study, it was necessary to embrace the judgemental sampling technique.

Data Collection Technique

Firstly, primary data was gathered from informal cross-border women entrepreneurs through the semi-structured interviews. Secondly, secondary data was also extracted through document analysis. Therefore, both secondary and primary data was collected in a manner that ensured data triangulation. In the case of semi-structured interviews, each interview session consumed an average of 40 minutes and social distance was maintained in line with COVID-19 measures.

Data Analysis

This study applied the thematic analysis which allowed the researchers to extract themes that emerged from the gathered data. The data analysis process was conducted in line with the suggestions of Braun & Clarke (2006) who proposed six stages that should be followed by researchers when conducting thematic analysis so as to ensure robustness in data analysis.

RESULTS AND DISCUSSION

The results related to this study are presented in this section. Following thematic analysis, five themes related to challenges were extracted from the data and two themes in connection with opportunities as explained and discussed underneath:

Challenges

The challenges associated with the COVID-19 pandemic when it comes to informal cross-border women entrepreneurs emerged from the data and these are presented in a thematic manner below.

Liquidity Crisis

Liquidity crisis was one of the challenges that emerged from data collected from informal cross-border women entrepreneurs. The respondents were of the opinion that the liquidity crisis was a major hindrance to their sustainability post-COVID-19 pandemic. The following are some of the quotes from the interviewees:

As female cross-border traders, we were struggling to secure financial resources from banks because of a lack of collateral even before COVID-19. To make matters worse, with this lockdown and stay-at-home measures, the liquidity crisis on our part has become even worse. (R5)

The coronavirus has exacerbated financial liquidity problems especially for women entrepreneurs because the lending institutions are considering us to be more likely to default the payments. This will force us out of business. (R2)

As indicated in the above-mentioned quotes from the interviewees, the liquidity crisis is a challenge that can affect their sustainability. This means that COVID-19 restrictions and measures appear to weaken the financial muscles of informal cross-border women entrepreneurs because of failure to absorb the shocks of COVID-19. This is in line with the view of Syriopoulos (2020) who stressed that it is expected that the majority of the SMEs will shut down their business operations after COVID-19 pandemic provided that SMEs have limited financial muscles and high level of operational risks owing to their small size.

Caregiving Responsibility

Caregiving responsibility was one of the challenges that emerged from data collected from informal cross-border women entrepreneurs. The respondents were of the opinion that family burden was a big challenge given the closure of schools. The following are some of the quotes from the interviewees:

The scenario of school closures has led to an extra child care responsibility on our shoulder that hinders us as women to effectively engage in our businesses. (R7)

I know school closures were a good initiative to reduce coronavirus cases but such closures are causing big challenges for us women because our family responsibilities have increased as compared to men. (R6)

The child care institutions were closed because of COVID-19 pandemic which means we are now responsible for caring our children at the expense of running our businesses. (R3)

In light of the above quotes, it is noticeable that caregiving responsibility was a burden that emanated from the outbreak of COVID-19. This suggests that informal cross-border women were disadvantaged as compared to their male counterparts. This challenge can threaten their sustainability in the post-COVID-19 era. This is line with World Bank (2020) which underscored that women are more likely to experience a significant burden during COVID-19 provided that their multiple care and household responsibilities as school closures and confinement measures are adopted, possibly leading to reductions in working time and permanent exit from self-employment.

Decline in Demand

The interviewees were of the opinion that a decline in demand was one of the challenges that hinder their sustainability. Some of the views from interviewees are presented below:

With the prolonged lockdown in Zimbabwe, it is an open secret that we are experiencing a rapid decline in demand for our imported products. (R6)

The work-from-home affected the operation of our businesses in the sense that we experienced a drop in sales demand since we were not allowed to operate in town. (R1)

Decline in demand emerged as one of the challenges faced by interviewees during the COVID-19 pandemic crisis. This suggests that some customers were not able to buy goods due to reduced disposable income. Worryingly, some people were retrenched during the COVID-19 pandemic crisis in Zimbabwe. This is line with the opinion of Fairlie (2020) who documented that the COVID-19 pandemic crisis has caused long-term economic challenges linked to a reduction in start-up rates, a sharp increase in unemployment rates, and a decline of demand that reduced SMEs growth prospects.

Shortage of Goods

Shortage of goods has been highlighted as one of the challenges associated with the COVID-19 pandemic owing to disrupted supply chains. The following are some of the quotes from the informal cross-border women entrepreneurs as interviewees:

The challenge that we are facing as women entrepreneurs in this cross-border business is the shortage of supplies because we rely on South Africa which was more affected by the coronavirus. This challenge is more likely to affect us even after coronavirus. (R7)

The COVID-19 pandemic has caused disrupted supply chain of our products from South Africa, resulting in acute shortages of some products. This has forced prices of products to increase at a time when the purchasing power of our customers has been seriously eroded by inflation. (R3)

As the lockdown measures have restricted cross-border movement of people, it is noticeable that there is a shortage of some imported products due to supply chain distortions. (R5)

Based on the above quotes, it is worth mentioning that a shortage of goods was one of the biggest challenges faced by the interviewees during the COVID-19 pandemic. This suggests that there was a notable disruption of supply chain when it comes to informal cross-border trading. This is in tandem with the view of Brown & Rocha (2020) who expressed that lockdown has caused an exponential decline of global economic activity as substantiated by a rapid decline of production, supply chain challenges, and decline of trade globally.

Business closures

Business closures emerged as another challenge that is confronted by informal cross-border women entrepreneurs. The majority of the interviews were more worried about the sustainability of their business given the negative effect of lockdown measures. This is captured in the following quotes from the interviewees:

Informal cross-border business has been heavily affected by measures of COVID-19 that were announced by the president at the end of March this year. Therefore, I witnessing the closure of the businesses of my colleagues as they were not able to replenish their supplies. As we speak, 50% of my colleagues are no longer in this business. (R1)

Informal cross-border business is no longer pays well. This is the reason why we are witnessing an increasing number of closures since it is a high-risk business as we are afraid of coronavirus pandemic. (R3)

Ceasing informal cross-border trade is the order of the day because this sector is one of the hardest-hit worldwide by COVID-19. To make matters worse, female entrepreneurs are at risk of permanent closure. (R6)

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Business closures were also highlighted as one of the challenges faced by interviewees as supported by the above quotes. This suggests that women in informal cross-border businesses were closing their business as they fail to stay afloat due to restriction measures imposed by the government as a way to reduce the spread of coronavirus. This is in harmony with the view of Lindsay et al., (2020) who underscored that 50% of Micro, Small and Medium Enterprises (MSMEs) in the US were already ceased their business operations or retrenched or furloughed employees, and 27% were about to adopt the same measures in the next few weeks if the scenario remains the same.

Opportunities

The interviewees also highlighted some opportunities that were opened by the COVID-19 pandemic. Two major opportunities emerged from the data collection and these are presented again in a thematic manner below.

Digital Marketing

Digital marketing was highlighted as one of the opportunities that are linked to the COVID-19 pandemic. The majority of the interviewees identified the COVID-19 pandemic as the catalyst for digital marketing. Some of the quotes with respect to digital marketing are highlighted below:

Self-isolation and social distancing have forced us to change our marketing strategies. We are now focusing on digital marketing strategies by using digital social platforms such as WhatsApp because they are very cost-effective. (R8)

I give thanks to digital and new technologies that allow us women entrepreneurs in the cross-border trading to use platforms such as WhatsApp groups to market our products without violating lockdown regulations pronounced by the president. (R3)

The global pandemic has shown that internet is a necessity rather than an option especially among female entrepreneurs in the cross-border business who are mainly labeled as technophobic. (R9)

Digital marketing emerged as one of the opportunities associated with the COVID-19 pandemic as revealed in the above quotes. The interviewees took the view that the COVID-19 pandemic accelerated the rate at which the interviewees were coping with digital marketing as they were shifting from traditional marketing to digital marketing on platforms such as WhatsApp. This is in line with Baldwin & Di-Mauro (2020) who underscored that MSMEs employing digital technologies, such as e-commerce are strategically positioned to adapt to the COVID-19 pandemic crisis.

Business Networks

Business networks were also mentioned as one of the opportunities that emanate from the COVID-19 pandemic. The interviewees took the view that business networks were very crucial for survival during the COVID-19 pandemic. Some of the quotes related to business networks are captured as follows:

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The coronavirus pandemic has forced us to understand the great value of business networks in the form of social capital. For me, I managed to grow my online business networks during the lockdown. (R7)

Virtual business networking was exacerbated by this COVID-19 pandemic than before. For your information, I managed to open a WhatsApp business account for improving the online visibility of my business. (R2)

As large gatherings were banned because of COVID-19, we were forced to foster strong business ties with customers online. On our side as women entrepreneurs, online peer-to-peer support was unavoidable. (R10)

Another opportunity that was highlighted by interviewees is business networks as supported by the above quotes from the interviewees. This means that the interviewees were valuing the need for business networks than before. Moreover, some interviewees were embarking on virtual business networks so as to ensure the survival of the business. This is supported by World Bank (2020) which documented that virtual networks offer valuable opportunities for entrepreneurs to engage in e-commerce during the COVID-19 pandemic.

SOLUTIONS AND RECOMMENDATIONS

In order to deal with the emerged challenges faced by informal cross-border women entrepreneurs, the researchers proposed the following suggestions:

COVID-19 Relief Loans- In order to deal with the liquidity crisis, the government of Zimbabwe is hereby recommended to provide COVID-19 relief loans at very low-interest rates. This financial assistance could help women entrepreneurs to weather the crisis and adapt to a post-COVID-19 era.

Digital Skills Training – This study recommends the Zimbabwean government to provide digital skills training to women entrepreneurs in an attempt to ensure their sustainability in a post-COVID-19 business world. It is within this context that digital skills are considered as pre-requisite in this digital epoch of the 21st century which is predominantly associated with digital natives. This could help them to reflect on weaknesses associated with their traditional business models.

Awareness Campaigns- Given a plethora of challenges faced by women entrepreneurs, it is deemed necessary to recommend the Zimbabwe Cross-Border Traders Association to conduct countrywide awareness campaigns which place more emphasis on the sensitization of the challenges faced by women entrepreneurs during the COVID-19 era. This could attract the attention of primary stakeholders such as the government and NGOs.

Cost-Effective Marketing- The women entrepreneurs in the informal cross-border trade should embrace cost-effective marketing in an attempt to weather the negative effects of COVID-19 pandemic. The efficient and effective utilization of e-commerce and digital tools could go a long way to ensure the sustainability of their business in the post-COVID-19 era.

Diversification of Value Chain Partners- The women entrepreneurs in the informal cross-border business should diversify the value chain partners through the effective utilization of digital technologies. This could help them to reduce or eliminate the shortage of goods and improve their resilience against the negative effects of the COVID-19 crisis.

FUTURE RESEARCH DIRECTIONS

This study focused on informal cross-border women entrepreneurs only. Consequently, it would be interesting for further studies to focus on informal cross-border trade with a bias towards youths in Zimbabwe. Moreover, further studies on informal cross-border women entrepreneurs in other African countries are welcomed as comparative studies.

CONCLUSION

This chapter aims to capture the challenges and opportunities associated with the COVID-19 pandemic with particular attention towards informal cross-border women entrepreneurs. It is within this context that limited is known about the challenges and opportunities linked to the COVID-19 pandemic, In this regard, no study was conducted in Zimbabwe. Hence, this exploratory study covers this gap in the literature. Five challenges were identified, namely, liquidity crisis, caregiving responsibility, decline in demand, shortage of goods, and business closures. Moreover, two opportunities were identified, namely, digital marketing and online business networks. Areas of future studies in relation to informal cross-border women entrepreneurs were clearly debunked. The research outcomes of this study can help entrepreneurship practitioners, policymakers, and NGOs in making evidence-based decisions on how they can assist informal cross-border women entrepreneurs in an effort to ensure their sustainability in a post-COVID era. The study concludes that the informal cross-border women entrepreneurs are confronted with a myriad of challenges emanating from the COVID-19 pandemic that is threatening their sustainability.

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KEY TERMS AND DEFINITIONS

Challenge: It encompasses contextual, procedural, structural, and strategic factors that inhibit entrepreneurial success.

COVID-19 Pandemic: It is a disease associated with a mild to severe respiratory failure that can be transmitted from one person to another by contact with infected materials and respiratory droplets.

Digital Marketing: It is a process of promoting and selling products and services through the utilization of online-based digital tools and technologies like mobile phones, social media platforms, emails, and desktop computers.

Entrepreneurship: It is a process whereby an individual discovers, evaluates, and explores the opportunities with the aim to introduce new goods and services profitably.

Lockdown: It is an emergency declaration implemented by the government that prevents citizens to leave a specific place.

Opportunities: These are gaps in the market that can be exploited by an entrepreneur through the provision of goods and services in an effort to make a profit.


SMEs Sustainability: It is the capacity of SMEs to resist external business environment shocks.

Women Entrepreneur: Refers to a female individual who identifies and exploits new opportunities in the market in order to make a profit.

Chapter 4

Competency Framework for Managing Manpower Post–Pandemic

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ABSTRACT

Since the initial days of 2020, an array of radical transformations in every domain of business have been seen. This led to the efficient and effective management of manpower to welcome a novel normal era post-pandemic. It requires an updated set of competencies post-COVID-19. The objective of the study is to identify the upcoming challenges and changes to manage manpower post-pandemic, explore the strategic modifications in the competency framework and HR policy, and recognize the changes in the leadership style post-pandemic. The exploratory study uses a systematic review technique to analyze qualitatively the secondary data extracted from the different directory of journals. The study summarizes the findings under two different areas. The first deals with the challenges of the post-pandemic era which include maintenance of business continuity, management of remote work, mental health and emotional stability, employee engagement, etc. Along with these, changes in the roles, activities, skills, competencies, policies, and leadership style occur in the organizations.

INTRODUCTION

The prevailing catastrophe of the COVID-19 pandemic is anomalous. In context of the economic activities, government started to lift the lock down in different phases with certain exemptions at the end of each lockdown. Places such as schools, universities, malls, movie theaters had to be closed. Transport and travel services on some important routes are partially in function based on the transmission level of

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the corona-virus (Prasad et al., 2020). The COVID-19 pandemic, which occurred during late 2019 without any prior intimation shuffled the globe unexpectedly. Over the night, organizations were compelled to re-design their structure and process to continue the work with new arrangements. Individuals were intimated to work from home wherever possible. This transforms their personal space into a combination of personal and professional settings (Zhang & Varma, 2020). However, this was not applicable to all categories of work and required individuals to attend their workplaces even though the probability of infection through virus geared up at an alarming rate. This is contemplated as a critical scenario that stumbles the political, economic, social, technological, environmental, and legal norms of the organizations. It is paradoxical to predict the reframed look of the organization post-pandemic. But, the new face of the organizations depends upon the modified framework of strategies and competencies developed for the manpower. This modification takes place concerning the challenges of the pandemic and the changes in the return of it in the organizational environment. The aftermath of the COVID-19 pandemic affects numerous resources associated with an organization which leads to different transformations in them. Human resources are the most dynamic and versatile resource of an organization. They serve as the motivational factor that keeps the organization's progress wheels in rotation and acts as an engross asset. Adegbile (2020) mentioned that due to the strength of the workforce behind completion of a work they are known as the manpower of an organization. Hence, the effectual management of manpower in every organization is the key to accomplish success in terms of productivity and profitability. This is because of the enigma associated with manpower which states that when 'push comes to shove', these assets are impacted the most which demands a more resilient manpower framework. At the individual level, manpower demands more dynamism and adaptability to unpredicted circumstances. The pre-pandemic techniques of performance are transformed into instant response and feedback. The manpower is less driven by monetary motivators and opens to new forms of rewards and compensations. The stability of a guaranteed income in return to the standard hard work is no more guaranteed further. Rather, a new system based on customized benefits for creative and innovative ideas makes a crucial place in the organization. Hence, manpower is in the precarious state to implement the requisite changes at the individual level to face the complexities of the challenges.

Considering the organizational level, the human resource management department plans to invest in infrastructure and distribute resources to deal with such unforeseen conditions. It requires organizations to support and co-operate manpower to overcome these limitations and fear. This encourages them to attain a new set of skills and competencies to exist in the modified structure of the organization. This leads to long-term challenges and changes for local, national, and global manpower management. To continue in this run, the capability to attract and retain new talent remains critical. Washika (2020) states the inception of a new concept, the Virtual Labor Market, to exist in context post-Covid19. The modified norms of the organization involve a lower level of centralization and a higher degree of flexibility. This creates increased competition for skills and competencies, higher flexibility in work, and more investment in manpower management.

The mentioned impacts of COVID-19 in the post-pandemic era in the organizations revolve around three different views of manpower management. The first view solicits manpower management to play a crucial role in change catalyst to help manpower develop a new framework of competencies and skill set. This enhances the capability and capacity of manpower to work in the modified organizational environment post-pandemic to accomplish a competitive advantage even in the strenuous situation (Bissola & Imperatori, 2020). The second view necessitates the need to tailor traditional manpower management activities. This promotes a cause and effect relationship between the organization and the manpower in

respect to the time and nature of the work. Implementations such as work from home, no official work time, communication with manpower in and out the organization virtually, “work focused on presence” to “work focused on results” makes its route to the organization. Entailment of new job profiles which includes freelancers, traders, contractual employment, and part-time jobs enhances its arena. This leads to gain in the assessment of performance, creativity and innovativeness, loss in hierarchical control, and an increase in agility and flexibility in the organization. The final view represents that manpower management as the critical unit of the organization that devotes more towards the manpower centered approaches to sustain in the transformed environment post-pandemic. The disclosed view of manpower management provides a framework to deal with manpower creativity and innovation, talent management and mobility, diverse workforce, workplace inequality, manpower well-being, and resilience. This ultimately helps the organization to decide whether to rise with the challenge through the implementation of changes or to fade away from the competition.

Literature Review

Hite & Mc Donald (2020) mentioned that the COVID-19 pandemic has evoked high uncertainty in the surroundings. This transposed the environment of organizations over the night. Management of resources became a herculean task for the organizations. Managing manpower for accomplishing tasks effectively for survival and growth calls for transformations in the set pattern of work-behavior. A single alteration in the organization leads towards an array of changes to sustain the transformation of work across all sectors. Cooke, Schuler & Verma (2020) described future changes in research and practices of human resource management for sustenance in crisis. The study discusses the changes that occur at individual, organizational and societal level post-pandemic. This stated a shift from integration to fragmentation with a flexible, highly communicative, open to uncertainty, highly adaptive & resilient organizations. The pandemic presents a translucent lens to focus on the deep-rooted theoretical issues which otherwise were not easier to handle and deal with (Sein, 2020). The COVID-19 pandemic initiates epochal changes & challenges for manpower management in the organization along with the management of other resources. The study of Venkatesh (2020) found the impact of the pandemic as a sudden shift in the professional and personal life of an individual. The impact on professional life deals with employment loss, change in work pattern & work outcomes in the organization whereas the impact on the personal life focuses on the coping strategies, support systems, relationship management & maintenance of social life. Different organizations adopt different strategies to cope with this contingency. Arora & Suri (2020) discussed the 4R model (Re-define, Re-look, Re-design, and Re-incorporate) to handle the repercussions of any crisis. This provides a new framework for Human Resource Development. Yawson (2020) discussed four steps of the Strategic Flexibility Framework (SFF) i.e. Anticipation, Formulation, Accumulation & Operation to demonstrate the future of Human Resource Development in the post-pandemic organizational setting. The way the organizations adapt to new normal determines their positions post-pandemic. The organizations belonging to different sectors implement different strategies to deal with it. One such example is of the health care system which faced the major impact of the pandemic. The delivery and maintenance of essential health care services need an optimum balance to support the population especially the most vulnerable ones. For this, different health care institutions implement strategies for efficient utilization of nursing manpower for safety & quality of concern during the pandemic (Kuppuswamy & Sharma, 2020). This states the management of manpower as a crucial concern in similar situations to maintain an individual’s consistency and motivation in the organization. The study of Saheem (2020) focused on the

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renaissance of talent management post-pandemic. This enables the organizations to identify alternatives for the restoration of normalcy. Hence, to attain the state of new normal, the organizations contribute actively to bridge the gap between the disturbed and desired consistency. This stimulates different implications to revitalize manpower in the post-pandemic environment (Mohapatra, 2020). Apart from the discussion on the significance of manpower management and the transformation of the organization, various studies also discussed how an organization should meet the upcoming demands post-pandemic. Dirani et al. (2020) examined the success & failure of critical interventions to deal with such situations. The study also exhibited the role of leaders during the pandemic. Leaders who adjust their competencies based on the prevailing situation helps the organization to flourish amidst any uncertainty. Strategic human resource development also plays a crucial role to develop leaders in this pandemic by encouraging ideas and innovations, a continuation of learning, supporting with reliable ground data, and promoting regular meetings. The study of Prasad & Mangipudi (2020) specified significant policies, procedures & protocols to protect manpower from the possible consequences of the pandemic. Their study also discussed the shift in the HR paradigm which considers a new mindset towards employee's well-being, enhanced learnings, job security & remote work to manage the talent of the organization. The impact of the pandemic requires the re-framing of organizational policies to encounter and succeed in a critical situation with adequate productivity and profitability (Adegbile, 2020). In addition to this, the widened participation of employees in organizational decision making both psychologically and behaviorally marked as a remarkable approach to address the post-pandemic problems (Child, 2020). This novel way of employee's involvement helps the organization to handle the uncertainties immediately and appropriately. The significance of speed & accountability as a critical component to respond in any pandemic situation is specified in the study of Barba et al. (2020). The study also discussed the significance of speed & accountability to manage people & their roles in the organization. The global changes & challenges occurring due to the pandemic illustrates the different insights of international human resource management to efficiently deal with the pandemic (Caliguri et al., 2020). This includes a multi-disciplinary approach, multi-stakeholder orientation, multi-level assessment, etc. as the tools to implement in the organization post-pandemic. Though everything exists for a certain time, the impact of it is seen from years to years which depends upon the way an individual or organization adapts it. The study of Liu & Froese (2020) signifies the multi-faced perspective of the pandemic. This involved the limitations as predecessors, results as outcomes, and the opportunities as successors of the pandemic at different levels in and out of the organization. Organizations need to focus on the conversion of these challenges into opportunities in the long run. To convert the complexities of manpower management into an opportunity it requires the organizations to help their employees during these inevitable circumstances which encourages highly sustainable career culture. The study of Kodama (2020) suggested the organizations to consider the pandemic as an opportunity for self-transformation & digital conversion of work style. This was explained with the help of different research streams i.e. Knowledge, Information Technology, Micro Organization & Micro Strategy. Re-framing of different policies and procedures exhibits a step ahead towards the crisis management approach. Li et al. (2020) in the study suggested framing human resource policies to accomplish different goals. These goals primarily focus on the sustainability and survival of the organizations during the pandemic. In the later phases, it also thrives the organization to consider it as an opportunity to respond, repair, and recover in such a situation. This was supported by the study of Sein (2020) which recommends the researchers to grab the opportunity of the pandemic to research & practice for different aspects of individuals, organizations & societies.

Research Gap

With the outbreak of the COVID-19 pandemic, different research focuses on many aspects related to repercussions and reflections of post-pandemic in the organization at all levels. However, research on mitigation of its repercussions necessitates more in-depth knowledge for further exploration. In addition to this, it also mandates to develop a framework of skills and competencies to safeguard manpower from ramifications caused during the post-pandemic. Therefore, the study assembles strategies on different perspectives to identify the critical role of manpower in the organization. This emphasizes competency gap analysis for effective manpower management.

Objectives

The urgent need to understand the necessities of the post-pandemic involves digital methods and techniques to accomplish the task at the workplace. This compels organizations to manage their workforce strategically. The strategic alignment of manpower management centers the implementation of different transformations across organizational boundaries to encounter different challenges. Hence, the objectives of the study are:

1. To identify the upcoming challenges and changes in managing manpower post-pandemic.
2. To explore the strategic modifications in the competency framework and HR Policy.
3. To recognize the change in the leadership style post-pandemic.

Research Methodology

The study discloses embryonic information in context to the competency framework for managing manpower post-pandemic. The exploratory study followed appropriate guidelines for proper documentation of systematic review. It performed a structured keyword search based on the similarity of the content & the aims of the study. The keyword used for best scrutiny of papers involved Manpower Management, Human Resources, Workforce, Competency, COVID-19, and Post Pandemic. To explore the strategic modifications in the competency framework and HR Policy the literature survey was conducted from the year 2011 to July, 2020. This helped to have a clear comparison between the prior competencies, HR policies and, procedures with the required ones in the organization post-pandemic. The study identified the peer reviewed journal that compared studies based on primary & secondary data. A total of 20 research papers met the criteria of the study directly whereas 18 studies were involved indirectly in the study. The secondary sources of data extraction involved 3 directly related research papers from International Journal of Information Management (May 2020, June 2020, July 2020), 2 research papers from Asian Business & Management (Volume 19, May 2020), 2 from Human Resource Development International (Volume 23, Issue 4, July 2020), 1 from European Journal of Business & Management Research (Volume 5, Issue 4, July 2020), 1 from International Journal of Research in Human Resource Management (Volume 2, Issue 2, July 2020), 1 from International Review of Applied Economics, 1 from Journal of Economics Business & Management (Volume 5, Issue 12, December 2017), 1 from NEJM Catalyst Innovations in Care Delivery (May, 2020) & 1 from Nursing Manpower Utilization. In addition to this, 1 directly linked research papers from Canadian Journal of Physician Leadership (Volume 2, Issue 4, 2020) & 1 from Human Resource Development International (Volume 23, Issue 4, July 2020) were

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used to identify the change in leadership style post-pandemic. The research papers that focused directly on challenges & changes in competency framework and HR policy along with the change in leadership style post-pandemic were 2 from Human Resource Development International (Volume 23, Issue 4, July 2020), 1 from Annual Reviews (Volume 3, 2016), 1 from Human Resource Management Review (July, 2020) and 1 from Journal of International Business Studies. The qualitative analysis of the secondary data is done to acknowledge, accredit, and audit the upcoming trends and to initiate recommendations for future research in this domain.

Since the workplaces do not breathe without manpower, the role of manpower along with the associated skills and competencies is the key to the success of a highly innovative organization (Benesova & Tupa, 2017). The new paradigm shift due to the pandemic is not solely an infectious catastrophe but a conglomeration that results in different aftermath (Fantoniet.al., 2020). Thus, the study found to encourage a vision for the enrichment of manpower with a completely new standard of roles, activities, skills, competencies, and leadership styles post-pandemic. This new normal outlook transforms challenges into opportunities at the workplace.

CHALLENGES IN MANPOWER MANAGEMENT POST-PANDEMIC

The general and competitive challenges encountered by organizations in crisis conditions encourage the organizations to transform through the implementation of a few strategies and structures. The study aims to differentiate strategies implemented or required during different periods of crisis. There are different studies focused on researches on the consequences of the crisis and coping strategies during the nineties. To focus on the different challenges an organization is likely to face post-pandemic it is mandatory to understand the numerous challenges an organization dealt with in the past. This helps in the magnification of the mindset to encounter the necessities in the organization post-pandemic. To start with, Ulrich (1996) states different competitive challenges and its sufferings an organization faces in a strenuous situation to accomplish its goals as represented below:

- **Challenge of Globalization:** It involves the state of diversity, uncertainty, enigma, and complexity with respect to manpower management. This requires a dynamic, adaptive, and competitive organization.
- **Cognitive and Rational competence challenge:** It involves the acquisition of relevant competencies to handle manpower efficiently and effectively. This requires manpower to possess proficiency, knowledge, and experience.
- **Challenge of Profit and Growth Increment:** It involves a reduction in different costs involved in manpower management activities. This requires the activities of manpower management to remain updated and appropriate.
- **Technological Challenge:** It involves faster action and implementation of different activities using upgraded technology.
- **Challenge of Caliber:** It requires a combination of tangible and intangible capabilities to help manpower management in a magnificently.
- **Change or Transformation Challenge:** This involves the readiness of manpower for transformations that seems to be productive for the organization.

Similarly, the study of Hecklau et al., (2018) found challenges encountered under different categories during Industry4.0 as:

Economic Challenges

- Globalization (Adjustment of time, Adaptation of skills, Enhancement of language, Process apprehension)
- Innovation (Creativity, Thought building, Problem Solving, Performance under pressure, Knowledge up-gradation)
- Increased service inclination (Resolution of conflict, Compromise, Effective communication)
- A requirement for cooperation and participation (Team work, Network development)

Social Challenges

- Transformation in values and manpower generation (Knowledge transfer, Uncertainty tolerance, Time and space flexibility)
- Enhanced virtual work (Technology up-gradation, concern for privacy and security, transmission skills)
- Higher complexity (Encouraging motivation, Technical know-how, Risk Enablement, Advancement in decision providence)

Technical Challenges

- The implication of advanced technology (Increase in efficiency, Adaptation of code system, Analytical skills)
- Growth in partnership-based task (Cooperation, Teamwork encouragement, Enhancement in virtual communication)

Environmental Challenges

- Climate and Culture Change (Change in the framework on the mind, Sustainable solutions)
- Limitation of resources (Safeguard environment and manpower)

Political Challenges

- Demonstrating standardization (Acquisition of coding and technological skill)
- Data Privacy (Safety and Security concern)

Due to the sudden occurrence of the COVID-19 pandemic the livelihood of the entire workforce and standard of living is impacted in one or the other way. This involves the different categories of workers or manpower that is affected differently. The first category involves the issues of the most helpless group of migrant workers who were compelled to move to their native places without any pre relief measure. The next category involves the livelihood complexity of informal workers who work in an unrecognized job under precarious conditions, struggle hard to afford two-fold meals and the minimum requirement of their family are indeed devastated. The number of benefits declared by the government was neither

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adequate nor justified to meet their necessities. The last category involves the problems of gig workers who were subject to health and contingent issues and possessed the threshold of the obscure employment contract and underrated benefits. A return to the organizations' post-pandemic with the earlier mentioned issues includes a list of different challenges for the manpower. Removal of Government imposed lockdown slowly and gradually leads to a standard set of protocols mandatory for the organizations to follow. Post-pandemic period does not mean the complete removal of Government imposed lockdown. Rather, it states the situation where manpower adapts to the existing environment. General challenges and sufferings an organization acquaints for managing manpower during post-pandemic organizational set-up are (Prasad et al., 2020):

- Workplace Challenge: Lockdown phase with restrictions on operational activities
- Time-Bound Challenge: To impose Government rules and regulations
- Workforce Challenge: Essential staff at the workplace in a restricted number
- Challenge of Precautions: Use of Mask, Thermal Screening, Social Distance at offices and work-shops, Availability of hand sanitizers
- Challenge of Meetings: Only virtual meet
- Transport Challenge: Use of personal vehicle for transport under the restriction protocols
- Travel Challenge: Travel with appropriate safety protocols within and outside the organization
- Cafeteria Challenge: Provision of essential facilities with restrictions of social distance

Apart from the general challenges in the post-pandemic organizational set-up the human resource department also faces certain challenges. These challenges include:

- Workforce Health and Well-being: The sudden change in work patterns impacts the overall health and wellbeing of the workforce. To work remotely with compromised communication routes leaves the managers clueless and helpless.
- Increased alertness and agility: The ability and mindset that permits an organization to transform the organization's structure and manpower accordingly is the need of the hour now.
- Proper Communication: Communication is a crucial aspect that needs consideration post-pandemic. Without appropriate communication channels, it becomes difficult to manage the organizational workforce.
- Ambiguity: The unknown situation about future mishaps or what measures to take to sustain organizational activities is a huge challenge.
- Trust and Understanding: Remote working extensively requires trust and mutual understanding between the manpower. This acts as a major key element to achieve success in this sort of situation.

The above challenges mold the study towards a new framework of required skills and competencies in the organization post-pandemic. It starts with an approach to initiating a crisis management team in the organization. It further provokes the involvement of proper communication and coordination of manpower as the next requisite. At last, the health and well-being of manpower is considered mandatory.

CHANGES IN MANPOWER MANAGEMENT POST-PANDEMIC

Modifications in organizations are often an outcome to change in its culture and climate. The type of modification organizations implement provides an opportunity to the organization in terms of profit, gain, satisfaction, competition when compared to other organizations in the future. The modifications an organization chooses are classified as: change in the role of manpower management, changes in manpower management activities, changes in skills and competencies, and lastly, change in leadership style. These changes enable the manpower to adapt to different aspects of the organization post-pandemic.

Changes in Manpower Management Roles

The way an organization acquaints with numerous challenges in different periods of development leads to a simultaneous change in the manpower management role. This again compels an individual or the organization to understand the transformations of different phases. A better strategy developed on the basis of past experiences surely encourages an organization to implement the new roles of manpower management systematically. This begins with four different roles performed by the manpower management team to provide a competitive edge to the organizations in the 18th century. To mention, the study of Ulrich (1996) describes the following roles of manpower:

- Strategic Companion; concentrated on vision, mission, goals, and techniques with manpower roles and responsibilities.
- Managerial Expert; handled the basic managerial operations associated with manpower.
- Manpower Champion; promoted the involvement and participation of manpower to accomplish success.
- Transformation Agent; encouraged the acceptance of changes and challenges.

With the advancement of technology, the roles were devoted more towards value-based work to strategically provide a competitive edge through core competencies. This transformed manpower roles into an updated model. Ulrich (2011) categorized six different roles of manpower as:

- Strategic Champion; considered the PESTEL scenario and take appropriate decisions.
- Credible Activist; promoted environment based on mutual trust, cooperation, and understanding.
- Capability Enhancer; encouraged involvement and participation to enhance the capability and establish a unique identity of the organization.
- Change Agent; supported change at individual, team, and organizational level.
- Manpower innovator and integrator; worked on necessary manpower activities to accomplish a compiled outcome in favor of the organization.
- Technocrat; invested, investigated and inspected upgraded technology for the desired result in the organization

The role associated with the management of manpower changes with a paradigm shift post-pandemic. The traditional format of manpower management concentrated more towards administrative, training, and career planning areas to maintain efficiency and effectiveness. Though, more or less strategic management was also a part of it. The outburst of the unpredicted pandemic entails the modified roles

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of manpower in the post-pandemic era. This involves a shift of roles towards a more human-centered approach to focus on the following:

- To ensure the purpose, culture, and values of the organization fully connect to stakeholders: The main focus of the organizations is to concentrate upon all the stakeholders. This requires a complete check of all the requirements and demands of the stakeholders and involves proper fulfillment of it.
- To pay attention to key workers: The key or the crucial workers of the organizations are considered to provide essential services to the organizations post-pandemic. Hence, complete attention on them is required to keep the organization ongoing in the long run.
- To create an abundance of talent: The post-pandemic environment requires numerous manpower talents to work in collaboration. This provides a platform to overcome the drawbacks caused due to the pandemic.
- To build a new employer-employee paradigm: The modified relation between the employer and the employee post-pandemic requires trust and mutual understanding for the smooth functioning of the organizations.
- To build a new team working model: At the organizational level, the manpower management should be more focused towards the achievement of team goals to provide a sense of belongingness towards the organization.

Changes in Manpower Management Activities

The study found that transformations in roles of manpower lead to radical changes in manpower management activities associated with recruitment, training, career planning, appraisal evaluation, and compensation. The study revealed the following transformations post-pandemic:

Older technique of recruitment and hiring is modified into:

- Application of AI to attain and cross-check applicant information
- Selection based on participants involvement and engagement

Methods of training and career planning are transformed through:

- A new method of computation and data analytics
- A focus on skill and competency enhancement.

Modern appraisal evaluation technique involves:

- Immediate assessment of input and output of manpower efforts
- Promotion of creative and innovative ideas, thoughts and experiences

Process of compensation is redesigned with:

- Combination of numerous financial and non-financial compensation
- Selection and choice for personalized benefits

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The study further bifurcate the situations and required demands pre and post-pandemic of different management activities for a distinct differentiation between the two. The study identified these categorical changes based on different researches post-pandemic, stated as under:

Recruitment and Hiring

- Pre-pandemic; based on media advertisement, campus recruitment, face to face interviews, etc.
- Post-pandemic; based on broadcast posting, on-site applications, virtual meet, etc.

Training and Career Planning

- Pre-pandemic; involved in-house training, learning based on experience, lectures, simulation exercises, etc.
- Post-pandemic; inclusion of on-demand skills, virtual learning, asynchronous training, learning in chat rooms, etc.

Appraisal Evaluation

- Pre-pandemic; concentrated on different methods of ratings, periodic outcome track record, etc.
- Post-pandemic; focused on the online track record of work, instant response and feedback, digital involvement, etc.

Compensation

- Pre-pandemic; based on job worth, manual survey, manpower availability, etc.
- Post-pandemic; involved digital surveys, work output, complex bonus structure, etc.

Flow of activity

- Pre-pandemic; dependent on the joint decision of manpower to accomplish organizational goals
- Post-pandemic; established on individual-centric career assessment to achieve organizational objectives

The specified changes intimate towards activities deliberated towards few refinements in the organization post-pandemic. This involves the priority of counseling and collaboration to sense the employee's need for support. Refinement of organizational values and recognition of employee's effort in the organization plays a critical role in the post-pandemic set up. Educating and equipping the workforce to drive management through innovation and creativity is a key for the accomplishment of organizational goals. Making the workforce aware of the different forms of employee welfare and involvement helps them to look forward in the long run.

Changes in Skills and Competencies of Manpower

Numerous inevitable challenges and changes are expected in the post-pandemic organizational set-up. To handle and face the challenges and changes outlined above competent manpower is required in every field

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and department of the organization. The multidimensional aspect of the organization requires excessive involvement of manpower. This facilitates them to acquire the updated skills and competencies to handle the situation with the inclusion of different complexities and uncertainties. This trend is seen from the first competency model of 1987 to the latest model of 2016. To understand the skills and competencies required post-pandemic it is very crucial to consider the earlier competency models as well. This provides a base to the individuals and organization to develop and communicate clearly on the expected skills and competencies of manpower post-pandemic. Ulrich et.al (2012) mentioned different competency models that focus on the evolution of different competencies for managing manpower. This involves a combination of seven different models from the initial to the most recent. The set of competencies mentioned in each model is based upon the organization's climate and culture in that particular period or era. The first competency model emerged in 1987. This model comprised of three HR competencies: Knowledge of the domain, Delivery of manpower management activities, and Management of transformations. This model acted as the inception of modified HR in organizations. The next competency model emerged in 1992. The competency named Personal credibility acted as a crucial factor for manpower management along with the earlier mentioned competencies. This acted as a trump card to allow HR into the field of business. In the model of 1997 culture emerged as a competency. The involvement of culture emphasized the collaboration of the organization's knowledge, thought patterns, and integration of actions. The model of 2002 involved the competency of strategic contributors which replaced the competency of culture. The model also replaced the change management competency with HR technology. This transformation enabled the concept of market and current trend relatedness. Three other competency models emerged later in the years 2007, 2012, and 2016 (Ulrich). The 2007 competency model, focused on competencies at three different levels. In the initial phase, it involves the management of different relationships and emphasizes on the competency of the credible activist. The next phase involves the attention towards systems and processes in the organization. This includes the competency of operational executor and business ally. The last and the major phase involve the enhancement of organizational capabilities by the integration of three different competencies. First, as strategic architects followed by culture and change management and last as talent manager. The manpower management competency model of 2012 involves the competency of the capacity builder, change champion, manpower innovator, and integrator and at last technology proponent. The acquirement of these competencies leads to the acquisition of competency named Strategic Positioner in the organizational context. The 2016 competency model treats the competency of Paradox navigator as the crux of the organization to maximize and enhance the thought process and results which are otherwise inherent to one another. This leads to further transformation and involvement of modified competencies of Strategic Positioner, Credible Activist, Champion of change and culture management, Human Capital Curator, Total Rewards Stewards, Technology and Media Integrator, Analytics Designer and Interpreter along with the competency of Compliance manager to fit the need of the organizations. The evolution of different skills and competencies from 1987 to 2016 involves numerous modifications in the competency framework. The modification in the framework was made for its best applicability and implementation at that time frame. Based on today's scenario of the pandemic, the competency framework requires further modification for its implementation in the post-pandemic environment. This compels to the involvement of following skills and competencies in the framework:

- **Flexibility and Agility:** The competency to move and adjust quickly as per the surrounding is the future need of the organizations. This intake a combination of other skills to sustain in the competitive market.

- Creativity and Innovation: Unique thought and ideas from the workforce in the post-pandemic organizational set-up is the necessity of the hour to overcome the present situation.
- Digital and Coding Skill: Learning of the updated technology and application of data analytics in day to day activities is required post-pandemic.
- Technical Alertness: Up-gradation of technology with the simultaneous move towards a more equipped infrastructure is mandatory for the organizations.
- Critical thinking: To think and evaluative according to arrive at a decision is the on-demand competency for the upcoming situation.
- Emotional and Mental Resilience: The ability to recover quickly and efficiently from difficulties is requisite to sustain in the organization post-pandemic.
- Change management: Team particularly focused to deal with changes in and out the organization is of utmost importance to the workplaces.
- Lifetime Learning: The willingness to learn and experience new things to acquire the current skill and competency will act as a key point for the organization to move the success ladder ahead.

Changes in Manpower Management Policy

The transformation in the roles, activities, skills, and competencies of the manpower results in re-frame of manpower management policy. This involves the HR practitioners to develop the new policies taken into consideration the post-pandemic aspects. The policies include different protocols based on remote working or work from home. It also involves an effective communication plan prevalent in the present virtual scenario. The development of fear, anxiety, and crisis management team in the organization is a crucial part of policy modification. Building a culture of trust and mutual understanding is the major point in the reframe of policy. Lastly, the organizations need to inculcate the policy based on transparency and openness at all levels.

Changes in Leadership Style

During the time of crisis, organizations suffered unexpected interruptions. The new normal outlook of organizations completely depends upon effective manpower management. It requires guidance from leaders during crises and calls for transformational leadership. The visionary leadership helps organizations to overcome this mishap with blossom opportunities. This involves the focus towards activities related to psychological empowerment, positive reinforcement of work through proper channel and communication, development of crisis management team. Different studies pen down initiatives of transformational leaders in the period of inconsistencies. The study summarizes these initiatives as:

Initiative 1: Transform the pattern - Frame the values and structure the new changes into the system.

Initiative 2: Encourage accomplishment of vision - Foresee the future and consider the chances, focus on vision applicability and accomplishment of the vision

Initiative 3: Confront the system - Look for opportunities and accept risks through creativity, willingness, and experience

Initiative 4: Motivate others to perform - Promote an environment of trust, cooperation and understanding to develop confidence and strength among the manpower

Initiative 5: Inspire the manpower - Identify the contribution and appreciate the best for manpower participation and involvement.

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The activities mentioned above lead to a framework of modified leadership initiatives mentioned below by Dirani et.al (2020):

Initiative 1: Logical

Explanation: The opinion leader makes for a critical situation in comparison to other states that senses the capability of a leader.

Outcome: It should be quick, convincing, and efficient for justification to the manpower.

Initiative 2: Technocrat

Explanation: Leaders should be capable enough to encourage the manpower to implement updated technology in the post-pandemic scenario.

Outcome: It should act as a stress releaser for manpower based on its relevancy, flexibility, and cost-effectiveness.

Initiative 3: Emotional Quotient

Explanation: Unambiguous leaders should understand every individual's problem and support them to handle it efficiently.

Outcome: It should focus on manpower participation and involvement to increase their self-awareness.

Initiative 4: Innovativeness

Explanation: That strategy move leaders to promote uniqueness even at the time of crisis are taken into consideration.

Outcome: To encourage new ideas & thoughts through a proper channel of communication and appreciation.

SOLUTIONS & RECOMMENDATIONS

The recent pandemic disrupts the operations of manpower to research and practice in numerous ways. This involves the suggestions and recommendations for manpower at different levels.

- At the individual level post-pandemic, the traditional techniques of work and the stability of a guaranteed income in return for structured work are not guaranteed anymore. Any crisis like COVID-19 disrupts people's livelihood. Few work profiles are gone forever whereas some are gone for a long time. Apart from this, some of the roles, activities, and competencies transform in unforeseen ways. In all cases, the study recommends an individual's agility, willingness, and flexibility to handle such uncertainties.
- At the organizational level, the occurrence of unexpected events like COVID-19 intimates the need to invest in infrastructure and allocate resources towards an unforeseen future. This requires the manpower's emotional, mental, and physical readiness to adapt the changes post-pandemic.

This involves changes in roles, activities, and competencies at the departmental level in the organizations post-pandemic. The study recommends non-resistivity, building up redundancies and formation of systems and techniques that adapts transformations in a short period. In most countries, where employees are mostly considered as families, this responsibility will weigh heavily on organizations.

- At the societal level, major disruptions of COVID-19 pandemic lead unemployment among the huge portion of the population. . This also involves manpower who works in the unorganized sector and are most risk-prone to such ruinous disturbance. There is no formula to foresee when the next such event might occur or take place. The study recommends the need of preparation to soften the impact, especially for the delicate and helpless sector of society. While this is applicable all around the globe, it is more crucial in countries and continents where the major sectors of society depend on the government for their livelihood.

FUTURE RESEARCH DIRECTIONS

The study presents the competency framework along with different challenges and changes in the post-pandemic organizational context. The exploratory in-depth study based on different works of literature concentrated towards the required skills and competencies acts as a constraint for the study. Hence, the domain to concentrate on the challenges along with the implementation of changes in the post-pandemic era is still open to inspect and investigate. The study further provides a platform to emphasize the experimental and empirical research on the competency framework for manpower management in the organization.

CONCLUSION

To build upon the introduction, the study is an immediate response to the post-pandemic era. The intensity and speed of break down in different sectors of organizations are unlike anything experienced until today. Among the different sectors, the segment to deal with manpower resources is the most pivotal. Manpower acts as the breathing system of an organization which leads to appropriate function and utilization of other resources in the organization. The study founds the two crucial aspects associated with the management of manpower in the organization. These aspects act as the major essence to provide a competitive edge to the organization. The first aspect of the findings deals with general and specific challenges likely to affect manpower in the post-pandemic scenario. The second aspect deals with the general and specific changes likely to occur in the post-pandemic scenario in contrast to the pre and prevailing pandemic situations in the organizations. The study specifies the general post-pandemic challenges with respect to the workplace, transport, precautions, cafeteria, etc. whereas the specific post-pandemic challenges include ambiguity, agility, communication, health and well-being, trust, etc. The study founds the changes in respect to the manpower management roles, activities, skills and competencies, HR policy, and leadership styles. It specifies that the roles of manpower management applicable in the post-pandemic situation involve a focus on key workers, talent retention, teamwork models, etc. The study also states that the transformed activities focus more on the refinement of coaching and collaboration. Recognition of an employee's effort to encourage innovation and creativity is

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also added to the list. Further, the study specifies modifications in the HR Policy to manage manpower strategically. This involves an effective communication plan for the development of crisis management team to build a culture of trust and mutual cooperation in the organization post-pandemic. At last, the study concludes with the modification in the leadership style to manage manpower in the organization. This specifies the relevancy, technological advancement, emotional quotient, and innovativeness as the new initiatives of leadership style.

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KEY TERMS AND DEFINITIONS

Competency Framework: It is a model that represents the in-depth details of each competency required for each role and activity of the organization.

Gig Workers: It specifies those workers who are indulged in temporary works to satisfy their various needs.

Human-Centered Approach: It specifies the implementation of every decision with respect to the needs and demands of the manpower in the organization.

Leadership Style: It represents the approach a particular leader chooses to implement different management functions in the organization.

Manpower Management: It represents different activities associated with the workforce of the organization at different levels and departments.

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Migrant Workers: It specifies those workers who left their homes to find work in some city, state, or country.

Post-Pandemic: It does not mean the complete removal of Government imposed lockdown. Rather, it states the situation where manpower adapts to the existing environment.

Virtual Labor Market: This concept enables job seekers to provide their resumes against the different vacancies announced by the organizations at a particular e-platform.

Chapter 5

Contemporary Perspectives on Entrepreneurial Challenges and Innovation in Education: A Study on Pandemic Situation in Bangladesh

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ABSTRACT

COVID-19 has changed the way the whole world used to operate, and education is no exception. Worldwide, a massive transition has been observed in the education sector. During the pandemic situation, the world has experienced the mode of education shifting to a digital platform. This chapter investigates the impact of COVID-19 on entrepreneurs, their challenges, and adoption strategies that have created a pathway for innovation in the private education sector in Bangladesh. A qualitative investigation on 57 observations along with 18 detailed case studies was included in this study. The study sheds focus on primary, secondary, and tertiary levels of education in Bangladesh. The outcome of the study emphasized the strategies taken by the entrepreneurs that focus on the bright and dark sides of the educational sector. Private institutions face technological, financial, and operational challenges during the pandemic time. Urgent initiatives need to be taken by the government or other agencies for addressing these issues for the sustainability of this sector.

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INTRODUCTION

Most countries in the world faced a lockdown during the COVID-19 pandemic. Every sector of life has been facing major setbacks and academia is no exception (Nicola et al., 2020). The development of modern society depends to a large extent on the nature and standard of education. Educators across the globe are facing uncertainties and challenges due to shut down of schools, colleges, and universities; forced rapid transition to online teaching during the COVID-19 outbreak (Daniel, 2020). A lot of short-term and long-term planning along with experimentation in novel teaching-learning and assessment methods were adopted for the successful transition of COVID disruption (Crawford et al., 2020).

This crisis has led to educational experts predicting an expedited use of technology in academia in the post-COVID era. Due to the pandemic situation of COVID-19, worldwide learning mode has been shifted from face to face learning to distance learning. Technological orientation to education has opened up a new scope of innovation in education. Application of different video conferencing related software has been introduced in the education sector. Implementation of technology in education has brought few challenges like limited hands-on digital skills for teaching over the internet, limited engagement with both ends, lack of resources, etc. (Kaabar, 2020). Loss of learning chances has been considered as one of the most abrupt effects of COVID-19 on the education sector in Bangladesh as all the educational institutes have gone for closure since March 17, 2020. So far the government has extended the closure of educational institutions to October 3, 2020, and also has cancelled two of the country's largest public examinations (Alamgir, 2020b). Moreover, an economic downturn may create a large impact on the education sector as 43.90% of the students' families which is around 16 million of the population may fall below the poverty line (USD1.90/day) after this pandemic situation (Uddin, 2020; Poverty and Shared Prosperity, 2018). There is an increasing rate of disparity in higher education in developing countries. While participation in higher education has increased in developing countries, access is not equitable (Oketch, 2003). Household Income and Expenditure Survey-2019 estimated that around 12.70% of the households do not have a single mobile phone, having a smartphone is a far cry, will create learning inequality in the online class environment (Uddin, 2020).

During this crisis momentum, the sudden leap into online learning has also created challenges for those privileged groups of the society whose children can afford to have a smart device to conduct classes at the online platform. This sudden dive put pressure on parents who were not familiar with this technological ecosystem. Moreover, many schools were yet to adopt distance learning due to the lack of technological devices and the adaptability of the teaching community (Wal, 2020). Educational entrepreneurs contribute as facilitators to bring change in the system which helps to exhibit the potential dynamism of available resources. These entrepreneurs play a pivotal role in new knowledge creation which opens up new opportunities (Smith & Petersen, 2006). During the COVID-19 pandemic, though most of the educational institutions are non-operating and even many of them had to shut down due to lack of financial solvency to run the operations and adaptability to the new ecosystem, some privately owned educational institutions have been adapting themselves in this new normal ecosystem in Bangladesh (Ramij & Sultana, 2020; Alamgir, 2020a). These educational institutions have been exploring innovative solutions in case of the classroom environment, assessment methods, and extra-curricular activities using the online platform. The digital learning environment may not be the replication of physical environment where physical meetings among teachers and students had different bondage. This artificial environment has the challenge to replicate a real-life classroom environment which is done by interactive classes or

pre-recorded classes using online platforms. The mode of evaluation and extra-curricular activities have been changed drastically which might have physical, mental, ethical, and social consequences.

Therefore, it can be said that entrepreneurial challenges exist in the education sector of Bangladesh and educational entrepreneurs as change agents need to work on innovation to minimize these challenges raised due to COVID-19. This chapter firstly focused on identifying the entrepreneurial challenges that exist in the education sector across primary, secondary, and tertiary levels. Secondly, the chapter focused on innovation that may minimize all these challenges across the education sector.

METHODOLOGY

To explore the overall scenario regarding entrepreneurial challenges and innovation associated to overcome these challenges in the education sector of Bangladesh, a qualitative approach has been followed. For composing this chapter the authors have used both primary and secondary sources. The secondary sources have illustrated the scenario of education in Bangladesh and its transformation by the time that started from the beginning of the pandemic outbreak in Bangladesh. The primary data have depicted the actual condition of the academic institutions, their challenges, and strategies to overcome these situations. The education system of Bangladesh includes education at primary, secondary, higher secondary, and tertiary levels along with Madrasha (religious) based education and technical education. Therefore, to explore the overall situation of these academic institutions under these six broad categories have been analyzed. Findings have been presented in the form of case studies upon the observed information of the selected academic institutions shown in Table 1. In-Depth Interviews (IDI) and observation methods had been used as primary instruments to collect primary data.

Table 1. Distribution of Cases and Observations as per Institution Types

Level of Education	No of Sample/Cases Covered within Capital	No of Sample/Cases Covered outside Capital	Total
University (Tertiary Level)	10	3	13
College (Higher Secondary Level)	1	6	7
Bengali Medium Schools (Primary and Secondary Level)	6	12	18
English Medium Schools (Primary and Secondary Level)	6	-	6
Technical and Vocational (TVET) Institutes	2	1	3
Madrasha	4	6	10
Total	29	28	57

COVID-19 PANDEMIC SITUATION IN BANGLADESH DYNAMICS

Bangladesh confirmed the first coronavirus case on 8 March 2020. In response to the COVID-19 pandemic, the Government of Bangladesh declared special “general leave” from 26 March, 2020 in the name

of “lockdown” and extended it up to 30 May, 2020 in seven different time slots. Both the words “general leave” and “lockdown” created confusion among the most socio-economically vulnerable groups in the country. The so-called lockdown and the social distancing strategy in a densely populated country of more than 165 million did not work as expected. After the 160th day of a lockdown or partial lockdown in the USA, UK, Russia, Spain, Italy, Brazil, Iran, Indonesia, India, and Bangladesh had shown more new COVID-19 cases especially in USA, Russia, Iran, Indonesia, India, and Bangladesh with around or more than 2,000 cases on the 160th day. Currently, Bangladesh is going through widespread community transmission, while the lockdown was withdrawn on 30 May 2020. As of 31 May 2020, after the 65 days of lockdown, Dhaka was normal as usual where no social distancing or hardly any health guideline was maintained. The number of confirmed patients stands at 277,291 with 3,659 deaths (Table 2). The total number of tests performed until August 13, 2020, was 1,341,648 which was 1,665 tests/1 million (worldometer.info, 2020).

It is predictable that during a pandemic, a humanitarian crisis may arise in a developing country like Bangladesh. In most incidents, it would be the combined effects of a variety of shortages that would likely culminate in the worst outcomes against the crisis (Truog et al. 2020). This may lead to a shortage of basic needs including foods, goods, and services due to job loss, economic and financial loss, food insecurity, social conflicts, psychological trauma, and deaths as well.

Table 2. Statistics of COVID-19 pandemic on 160th day (15 August, 2020)

Country	1 st Case Reported	Total Cases	Total Deaths	New Cases*	New Deaths*	Active Cases	Tests/ 1M pop
USA	31 January	5,538,669	172,688	1,743	33	2,430,361	209,423
UK	29 January	316,367	41,369	-		N/A	208,196
Russia	15 February	922,949	15,731	5,061	119	172,856	220,635
Spain	1 February	358,843	28,617	-		N/A	159,805
Italy	31 January	252,809	35,234	-		14,249	123,530
Brazil	25 February	3,328,169	107,578			788,022	63,289
Iran	19 February	341,070	19,492	2,245	161	25,948	33,716
Indonesia	2 March	137,468	6,071	2,345	50	40,076	6,702
India	30 January	2,596,552	50,161	5,721	37	671,693	20,673
Bangladesh	8 March	277,291	3,659	2,644	34	113,265	8,137

*160th day (August 15, 2020); Source: worldometer.info (2020)

EDUCATION IN BANGLADESH: AN OVERVIEW

Structure and Streams of Education

The education system in Bangladesh is mostly formed in three tiers which are primary, secondary, and tertiary levels. Different educational programs and types of institutions are included in each level. The centralized education system of Bangladesh is administered by the Ministry of Primary and Mass Education (MOPME) and Ministry of Education (MOE). MOE has two divisions: Secondary and Higher

education division & Technical and Madrasha Education Division (TMED). The MOPME and Directorate of Primary Education (DPE) are responsible for the management of pre-primary, primary, and mass education of the country (Bangladesh Bureau of Educational Information Statistics (BANBEIS), 2019). The formal education system of the country can be broadly classified into two types: general education and religious or madrasha education (Chowdhury, 2018). In all types of educational institutions, Table 3 depicts both the public (government) and the privately managed institutions in Bangladesh. Besides some non-government organizations are included under the Monthly Pay Order (MPO). MPO is the government's share in the payroll of the non-government educational institutions. Under the scheme, the government gives 100 percent of the basic salaries to the teachers of non-government institutions. Infrastructural development, number, and result of the students are considered to be included under MPO (Uddin, 2019).

The pre-primary stage of education attempts to create an environment which facilitates the enthusiasm for learning and to prepare the children for school education. It consists of one-year schooling aimed at 5+ children. According to the constitution of Bangladesh primary education is free and compulsory for all the children. There are 129,258 primary education institutions where around 20,122,337 students have enrolled 51.08% of whom are girls (BANBEIS, 2019).

Table 3. Status of Number of Educational Institutes, Teachers, and Students by Levels and Type

Type Name	Total Number of Institutions	Management	Total Teacher	Total Students
Primary School	129,258	Public: 65,620	721,801	20,122,337
		Private: 63,638		
Secondary School	20,660	Public: 675	246,845	5,571,314
		Private: 19,985		
College	4,551	Public: 651	127,767	4,385,210
		Private: 3,900 (3,039 are having MPO)		
Ebtedayee Madrasha (primary)	6,378		29,344	961,091
Post–primary Madrasha (Dakhil to Kamil)	9,278	Public: 3	113,577	2,491,268
		Private: 9,275 (7,624 are having MPO)		
Professional Education Institute	471	Public: 121	14,545	143,553
		Private: 350		
Teacher Education	216	Public: 84	3,060	35,039
		Private: 132		
Technical and Vocational Education	7,052	Public: 898	53,684	1,100,177
		Private: 6,154		
Universities	148	Public: 45	30,730	1,179,796
		Private: 103		

Source: Adopted from BANBEIS, 2019

Secondary education consists of three successive phases: junior secondary (Class VI – Class VIII), secondary (Class IX and Class X), and higher secondary (Class XI and Class XII). In Class IX, students have to choose any one stream either general education (any one of the three groups: science, humanities, and business studies) or technical and vocational education and training (TVET) (Chowdhury & Sarkar, 2018). In secondary vocational education, certificate programs of two years long are offered from Class IX and Class XI. Diploma programs are provided by polytechnic and technical schools and colleges (Rahaman, 2017). English medium education is provided by the 145 English Medium schools which are mainly situated at the city corporations and run by private management. English Medium School mainly follows the British Curriculum System. Among 145 schools 88 follow Edexcel, 52 follow Cambridge International Examinations (CIA) curriculum, and the remaining 5 follow others (BANBEIS, 2019). This education system starts mostly from the playgroup level and ended up at the secondary level at A level, which is somewhat equivalent to 12 years of the education system in Bangladesh. The students who pass O level (Equivalent to 10+) and two subjects at A level are eligible to apply for entering into the university education in Bangladesh (Admission Notice of University of Dhaka, 2019-2020; Admission Notice of Jahangirnagar University, 2019-2020).

Secondary education is followed by tertiary level education which is provided by universities, degree colleges, professional and specialized institutions. At present, 45 public universities and 103 private universities monitored by the University Grant Commission (UGC) are the main sources of higher education in Bangladesh (UGC, 2018). Public universities are owned and funded by the government whereas private universities are owned by the private sector and mainly funded by the tuitions paid by the students (Huq & Huque, 2014). Besides, Bangladesh Open University (BOU) offers non-campus distance education programs. National University works as an affiliating university which supervises colleges providing tertiary education.

Religious Madrashas is another stream of education in Bangladesh (Islam & Mia, 2007). Along with the traditional national curriculum, these Madrashas focus on Islamic religious studies. In the case of Madrasha education Ebtedayee, Dakhil, Alim, Fazil, and Kamil are the equivalent to primary, secondary, higher secondary, bachelor's, and master's respectively (Islam & Mia, 2007). Besides, religious educational streams also exist for Buddhists, Christians, and Hindus (MOE, 2013).

Education and Technology: A Cross Matching

The word, technology denotes “the practical application of knowledge” or “a manner of accomplishing a task” (Merriam-Webster, 2018). When technology is used in education to produce and disseminate knowledge, it is addressed as education technology or simply “EdTech”. The education system of Bangladesh is preoccupied with old types of equipment like chalkboards or whiteboards and other conventional tools. ‘EdTech’, a newly introduced mode of education, like, YouTube, Ted Talks, online classroom applications (Zoom, Google Meet, etc.), and other web-based classroom activities and evaluation methods (Learning Management Systems; LMS or Google Classroom) has been putting challenge for the traditional educational system in Bangladesh (Zaman, 2019). Bangladesh is trying to promote the use of Information and Communication Technology (ICT) in education before accomplishing a reasonable level of e-readiness, which is currently very poor, albeit improving gradually. However, the mobile internet subscribers were 75 million and mobile internet users were 5.5 million in 2017 (BTRC, 2017) though the country had the fourth-highest cost of internet in South Asian countries (cable.co.uk, 2020). But comparing the GDP/Capita in USD it is quite high comparing the South Asian countries (Table 5). The

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number of internet subscribers and internet users has increased many folds in the last three years. But a notable digital divide exists in the country in terms of differential rate of use of the internet by rural and urban, poor, and rich households (ADB, 2017). Table 4 depicts the comparative analysis of South Asian countries in respect of activeness on the internet during May, 2020. The statistics depict that 54.80% of the population in Bangladesh has been using the internet and Facebook users are 20.47% of the population, though the population of Maldives occupies the highest position in this scenario. Considering the context of Bangladesh, ICT is being taught as a course of education from the secondary level without practical applications that may not contribute the technological adoption. However, internet connectivity in Bangladesh is mobile-centric and poor due to a lack of infrastructure facilities of this industry. To remove the digital access gap, the major focus is needed to be given on the improvement of network quality, digital literacy skills, and affordable prices (GSMA, 2018).

Table 4. Comparative Analysis of Internet Users and Facebook Users in South Asian Countries

Country	Internet Users (in million)*	Internet Users (% of Populations)	Facebook Users (in million)**	Facebook Users (% of Population)
Bangladesh	96.20	54.80%	33.71	20.47%
Bhutan	0.40	51.50%	0.41	53.54%
India	560.00	40.60%	251.00	18.19%
Nepal	16.19	55.60%	10.42	35.76%
Pakistan	71.61	32.40%	37.07	16.78%
Maldives	0.37	68.40%	0.38	69.39%
Sri Lanka	7.17	33.50%	6.43	30.02%

*31 May, 2020; **31 March, 2020

Source: internetworldstats.com (2020)

Table 5. Comparative Analysis of 1GB Mobile Data Pricing among South Asian Countries

Country	GDP/Capita (USD)*	Average price of 1GB (USD)	Cheapest 1GB for 30 days (USD)	Most expensive 1GB (USD)
Afghanistan	524	1.55	0.01	6.61
Bangladesh	1,698	0.70	0.13	3.78
Bhutan	3,243	1.16	0.39	2.63
India	2,006	0.09	0.02	2.75
Nepal	1,039	0.86	0.26	6.04
Maldives	10,331	3.88	1.85	10.63
Pakistan	1,482	0.69	0.07	8.44
Sri Lanka	4,081	0.51	0.14	6.50

*GDP/Capita in USD in 2018

Source: cable.co.uk (2020); macro trends (2020)

According to BTRC (2020) data at the end of May 2020, the total number of mobile internet subscribers was 102.11 million and the total number of mobile phone subscribers was 161.50 million. The mobile phone subscribers do not reflect the situation where 161 million mobile phones are being used or held by people as each adult subscriber is allowed to hold a maximum of 15 SIM cards against their national identification number (The Daily Star, 2017). Moreover, the data may not reflect that access is equal across different intersections and demographic classifications (gender, or socio-economic class). The decision-makers disguise the actual reality regarding the ‘access’ to the internet in the country. Among the 42 countries, the internet speed for Bangladesh is the poorest and none of the mobile phone operators can ensure threshold internet speed anywhere mostly outside the capital. This information portrays that interactive virtual education may not seem very optimistic outside the capital (Wadud, 2020). Kukulska-Hulme (2009) opined that ownership of the device makes a difference for the user in the learning environment. It was pointed that when it is borrowed, a device might not be used in the same way as when it is owned by the user. In Bangladesh, a review of PricewaterhouseCoopers (2010) revealed that most technologies for education initiatives had focused on providing ICT as a subject at the secondary school level. In other words, rather than concentrating on ICT as a subject in curriculum study, technology should also be used more widely as a tool to enhance teaching and learning that are missing (Zaman, 2019).

CHALLENGES IN EDUCATION SECTOR DURING COVID-19 PANDEMIC

Loss of learning, intensified dropout rate, psychological stress or trauma, lack of physical activities, and loss of meals of the children run under school feeding programs monitored or organized by charitable organizations are the major challenges faced by COVID-19 in the global perspective. Approximately, 1.6 billion children and youth from 161 countries have been affected by their learning opportunities from school. Inequality in the opportunity of getting an education was vividly observed in developed and developing countries as many children faced technological challenges to access learning devices, internet connectivity, study materials, and empathetic parents (Saavedra, 2020). On 26 March 2020, the Government of Bangladesh declared a nationwide lockdown due to the COVID-19 pandemic in the name of a ‘general holiday’ closing down all sectors. Although the lockdown was conditionally lifted on 31 May, 2020, the government kept shut down the educational sector with a vibe that unlike other important sectors that need to reopen gradually, the education sector can wait (Wadud, 2020). In the capital of the country, school teachers started using a mixture of real-time interactive classes, with a combination of pre-recorded materials and homework based digital sessions on a small scale. This, however, is not the experience of the entire country. As an initial response, pre-recorded lessons for primary and secondary school students were broadcasted by a state-run television channel *Sangsad TV* from morning to evening for children. Subsequently, the Government opted for making the lessons for primary and secondary level students available at the online platform by uploading video classes at YouTube channels (Uttom & Rozario, 2020; Abbas, 2020). This policy presupposes that there is access to internet services and TV channel all over the country. Moreover, the government also has started classes for primary-level students via *Bangladesh Betar* (Radio Bangladesh) from August, 12, 2020 using mobile smart apps from Google play store. But most of the parents think this initiative cannot compensate the loss of in-person classes (Alamgir, 2020b). The challenge of getting lectures in audio form with the use of digital devices along with internet connectivity which most of the targeted students cannot afford may make this initiative

ineffective (Kamol, 2020). Putting aside the effectiveness of these non-interactive teaching methods, the fact that around 50% of households of the country do not have a television set means that a large number of children had been kept outside of this system (Wadud, 2020). These challenges might increase the dropout rate of students which was around 17% according to the directorate of primary education that might increase to 30% if parents lose their jobs during the pandemic financial crisis (Kamol, 2020).

The tertiary education mostly from private universities found some lights after an initiative from UGC on March 23, 2020 urging all public and private universities to continue classes at online platforms (Abbas, 2020). Furthermore, UGC gave a circular on May 7, 2020 with guidelines to evaluate students and entrance examination procedures solely for private universities (UGC, 2020). In the guidelines, it was expressed that due to the pandemic crisis, the evaluation mode of courses should be assignment based and four options were given only for the private universities. Each private university has its sovereignty to choose one method for that particular semester of Spring 2020 (January-April). The initiation of online classes started from the educational institutions from the capital. Strikingly, due to the pandemic situation, many private school authorities could not pay salary from April as they could not receive substantial tuition fee from students and were unable to put pressure on the parents due to the rule from the high court on educational institutions not to take tuition fees during pandemic situation (Jasim, 2020a; The Business Standard, 2020). However, privately-owned educational institutes have been facing huge challenges to maintain operational costs like paying rent of the institutes and salaries of the teachers and staff (Liakat, 2020). To protect the interest of students, approximately 60% of private universities, started taking online classes from the beginning of April, 2020. Surprisingly there were clear guidelines for conduction of online classes and evaluation mechanism for the private universities from UGC of Bangladesh, which was found missing for public universities in that circular (Jasim, 2020b; UGC, 2020). Most of the private university students are from wealthy family backgrounds and possess technological support to continue education at the online platform, whereas students from public universities most are from economically challenged families (The Daily Star, 2017). Moreover, many students from public universities have been living their lives by giving private tuition that had been stopped during the pandemic situation. Financial hardship at the same time technological unavailability pushed these groups of students of public universities into depression during the pandemic. There was a clear inequality between public-private universities in case of handling educational challenges and support from the institutions (Askari, 2020).

ENTREPRENEURIAL CHALLENGES AND ADAPTABILITY OF EDUCATIONAL INSTITUTIONS: CASE STUDIES

Cases covered in this section have been prepared with the information collected through in-depth interviews with the authorities or with the teachers of primary, secondary and tertiary level private educational institutes located both within and outside the capital of Bangladesh. Moreover, Madrasha (religious educational institutes) and Technical and Vocational Training (TVET) institutes part was covered based on discrete in-depth interviews with the authorities and found similar kinds of challenges and adaptability modes in those categories during the pandemic situation in Bangladesh.

Cases of Private Universities at Tertiary Level

Out of 103 private universities in Bangladesh, 101 universities are managed by local authorities and 2 universities are managed by international bodies. Among 103 universities, 54 universities are located within the capital of Bangladesh and the remaining 49 are located outside the capital. Both international universities are located outside the periphery of the capital (BANBEIS, 2019).

1. Cases within Capital of Bangladesh

a. Case 1

The university which was established in 1992, ranked among the top 10 private universities in Bangladesh with around 20,000 students. The tuition fees of the students are quite high comparing many other private universities and that leads to high expectations of students towards the university. The university started taking online classes for Spring 2020 (January-April) using the Google Meet platform without proper use of the facilities incorporated in the Google Classroom from March, 2020. The presence of students at online classes was more than 95% and students hardly had problems with the affordability of technological devices. The recorded classes were further shared by Google Drive. A guideline was provided by the UGC on May 7, 2020, that created frustration among the students. In that guideline, the weight on the evaluation of online classes was omitted. The authority asked to submit the evaluation based on previous performance (before March 18) and put maximum weight on one assignment for final evaluation that carried out around 60% of total evaluation without any online presentation or viva-voce that might prove the authenticity of their submitted works. The university started its Summer 2020 (May-August) from July 1 as per UGCs directives in a more organized way (UGC, 2020). Each student should be within university controlled Google Classroom and mode examinations and other evaluations will be at Google Classroom and classroom conduction at Google Meet. The university experienced less enrolment of students during the Summer. The teachers and staff were paid their salary in the usual manner but there was a drastic reduction in the number of part-time faculty members due to fewer courses offered during the Summer semester.

b. Case 2

The university was established in 2001 based on the American model along with a variety of programs and currently has around 11,200 students. Even though the university is ranked among the top 10 private universities in Bangladesh, they experienced some setbacks during the pandemic situation and abruptly ended their academic program of Spring 2020. They did not move to online classes like other top-tier private universities, rather requested faculty members to complete grading based on course works completed before lockdown. However, the university took another initiative to regain or rebuild their image for Summer 2020 by offering the Student Assistance Fund. Furthermore, the university has waived all non-tuition fees for the Summer session for every student and has kept all need-based and merit-based scholarships, and has provided assistance to purchase digital devices for marginal students. The university has started its Summer from July 1 with its online learning platform called 'buX' that is developed by MIT and Harvard. It enabled the students to learn wherever they are, whatever their internet connectivity is, and make learning interactive and lively.

c. Case 3

The university was established in 2006 with a permanent campus in Dhaka. The current status is around 2,000 and 54 permanent teachers and ranked among the top 20 universities in Bangladesh. The university started classes at the online platform with mixed modes including Zoom, Facebook Groups, and others. Surprisingly, the university has *Orbund*, a Student Information System that was used on a limited scale during the pandemic situation. The university followed a mixed-mode of evaluation (assignments and final examination using *Orbund*) in the Spring 2020 semester, which was a violation of UGC guidelines. The university has started its Summer 2020 semester at the Zoom platform with a regular number of student enrollments. Unfortunately, they sent most of their office staff on long leave and started paying a 50% salary to the faculty members. Surprisingly, they have a promotional campaign of giving financial assistance to the students keeping this condition alive.

d. Case 4

The university was established in 2002 in Bangladesh. At present, it has around 2,000 students with around 100 full-time teachers. The university took classes at an online platform using Viber software as a mode of communication that was found a very unique mode of classroom conduction in Bangladesh. The evaluation pattern during Spring 2020 was assignment based. The university has started its Summer 2020 semester with a limited number of students with financial assistance. It was revealed that the teachers received half of their salary in May. Though they have large numbers of part-time faculty members, they did not receive any course in the Summer semester.

2. Cases Outside the Capital of Bangladesh

a. Case 5

The private university started its operation in 2001 at Sylhet which is located in the northeastern region of Bangladesh. Most of the students of this university are living in the city area and few of them are located in rural vicinity with poor technological accessibility for online classes. The university started online classes from March 23, 2020 with the Zoom platform and uploaded lecture contents at Google Classroom. Surprisingly, attendance of students was 90%-100% and took the final examination of the Spring 2020 semester at an online platform without the guidelines of UGC. They faced low enrollment of new students for Summer 2020 though flexible payment was introduced for that semester. Few students faced severe financial challenges and the university has taken some initiatives for them. Moreover, the dues of the students for the previous semesters yet to be paid had a consequence of a 50% salary reduction of the teachers.

b. Case 6

The university started its journey in 2012 at Sylhet in Bangladesh. It started the first online classes in the first week of May, 2020 using Zoom and the communication mode among the students was WhatsApp and Facebook messenger group. The university found very limited time to finish their Spring 2020 semester within mid of June, 2020 due to pandemic academic shortfalls. The university followed UGC guidelines to evaluate the students. They started the Summer 2020 semester from July 1, 2020. The university experienced 5%-10% less student enrollment even after taking the initiative of offering a 30% flat

waiver on admission and 10% on merit with flexible payment of tuition and course fees. Even though, the students have been struggling to pay their tuition fees during the pandemic situation. Unfortunately, the university has been providing less salary to the teachers.

c. Case 7

The university started its journey in 2013 at Cox's Bazar, one of the largest refugee settlements, located in the southeastern part of Bangladesh. The university has around 600 students and among them 95% from the city and 5% from the hilly regions. The university officially started their classes at online platform from April 2, 2020. Professionals of international NGOs working at refugee settlements and other corporate organizations are the major student blend in the master's program. Approximately, 30%-40% of the students in the master's program are involved in the development activities. Rohingya refugee areas are under the 2G mobile network system for security reasons. Due to these unwanted challenges, teachers shifted their online classroom communication mode to the Facebook group and shared contents there. The students could access them after reaching home in the city areas. Moreover, teachers made weekly make-up discussions. Moreover, students from hilly areas faced network issues. Along with those challenges, the university took the final examination at online platform violating the directives of UGC. They have started their Summer 2020 from July 1, 2020 with assessment criteria of open-book exams, assignments, and viva voce instead of the final exam. The university provided financial assistance and other benefits to the students in the Summer semester.

Cases of Private Colleges at Higher Secondary Level

Among the 3900 private colleges, 3039 are included under the Monthly Pay Order (MPO) scheme. Under the scheme, the government gives 100 percent of the basic salaries to a certain number of teachers of non-government institutions. 59% of privately owned colleges are located in rural areas whereas the other 41% are established in urban areas (BANBEIS, 2019).

1. Cases within Capital of Bangladesh

a. Case 8

The private college which was established in 2003 in the capital city Dhaka now has about 600 students at the higher secondary level. The college is a wing of a leading ICT conglomerate and one of the largest education providers in Bangladesh. After the 1st identified COVID-19 case on 8th March in Bangladesh, the authority took intensive preparation for conducting online classes. This early preparation enabled the institution to start the classes soon after the shutdown notice of the government from March 18, 2020 using the Zoom platform with a revised class schedule. Due to some shortcomings of that platform, they moved to Google Meet and Google classes for examinations and class activities. Unfortunately, students who are from rural vicinity faced the problem of poor internet connectivity. Moreover, some students had financial incapacity to acquire the proper device and bear the cost of the internet. Attendance dropped to 60% at online platform which was 80-85% in the normal situation. Students paid part of their tuition fees and authority was flexible in this regard. Unfortunately, teachers were paid 75% of their salary and assured to pay rest later. Fortunately, the authority did not take any lay-off practice of their employees.

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Table 6. Challenges and Adaptations of Private Universities during Pandemic Situation at a Glance

Location of University	Case	The condition within Lockdown and Spring 2020 Semester (March 26 – June 30)	Condition after Lockdown and Summer 2020 semester (July 1 and onward)
Cases within Capital	Case 1*	§ Online class started at Google Meet § Grievance on the outcome of online classes as the university followed UGCs guidelines and gave only one assignment with high weight without presentation	§ Online classes incorporating both Google Classroom and Google Meet along with online examinations and online assignments and presentations § Provide tuition waiver on courses
	Case 2	§ No online classes took place and graded on pre-pandemic classes and evaluations. § Campaigned about huge financial assistance for students for the Summer 2020 semester	§ Online classes and evaluation system introduced based on their online learning platform called 'buX'
	Case 3**	§ Online classes conducted with Zoom and Facebook group § Followed UGCs guideline for evaluation except for the final examination that was conducted using their own software Orbund.	§ Online classes started with the Zoom platform § 50% salary cut for all teachers § Forced long-leave for non-academic staffs § Low enrollment of students
	Case 4	§ Online classes conducted using Viber and evaluation criteria were assignment based § 50% salary cut in May for all teachers	§ Online classes conducted using Viber and evaluation criteria were unknown § 70% salary cut in June for all teachers and 80% in July § Low enrollment of students
Cases outside Capital	Case 5	§ Online classes taken with Zoom and students from rural area faced internet problems § Followed UGCs guidelines for evaluation and took the final examination at online platform	§ Online classes were taken with Zoom § Low student enrollment § Flexible payment for students § Students did not clear the past dues § 50% salary cut for the teachers
	Case 6	§ Started online class in May, 2020 § Found limited time to complete the Spring 2020 semester by mid of June, 2020. § 50% weight on evaluation was given on assignment during pandemic time	§ 5-10% less enrolment of students § 30% flat waiver on admission fees and 10% on merit § Students struggle to pay tuition fees § Salary cut for the teachers
	Case 7	§ Graduate students, mostly social workers, faced the problem of participating online classes due to 2G network coverage § Mode of communication turned to the Facebook group § Videos and lectures materials uploaded by teachers at the Facebook group § Weekly Facebook discussion § Evaluation criteria were assignment based but the final examination was taken online violating UGCs instructions with poor network coverage	§ 50% waiver on admission fees § Provided incentives who can pay tuition fees early § Only 10% students paid tuition fees

Source: In-depth Interview, July 2020

* Two other samples have a resemblance to this case, except one received a grievance from students and another one has a unique learning management system (eLMS) and they are from top-tier universities.

** Four other samples have resemblance with this case, except their own learning management system. However, three samples providing full salaries to the teachers, and one sample deducted 50% of salary.

2. Cases outside the Capital of Bangladesh

a. Case 9

This institution started its journey in 2012 located far northern part of Bangladesh in the Dinajpur district. After the pandemic, they moved to an online platform from April, 2020 using both recorded video in the Facebook group and the Zoom platform. The average participation of the students in Zoom classes was around 70-80%. However, the district is adjacent to the border and 10% of their students could not attend in online class activities. However, this college took regular examinations at online platform. They agreed with GrameenPhone, the leading mobile operator, in Bangladesh, to provide data packages in subsidized rates for both teachers and students for online classes. They had kept online admission open for grade XI. Students could not pay tuition fees in due time that put financial hurdles on authority. Teachers were receiving 50% of their actual payment. This college offered approximately 20% waiver on pending tuition fees to overcome the financial challenges.

b. Case 10

The college especially targeted the female students located in suburban area near the capital of Bangladesh. The institution offers both higher secondary and tertiary level education. They have started online classes from June using Facebook live or recorded classes uploaded to the group. The teachers found that online classes were not as effective as offline classes and faced difficulties in technical courses. Moreover, students did not have proper devices to attend classes and could not bear the cost of data packages and faced poor internet connectivity. However, 15-20% of students of this institution got married during this period and they have no chance to continue their studies further and that might increase the dropout rate and financial burden for the college. The students were not paying tuition fees during the pandemic situation and fortunately, teachers were getting salary as the institute is under the MPO scheme. There is an evident chance of layoff of the administrative staff as their salaries come from the college fund.

c. Case 11

The college is located in the rural vicinity in the northern part of Bangladesh. The regular class activities have been shut down due to the declaration of government for pandemic since March, 2020. The students are from the bottom part of the socio-economic structure of the society with no ability to bear online classes in remote rural areas. Moreover, the students could not pay their tuition fees during the pandemic time. The teachers have been receiving their monthly salary as the college is under the MPO scheme.

Table 7. Challenges and Adaptations of Private Colleges during Pandemic Situation at a Glance

Location of Colleges	Case	Challenges faced during Pandemic	Adaptation Strategy
Cases within Capital	Case 8	<ul style="list-style-type: none"> § Shut down the regular in-person academic activities. § Poor internet connection, financial incapability of some students to afford the class. § No collection of tuition fees. 	<ul style="list-style-type: none"> § Adequate and timely planning. § Online classes started on 18th March at Zoom and then shifted to Google Meet. § Teachers are paid 75% of their salaries.
Cases outside Capital	Case 9	<ul style="list-style-type: none"> § Regular classes were stopped from the beginning of the pandemic. § Students from hilly areas cannot attend online classes. § No collection of tuition fees. 	<ul style="list-style-type: none"> § Classes started from April at Zoom and recorded videos on the Facebook page. § Teachers are in regular touch with the students of the hilly areas. § Teachers are being paid 50% of their salaries. § Students have got a 20% waiver in their tuition fees.
	Case 10*	<ul style="list-style-type: none"> § Shut down of regular activities. § Online classes are not as effective as in-person classes. § Some students do not have the devices and facilities to attend the classes. § Chances of 15-20% drop out. § No collection of tuition fees. 	<ul style="list-style-type: none"> § Classes start from June at Facebook live and recorded video. § Teachers are trying to make the students engaged. § Teachers are being paid from the MPO scheme and college fund.
	Case 11**	<ul style="list-style-type: none"> § All types of activities have been stopped. § Students cannot pay tuition fees. 	<ul style="list-style-type: none"> § Teachers are being paid from the MPO scheme.

Source: In-depth Interview, July 2020

* Two other samples have resemblance with this case. However one is not MPO listed and that is why teachers are not getting salaries and the sample is in great financial trouble.

** Another sample has similarities with this case and that sample has to lay off some staff and part-time teachers who are not included in the MPO scheme.

Cases of Bengali and English Medium School at Primary-Secondary Level

The total number of institutions is higher for primary school followed by secondary school and college. At the primary level, approximately 49% of schools are operated under private ownership and 51% of schools are operated by the government. 76% of the schools under private management are primary school and 24% are secondary school. 89% of English medium schools are operated in the Dhaka division followed by 6% in the Chittagong division which is the port city and located in the southeastern part of Bangladesh and 5% in Sylhet which is located in the northeastern part of Bangladesh. 98% of English medium schools are situated in the cities (BANBIES, 2019).

1. Cases of Bengali Medium Schools within the Capital of Bangladesh

a. Case 12

This reputed school started its journey in 1952 and currently, offers Class I to Class XII in 4 campuses where they have approximately 25,000 students. They receive the Monthly Pay Order (MPO) scheme for their teachers. From a regular interactive class, they shifted to online during the pandemic. They started online activities by uploading video lectures on YouTube. Later on, they started live class in the name of “Noon Batayon Live Class (Breeze of Noon Live Class)” from July to make the class more interactive

among students. They have also arranged a Zoom class for Class VIII to Class X students from July. They faced a limited financial challenge as their financial base is strong. However, they faced the operational challenge and cancelled their half-yearly examinations for Class I to Class IX and pre-test examination for Class X due to the lack of availability of smart devices with the internet facility among the students.

b. Case 13

This school was established in 1990 in the old town, Dhaka where they offer education from Playgroup to Class V. They have approximately 500 students and 50 teachers and staff. During the pandemic, they struggled to start online classes as the parents of the existing students were not well-equipped with technology. In April, they started taking online classes via Facebook and the Zoom platform. The parents were not interested in the Zoom platform due to conservative mindset and hold a tough minds to accept new things easily. Currently, teachers are preparing video-based lecture content for the students and then sharing them with parents at their Facebook messengers. Only 50% of the total parents are actively engaged in the learning process. Unfortunately, this school is not under the MPO scheme and established at the rented premises. This school is facing a financial challenge as parents are not paying tuition fees. To overcome financial hardship, they terminated approximately 30% of teachers and staff and paid 55% of the actual salary to the rest of the teachers and staff since April, 2020.

2. Cases of Bengali Medium Schools outside the Capital of Bangladesh

a. Case 14

This institution started its journey in 2019 at Debiganj, Panchagar located in the far northern rural area of Bangladesh. Currently, they have approximately 400 students. They offer education from Playgroup to Class X. During the pandemic situation, the school was interested to start online classes, but parents did not show interest due to the unavailability of smart devices and the inability to bear mobile data cost. They had chosen an alternative plan as most of the students were from six major villages. They requested teachers of these villages to conduct physical classes twice a week. The students from that particular village visit the teachers' home as per the class schedule given by the school. They have started another alternative method of uploading video content on the Facebook page since August, 2020. They got a positive response from the parents but the authority was unable to collect tuition fees and teachers were not getting their salary regularly as they are not listed among the MPO scheme of government.

b. Case 15

This school is situated in Siddhirganj, Narayanganj just outside the periphery of the capital where they are providing education from Playgroup to Class V. They have approximately 300 students. The school is not conducting online-based learning as the majority of their students are from lower socio-economic status and parents do not have a technological orientation. Moreover, due to the fierce economic condition after the pandemic, many families left their existing locations. This school could not get tuition fees from the existing students and eventually could not pay the salary of their teachers and staff. Moreover, they are not listed under the MPO scheme. The teachers have been involved in other part-time jobs other than teaching for survival.

3. Cases of English Medium Schools of Bangladesh

a. Case 16

The school was founded in 1972 and is considered one of the renowned English medium schools within capital accredited by the government of Bangladesh and follows the British curriculum, Edexcel and CIE, UK. The school offers education from Playgroup to the A level. During the pandemic situation, the school focused on building their portal on the website for giving access to online classes keeping high security against cyberbullying that pushed them to start online classes late. They had a lack of extracurricular activities that affected the mental health of the students. They started online class in June, 2020 in a halfhearted manner using their own portal that was not technically sound. Due to that, there were lots of technical glitches and discomfort from the students' end. The authority found complaints from parents regarding poor internet connectivity and adaptability issues of teachers. Due to not managing the online platform properly, the authority decided to promote students to the next level based on the pre-pandemic evaluation. Strikingly, parents stopped paying tuition fees though their children had been participating in classes that put the management under financial pressure to run. The school had to slash 50% salary of the teachers from June, 2020. Moreover, parents pledged to provide discounts or waivers on tuition fees which were under consideration.

b. Case 17

The English medium school was founded in 1977 with a strong foothold in the capital along with three campuses and versatile extracurricular activities. The school follows Cambridge British curricula, UK. Considering the tuition fees perspective, the students' blends are from the higher percentage of the socio-economic group of society and can afford technical devices. They have a strong web portal to communicate with parents for disseminating information regarding homework and other materials. Unfortunately, they showed a lack of empathy to deal with the educational process during the pandemic time. They uploaded homework at the web portal for practicing at home without any deadline for submission. The school moved first to take online classes in third week of April, 2020 in a haphazard way after getting lots of complaints from parents who used to pay tuition fees on time. The students faced lots of problems to access the classes in due time for technical glitches of leaking passwords, free Zoom apps, lack of technical knowhow of the teachers. They had to cancel or reschedule classes frequently. Moreover, students got to know that online classes had no impact on grades and promoted all students to the next level based on midterm assessments. The school started with an adaptive model in technology using Google Meet and Google Classroom platform with an individual account for each student. They have been taking the examination at Google Classroom platform and teachers were found friendlier than the physical classroom environment. Recently, they received a writ petition from the high court for taking tuition fees unduly that might affect them financially.

Contemporary Perspectives on Entrepreneurial Challenges and Innovation in Education

Table 8. Challenges and Adaptations of Private Primary-Secondary Bengali Medium School and English Medium Schools during Pandemic Situation at a Glance

Location of Schools	Status	Case	Challenges faced	Adaptation Strategy
Bengali Medium School Cases within Capital	MPO	Case 12*	<ul style="list-style-type: none"> § Transition to the online platform via multiple social media channels § Learning the usage of video conferencing app § The operational challenge to conduct online exam § Limited access to technological devices 	<ul style="list-style-type: none"> § To reach the maximum number of students over online, multiple modes; like YouTube, Facebook Page, and School website have been introduced § PR relationship with parents and students have been increased via different initiatives under social media
	Non-MPO	Case 13**	<ul style="list-style-type: none"> § Started online classes § Parents have limited knowledge about technology § The inertia of parents to use video conferencing app § Financially challenged 	<ul style="list-style-type: none"> § Arranged messenger group for making the class more interactive and to ensure ease of distribution of digital content § Arranged term exam to grab the attention of the parents. § Terminated employee (teachers and staff)
Bengali Medium School Cases Outside Capital	Non-MPO	Case 14	<ul style="list-style-type: none"> § Could not start an online class § Limited availability of technological devices § Poor financial condition 	<ul style="list-style-type: none"> § Alternative learning method (in person) has been developed by maintaining social distancing
	Non-MPO	Case 15***	<ul style="list-style-type: none"> § No online class § Lack of orientation to technology and devices § Poor economic condition 	<ul style="list-style-type: none"> § Depending on part-time teachers § Looking for technological support
English Medium School Cases within Capital	Not Applicable	Case 16	<ul style="list-style-type: none"> § Started online classes with unsuitable technology at own web portal § Students faced poor internet connectivity and teachers were not adapted to the system § Parents stopped paying tuition fees § 50% salary cut for the teachers § Parents pledge for discount 	<ul style="list-style-type: none"> § Recorded videos provided to parents who were facing connectivity problems § Authority promoted students to the next class keeping the evaluation in dark from the students § Parents pledged of the waiver under consideration
		Case 17	<ul style="list-style-type: none"> § Provide homework using a web portal without any deadlines § Started online class from April, 2020 with a free Zoom app in a casual way § Lack of understanding of cybersecurity and technical knowhow § Cancelled classes frequently due to technical difficulties § Students got to know early no impact of classes on grades § Received writ petition from the high court for unduly taking tuition fees § Might have a financial consequence 	<ul style="list-style-type: none"> § Have strong web portal and database for sharing information § Promoted all students based on mid-term and early assessments § Started a new academic session in an organized manner using Google Classroom and Google Meet § Taking exams and class activities with a pretty sound manner at present § Teachers found friendlier than physical classes
		Case 18	<ul style="list-style-type: none"> § Quran memorizing section was suspended due to the mandatory physical presence of students § Students <5 years could not pay attention to online classes made assessment difficult § One single Google Classroom account has a cyber-threat 	<ul style="list-style-type: none"> § Took online classes for English and Arabic teaching only using the Zoom platform § Special Google Classroom for sharing materials § Have guardians' WhatsApp group § Did the final assessment over online from standard I and above § Waived 50% tuition fees from March-June, 2020 § Provided digital copies of available books

Source: In-depth Interview, July 2020

* Another two samples facing similar challenges and adaptation strategies. In those two samples, they are taking online classes but facing financial difficulties as not all the teachers are MPO entitled.

** Another two samples facing similar challenges and adaptation strategies except for the termination of teachers and staff from the school.

*** Another eight samples facing similar challenges and adaptation strategies for MPO school, where salary-related inequality (not all teachers equally paid) and operational inertia (teachers' not motivated) have been observed. Another two other cases facing similar challenges and took adaptation strategies as a non-MPO school where few teachers left the school in one case and no mitigation strategies have been observed in another case.

**** Other three samples resemble with this case except for the non-religious mode of operations and financial assistance to their students.

c. Case 18

This is one of the leading English medium schools in Islamic mode in Bangladesh which was established in 2015 with a unique blend of depth Islamic teaching and British curriculum (Edexcel) side by side. The school offers education from playgroup to the A level. They have unique 'Hifz ul Quran' teaching that has the mandatory physical presence of the students at school. They have started online classes from April 12, 2020, keeping mostly English teaching and basic Arabic teaching using the Zoom platform. They have a special Google Classroom account for sharing class materials along with the WhatsApp guardian group. At the end of June, the school took the final assessment at online platform. The students below Standard I were evaluated based on a formative approach (pre-pandemic classroom performance and online classroom performance) and students from Standard I and above had to sit for online examination. The elementary level students (below 5 years) could not pay attention and eye contact during the online classes properly. The school waived 50% tuition fees from March-June, 2020 though that put them in financial hardship. They went for Facebook promotion for getting new enrolment of students.

Technical and Vocational Training (TVET) and Religious Educational Institutes: Special Cases During Pandemic Case in Bangladesh

In Bangladesh, the number of private technical and vocational training institutes is higher than publicly owned technical institutes and it is approximately 87% of the total institutes. Moreover, in the case of religious education in Bangladesh, the number of post-primary madrasha or religious schools are higher than ebtedayee madrasha (primary schools). Moreover, 59% of private madrasha has been operating at the post-primary level and 41% have been operating at the primary level. Strikingly, 86% of these post-primary madrashas are situated in rural areas that emphasized that targeted students are coming from marginal or low socio-economic status and 76% of these post-primary madrashas are enlisted under the MPO scheme.

1. Technical and Vocational Training (TVET) Institutes

The technical and vocational education needs physical presence and hands-on experience side by side in their study. Most of the Technical and Vocational Training (TVET) institutes have been facing lots of operational difficulties in Bangladesh. Most of the cases covered in the study found that students are from marginal income groups of the society and choose these training institutions with short-term training for getting a job that requires technical expertise like dental, nursing, physiotherapy, pathology, and pharmacy or other electrical or mechanical sides. These vulnerable groups of the society are unable to pay tuition fees during the pandemic time and participating in online classes is a far cry. Some students left their studies and engaged themselves in some income-generating activities due to financial distress. Moreover, most of the institutes could not pay the salary of their teachers and staff since March, 2020. Furthermore, the institutes who have been running their activities in rented premises and located within the capital were in grave trouble. An in-depth interview revealed that the institution with its campus had to stop conducting classes during the pandemic situation and the students did not pay their tuition fees that reflected on the payment of salary of teachers and staff since March, 2020. Unfortunately, the country could not find an alternative way to serve this sector as this pandemic dynamism is unprecedented and unobserved in this current era and Bangladesh is not out of that.

2. Religious Educational Institutes

The religious educational institute, which is mostly mosque based, offers to memorize the Quran (Hifz ul Quran), depth understanding of religious thoughts under the direct guidance of teachers. Students usually reside in these premises and the cost is borne by the charity and some parts of the living cost covered with marginal tuition fees from the students. There is another blend of students from a bit higher socio-income group, who usually come early in the morning from their home for the whole day activities of Quran based learning and leave for home in the evening. There was an order from the government on March 17, 2020, to evacuate these premises too as it is impossible to maintain social distancing. There was no learning and teaching after that time and no payment for the teachers. An in-depth study revealed that an institute operated on rented premises had 60 students, could not pay the rental and other facility costs after the pandemic situation. The landowner asked for half of the rent which was even unbearable for the institute. The students could not pay the nominal tuition fees due to financial hardship. The institute started their physical religious classes from mid of August, 2020 with 26 students and no promise of paying previous tuition fees for an ongoing session. The authority mentioned that they might have to shut down their operation if the situation prevails in this manner.

CONCLUSION AND RECOMMENDATIONS

The COVID-19 pandemic is an exceptional global issue that affected socio-economic aspects in the global arena. The educational sector experienced unique challenges all over the world and Bangladesh was not out of exception. The economic growth rate of Bangladesh was quite promising among the South Asian countries. The pandemic situation slowed down the growth rate and wealth mobilization that severely affected the educational sector as the government could not take any risk of opening institutions in the densely populated country where managing physical distance is a far cry.

The qualitative study unveiled some issues of technological preparedness and the willingness of private institutions that come from both parents and school authorities during the pandemic period. In the tertiary level education at private universities in Bangladesh, faced technical hardship in the beginning to adopt a new method of pedagogy in education. However, the top-tier private universities adapted quickly to the new system (Case 1 and Case 2). All private universities faced the challenge of proper guidelines from the government regarding the conduction of online classes and evaluation methods in the beginning. The respective authority, UGC, took the initiative to address this issue late that had an impact on the student intake and confidence on the mode of operation for these profit motive universities in the upcoming semesters. Moreover, affordability in the conduction of online classes from the students' perspective was one of the major challenges in Bangladesh. It was observed that very few universities provide financial support for buying the digital device for online classes (Case 2). However, the universities, mostly from outside capital, faced challenges of internet connectivity at online platforms fiercely (Case 7). Furthermore, private universities run with the tuition fees of the students, and the financial challenge was a major issue during the pandemic situation. The universities provided financial support in the form of waivers to increase enrollment and financial survival (Case 2, Case 3, and Case 6). This initiative was effective only for those universities who have a strong student base (Case 1 and Case 2) and most other universities could not pay full salaries to their full-time teachers, keeping part-time teachers a far cry (Case 3, Case 4, Case 5 and Case 6). The education loan for the students with a simple interest

rate and short term financial scheme for the marginal students was necessary in this regard in the context of Bangladesh that could support both parties to survive.

The entrepreneurial challenges for the private colleges at a higher secondary level largely depended on the social acceptability of online platforms, access to digital devices to the online classes, poor internet connectivity in their locality, and low socio-economic conditions of students in the pandemic situation. The survival of these institutions greatly depends on the tuition fees of the students. Few institutions mostly from capital-based tried to take online classes and examinations with their limited capacity at Google Classroom to show their engagement but the attendance of the students was not up to the mark. Unfortunately, the parents did not pay the tuition fees that forced the institution (Case 8) and some other institution outside capital into a grave financial crisis (Case 9) that led to a drastic salary reduction of the teachers. Strikingly, private institutions which receive fund from the government under MPO scheme could not take classes at online platforms due to lack of digital devices, poor internet connectivity, and eventually, parents did not pay tuition fees. Fortunately, the teachers were getting salaries regularly (Case 11). A few initiatives were found from some institutions that were even under the MPO scheme but surprisingly took the initiatives to upload the recorded video of classes on Facebook. Unfortunately, the survival of them was at stake due to the social issues and marriage of female students of girls' colleges which might put pressure on sufficient student flow to run the institutions (Case 10). The qualitative observations unearth a striking reality of society. The financial challenge ignites organizations, even educational institutions, to find alternative solutions in case of technological adaptation or metal drive for survival. A special financial scheme was necessary for these private institutions who had been trying relentlessly for survival from the government or other institutions.

The entrepreneurial challenges and adaptability of the institutions with the Bengali medium at primary and secondary school level were somewhat similar to the higher secondary level with some exceptions. The MPO scheme was not the main drive for conducting classes at online platforms rather inter-institutional competition might be a force here. A city-based case revealed that the institution disseminates education through recorded videos at Youtube channel under a program (Case 12). Some institutions used the Zoom platform for online classes but parents' feedback was quite pessimistic that lead them to financial hardship with the termination of teachers (Case 13). Most of the primary and secondary private institutions outside the capital could not conduct online classes due to not having a proper device and poor socio-economic conditions of the family (Case 15) with a striking exception in Case 14. A Bengali medium non-MPO school, due to unavailability of technical access, provides educational support in a cluster form with a physical presence in different villages maintaining social distancing and socio-cultural adaptation. This could be a unique example of adaptation during the pandemic situation for developing countries. The government included ICT as a course in the education process which is not a solution for technological adaptation, rather a community participative and technological adoption model (Case 14) may show some lights in developing countries like Bangladesh.

On the other hand, the English medium educational institutions in Bangladesh, mostly capital based, charging high tuition fees, and families were mostly solvent. These institutions emphasized on glamour and extra-curricular activities and equipped themselves for the physical classes only in pre-pandemic time. The pandemic situation could shack them but could not wake them up at the beginning that led them to finish the session halfhearted manners giving auto-promotion of all students to the next level (Case 16 and Case 17) as they could not adapt to technical glitches at online platforms due to lack of preparedness. The parents stopped paying tuition fees due to the lack of commitment of the schools (Case 16) and some schools fine-tuned their problems and came back with an upgraded pedagogy of teaching within a

couple of months delay (Case 17). An English medium Islamic school that depicts some honest gesture by waiving tuition fees for three months during the pandemic time and taking classes and assessment at online platform with their limited resources (Case 18). The students from English medium schools have been growing up in a different way than Bengali medium school children with lots of psychological challenges within their upscale life. Unfortunately, these solvent institutions did not focus much on those psychological challenges of these students right at the first time. The observation revealed that though these English medium schools are regulated by private bodies, their operations should not be unmonitored by the government or regulatory authorities. Otherwise, these scenarios may replicate in the future as well.

The technical and vocational training institutes are one of the major pipelines of learning education that serves a country by many folds. These institutions got major setbacks during the pandemic period due to the mandatory requirement of the physical presence of the students during the classes side by side they have practical classes. The majority of the students of these institutions come from the marginal socio-economic class of the society and during the pandemic they had to quit their study and become involved in low profile income generating sources. Eventually, these private institutions could not collect tuition fees either from students or received financial assistance from the government to sustain. The teachers have been involved in part-time jobs not related to their profession for survival. However, the situation is mostly similar to the religious institutions in Bangladesh and have some level of solvency as they get some charitable funds from the community in different religious occasions. They had no classes during the pandemic due to having a mandatory physical presence. Most of the students in these types of institutions come from the marginal rural socio-economic background. It is very hard for their family to finance them whereas they have been passing through a strong financial crisis during the pandemic. Only strong financial support from the government or other institutions may help these institutions to exist.

FUTURE RESEARCH DIRECTIONS

Future studies may address the degree of intensity of entrepreneurial challenges in education across primary, secondary, and tertiary levels in developing countries like Bangladesh. The researchers may adopt both qualitative and quantitative study to unveil the issues in those countries which have similar socio-economic and technological dimensions. Geospatial analytical perspective may ignite the interest of researchers from other disciplines to see the cross variable issues with spatial locations of the institutions, students, and community along with network coverage and the digital divide. Moreover, the special cases in the chapter and technological adaptation modes among stakeholders could be used as a model for the scope of implementation for the developing or developed countries as well. Furthermore, the policymakers from both developing and developed countries could find these case studies effective for their strategy formulation and policy implementation.

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KEY TERMS AND DEFINITIONS

Coronavirus Disease (COVID-19): Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered virus. It is also called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV). The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes.

Ebtedayee Madrasa: Ebtedayee Madrasa is primary schooling for students who want to get an education in Arabic mode.

Educational Entrepreneurship: Educational Entrepreneurship can be theorized as a way in which the individual displays innovativeness and risk-taking tendency in education sector.

Hifz ul Quran: Hifz ul Quran means memorizing the Quran.

Higher Secondary School/College: After 10 years of schooling at the primary and secondary level, students who succeed in passing the Secondary School Certificate (SSC) examination have the option of joining a college for a two-year higher secondary education in respective areas of specialization. This phase of schooling is considered as Higher Secondary schooling or College and at the end of higher secondary school, students usually take a unified examination which is called Higher Secondary Certificate (HSC) exam.

Lockdown: A lockdown is a requirement for people to stay where they are, usually due to specific risks to themselves or others if they can move freely. The term “stay-at-home” or “shelter-in-place” is often used for lockdowns that affect an area, rather than specific locations.

Madrasha: In Bangladesh, Madrasa or Madrasah refers to educational institution where the religion of Islam is taught most of the time with other subjects at primary, secondary and tertiary level.

Monthly Pay Order (MPO): MPO is the government’s share in the payroll of the non-government educational institutions. Under the scheme, the government gives 100 percent of the basic salaries to the teachers of non-government institutions. Infrastructural development, number, and result of the students are considered to be included under MPO.

Primary School: A primary school, junior school, elementary school, or grade school is a school for children from about four to eleven years old, in which they receive primary or elementary education.

Private Institutions: Private institutes include different types and levels of educational institutes owned and operated by the private sector. Source of funding of this type of institution is the tuition and investments.

Public Institutions: Public educational institutes are the schools, colleges, universities, madrasahs, etc., which is mainly by the government.

Secondary School: Secondary school is the next step up from primary school. Secondary schools are often called high schools in Bangladesh. At the end of secondary school, students usually take a unified examination which is called Secondary School Certificate exam.

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University Grants Commission (UGC): The University Grants Commission (UGC) of Bangladesh is the statutory apex body in the field of higher education in Bangladesh. The primary objectives of the UGC are to supervise, maintain, promote, and coordinate university education. Its mission is to ensure quality higher education for Bangladesh.

Vocational Education: Vocational education is also considered as Technical education. It helps an individual to acquire technical knowledge and create employment through crafting or trading.

Chapter 6

COVID-19's Impact on Tanzania's Economy and Key Sector Prospects

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ABSTRACT

Many governments in developing countries cannot respond to COVID-19 as solely a health crisis given the economic and political crises that also emerge. Tanzania's unconventional approach to COVID-19 may be slow in response and may lack direction, but its uniqueness illustrates the need for governments to form context-specific smart containment strategies and recovery plans. The government can increase public health funding to local health centers to implement mass testing, enforce social distancing and sanitation measures, and invest in agriculture and other key sectors to produce for the domestic economy. These initiatives enable the government to maintain multiple competing priorities: managing the transmission rate while ensuring food security and protecting jobs.

INTRODUCTION

Since the coronavirus disease (COVID-19) outbreak was declared a public health emergency of international concern (PHEIC) on 30 January 2020 and yet the pandemic disease, its epidemiology has been reported to change rapidly as pointing to over 118,000 cases in over 110 countries. For the first time, since the onset of symptoms of the first identified case of COVID-19 on 8 December 2019, there has been a 13-fold increase in cases reported from countries outside China. As of 16 March 2020, 10:00 AM CET, there were 81,077 confirmed cases and 3218 deaths in China while the authorities outside China's borders had reported 86,434 confirmed cases, 3388 deaths in 151 countries and thousands more fighting for their lives in hospitals. The statistics tells us that even countries with advanced health systems are still struggling to cope with this epidemic. As the number of cases continues to rise outside China, moving to low-income countries, we should be deeply concerned about the impact it can pose to such population which for decades is characterized by high HIV prevalence, chronic non-communicable dis-

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eases, and malnourished individuals (WHO, 2020). It is thought that high time to report newly recorded incidences and provide clear recommendations while reflecting on China's experience. On 16 March 2020, the Ministry of Health of Tanzania announced the first case of COVID-19. The victim happened to be a female traveller aged 46 years who departed the country on 3 March 2020 to Belgium and had visited Denmark and Sweden between the dates 5th and 13th March 2020. On the 15 March 2020, the lady flew back to Tanzania from Belgium and arrived at the Kilimanjaro International Airport (KIA) at 1600 hours using the Rwandan airplane. As of other countries, Tanzania had also prepared for the reception of travellers from abroad in terms of diagnostics and trained health care providers and much more. A victim was effectively screened for the symptoms of COVID-19 at the airport and showed none. She took a cab all the way to the hotel located about 28 miles away from the airport. On the 16th March 2020, she felt unwell and decided to surrender herself to medical tests on the same day just to find out that she was infected with the novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2).

She came to put it clear to the authorities that the reason behind staying at the hotel overnight instead of going home directly was a need for self-quarantine. She further uncovered that, back in Belgium, she was accommodated by her female friend whose husband had acquired the infection. An important thing to learn from this brief story is there is a questionable strategy for screening for this disease as it can obviously miss the truly affected individuals. In addition, body temperature assessment might not be an adequate or sufficient attribute for the screening of COVID-19. The situation might also mean Tanzania may have a number of imported cases currently large, posing a huge threat to public health.

The pandemic COVID-19 crisis has affected societies and economies around the globe and will permanently reshape the world as it continues to unfold. While the fallout from the crisis is both amplifying familiar risks and creating new ones, change at this scale also creates new openings for managing systemic challenges, and ways to build back better the business world. It has been mentioned by the World Bank (WB) that, governments in developing countries are not in the position to treat the COVID-19 pandemic as only a health crisis (WB, 2020). For the African continent, COVID-19 has meant that several challenges and multiple crises will have to be dealt with at once. In terms of the potential economic crisis, it is estimated that 150 million people are at risk of losing their jobs and incomes across the formal and informal sectors. In countries with planned 2020 elections, such as Cote d'Ivoire, Tanzania, Burundi and Ethiopia, the loss of livelihoods directly resulting from the pandemic may be increased together with the likelihood of political and civil unrest.

The pandemic and the accompanying lockdowns have also worsened the already severe food insecurity problem and increasing the proportion of people living in extreme poverty. A recent study from the IGC shows that an estimated 9.1% of the population in sub-Saharan Africa have immediately fallen into extreme poverty due to COVID-19, and that 65% of the increase is from lockdown measures (IGC, 2020). More and more evidence increasingly demonstrates that lockdowns are not effective in developing country contexts. Countries should therefore be encouraged to systematically assess the trade-offs between the health crisis and other emerging issues, and form context-specific containment strategies and recovery plans. Although lockdowns have been effective in numerous contexts, countries such as Ethiopia and Tanzania have avoided full blanket lockdowns, and instead implemented a variation of social distancing measures to balance the trade-offs where most of the social and economic activities continue normally with caution.

Tanzania is the second-largest economy in East Africa, and early this year it was announced by the World Bank as a middle income state with a population of almost 60 million and a growth domestic product (GDP) per capita expected to reach 930.00 USD by the end of 2020, according to Trading

Economics global macro models and analysts' expectations (WB, 2020). In the long-term, the Tanzania GDP per capita is projected to trend around 965.00 USD in 2021 and 990.00 USD in 2022, according to econometric models. Due to the pandemic, the World Bank later projects that economic growth in Tanzania will drop sharply to 2.5% by end of 2020 from a much higher growth rate of 6.9% that the government announced in 2019. Much of this growth was driven by strong public investment and export earnings. The government's firm focus and commitment during this pandemic have been to avoid a complete pause of economic activities. According to World Health Organization (WHO, 2020), Tanzania has the second-highest number of COVID-19 cases in the East Africa community behind Kenya, with 509 cases and 21 deaths as of May 26th (22 days since last reported). However, given the low testing levels and the uncertainty around Tanzania's released figures, it said that it is highly likely that the number of cases is substantially greater. The toll of the virus on the existing healthcare infrastructure has also been severe as hospitals in the commercial capital, Dar es Salaam, have struggled to manage the diversion of resources towards new COVID-19 patients, while treating other deadly diseases in tandem, such as Malaria and other common diseases.

ECONOMIC AND SECTORAL ISSUES AND CONTROVERSIES IN TANZANIA

Currently as Tanzania is waiting for the general election on 28th of October 2020 discussions of citizens indicates worried about the political challenge of managing expectations. Worries may be reasonable, given two past controversies and the upcoming elections, and was, it sensed, deepened by the reports on the AfDB/Gates (2020) study (how small the expected revenue) and on our research (how much Tanzanians want more and better social services).

First, there is general disappointment that the discovery and mining of gold in Tanzania in the past 15 years has been a windfall for the mining companies but not for the people of Tanzania, possibly because the agreements permitting exploration and production made it too easy for the mining companies to over-invoice costs and minimize their resulting taxes on profits.

Second, there is the Mtwara controversy, Mtwara being a region of Tanzania on the southern coast that is the site of an early discovery of offshore gas but is not politically well connected to the rest of the country. Residents of Mtwara expected a surge in jobs and income with construction of a gas processing facility there, and rioted when the energy minister announced in parliament the construction of a gas pipeline from Mtwara to the country's capital Dar es Salaam and the newly designated Export Processing Zone (EPZ) in Bagamoyo. (In addition, the minister announced that only 0.3 percent of natural gas revenues would remain in Mtwara.)

As campaigns for the country's presidential elections proceed, Tanzanians are hearing a lot from politicians, especially on how they could be direct beneficiaries of the country's' prospective natural gas windfall. This revenue, it is predicted, could eliminate poverty; ensure free education for all and more. People are worried about the reaction when they realize the windfall, for many reasons, is unlikely to ensure delivery on all these promises.

It is yet to be established though how government will eventually react to the outspoken comments made by different people and those of other sectoral associations, recently in regard of the hugely controversial plans to build a highway across the main migration routes of the wildebeest and zebras in the Serengeti, plans which have been broadly condemned by tourism stakeholders, or other recent issues emerging in the Tanzanian media like the cancellation of the application to UNESCO for World

Heritage Status for the Eastern Arc Mountains, the plans to convert Stiegler's Gorge in the Selous into a hydroelectric plant site, the increase in poaching, encroachment into protected areas and illegal logging, all of which are threatening the very foundation of wildlife and nature based tourism.

Stakeholders in regular contact with this correspondent were unusually reserved over these issues though one did concede that 'it has to be discussed with government, those in tourism cannot just sit still and see all this happen. They must bring their experience and expertise on such matters to government's attention. They need their advice because it seems they have not listened very well to others.

How can worries about misplaced expectations be allayed? Results suggest that Tanzanians are clear about wanting contracts with gas companies published. Though many are illiterate and have little direct access to the media, they believe transparency will help ensure an accountable government. Result are showing that giving citizens information and ample opportunity to deliberate makes a difference means that low levels of schooling and poverty itself need not be barriers to good economic policy in low-income democracies.

While no industry can truly be recession-proof, small and medium enterprises in different sectors in Tanzania may be more likely to withstand the COVID-19 shocks if something proactive is done. Sectors that employ many people may boost the economy as people find new ways to work and improve productivity. The chapter draws on the diverse insights of the Tanzania Economy to look ahead and across a broad range of issues including impacts of the pandemic and how the country can capitalise on some sectors to boost the economy. It offers decision makers a comprehensive picture of expected long-term changes, and inspiration to leverage the opportunities this crisis offers to improve the state of the country.

Materials and Methods

The study used desk research approach where literature review was done on COVID-19 impacts on Tanzania' economy and entirely it relied on secondary data sources and not to include a primary data collection component. A number of literatures were selected for the study to include reports, speeches by government officials, and international organisation reports like the UN, UNDP, WB and TEU. Constructions of themes were done to come out with the analysis supported by the said literature. Then, results were able to be discussed basing on the themes trend.

COVID -19 PANDEMIC STATUS IN TANZANIA

In January 2020, Africa's economic outlook for the year was bright. African Development Bank projections predicted 3.9% growth in 2020 and 4.1% in 2021 (AfDB, 2020). Tanzania specifically was comfortably pursuing her mission through the Vision 2025 of becoming a middle income earning country by putting emphasis on industrialisation. But then, coronavirus upended the global economy. Less than two months later, with only 61 confirmed Covid-19 cases in Africa, the United Nations Economic Commission for Africa (UNECA) revised the continent's growth projections downwards to 2% (UNECA, 2020). Around that same time, The World Bank said that Africa is headed towards its first recession in 25 years. These gloomy figures can largely be attributed to disrupted value chains, reduction in Foreign Direct Investments (FDI), remittances, and direct hits to sectors such as tourism and oil.

As said above, since the first COVID-19 case on March 16th, the Tanzanian government implemented noticeably less stringent responses compared to its neighbours in the East African block. For instance,

Rwanda closed its borders and implemented a full two-week lockdown since its first case, while Uganda and Kenya imposed a shutdown of economic activities and restricted mobility within the country through national curfews. In Tanzania, on the other hand, enterprises are allowed to operate, and citizens can attend religious gatherings with social distancing rules, while schools, universities, and other miscellaneous mass gatherings were banned and reopened by end of June, 2020. The public was also urged to maintain social distancing, wear face masks, and maintain sanitary habits. The government additionally closed all international borders and suspended international travel in early April, and mandatory 14-day quarantine at the point of entry in government-designed facilities was introduced. Later on towards July the government thought to allow again international travel.

Until when it was at the pick of the pandemic around March and April, 2020, Tanzania had the lowest number amongst East African countries although afterwards, the number increased from less than five (5) patients in the third week of March 2020 to 254 patients and ten (10) deaths five weeks later by mid-April 2020 (GoT, 2020). The country's stance has all along been to encourage the application of personal hygiene, use of natural herbals like ginger and local steam bath commonly known as *kujifukiza* in Swahili, social distance and wearing protective facial masks where appropriate. Affected and suspected individuals are quarantined for 14 days to observe their health status. The Ministries responsible for Health (MoH) in Tanzania Mainland and Zanzibar, although the pandemic initially affected people with history of visiting countries affected by COVID-19, the situation started to change from the second week of April, 2020 when it was feared to have shifted to "community transmission", which complicates tracking of infected and carrier subjects (MoH Daily COVID-19 Updates, 2020).

Since then, the situation became complicated in terms of business conduct. Some organisations started to stop production while others advised employees to work from home. Small businesses received fewer customers than expected while others feared of the pandemic resulting into closure of some business areas. Later, in May towards June, 2020 businesses though operating normally, already the business atmosphere were affected in terms of productivity and purchasing power of consumers. Importation and exportation of finished products and raw materials became complicated due to international flight stoppage. In that case, it is no doubt that economic activities in Tanzania became affected same as the rest of the world with only the difference in magnitude and economic area specific.

Key Sectors of Industry

Tanzania has a vast natural resource wealth, with significant reserves of gold, diamond, iron, coal, nickel, tanzanite, uranium, tin, phosphates, gemstones, and natural gas. Even though only about 14% of the land is arable, agriculture is the backbone of the Tanzanian economy. It employs 66% of the workforce and accounts for 28.7% of the country's GDP, although the sector's contribution to the economy has been declining gradually. Tanzania's main crops are tobacco, coffee, cashew nuts, tea, cloves, cotton and sisal plant. Due to its diverse climatic and geographic zones, Tanzania has one of the widest crop varieties in Africa. Livestock production, especially cattle and sheep, is another important component of the primary sector. Agriculture is also a main source of exports; however, its real value has declined by up to 85% over the last 30 years, with the fall of global commodity prices (GoT, 2019).

Industry accounts for 25.1% of GDP and employs around 7% of the workforce. Manufacturing makes up more than half of the secondary sector, followed by processing (around 40%) and assembling industries (less than 5%). The manufacturing sector is largely centred on the processing of agricultural products. Mining makes an important contribution to the economy, mainly through the extraction of gold,

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nickel and copper. The country has significant gold reserves and is the 4th largest producer in Africa. The construction sector has been progressively contributing to GDP, with increasing infrastructure and real estate projects.

Services account for 37.9% of GDP and employs 27% of the total workforce. Transport and storage, financial and insurance activities, and information and communication are the fastest growing sectors. Tourism is another important component of the tertiary sector as Tanzania has one of the richest and most diverse wildlife in Africa. Its total contribution to GDP was 10.4% in 2018 whereas 10% of the jobs were directly or indirectly supported by the industry, according to a report by the World Travel and Tourism Council (WTTC, 2018).

Sustaining Key Sectors of the Economy

Tanzania like many other developing countries has the majority of its workforce working in the informal economy. The workers in this sector are the first to be hit by COVID-19 socio-economic impact as they do not have the privileges that come with formal employment and the running of their businesses and work is already dominated by uncertainty even before the COVID-19 pandemic. Many of the workers affected are young people and women who survive on minimum wage and very low income.

Additionally, there have been reports of even those in formal employment in some sectors who have suffered from job losses due to the mere fact that the sector they work in is collapsing during this pandemic. Workers and owners of businesses in the travel and tourism sector have had to suspend without pay or totally close down operations due to the travel ban the country has put in place. The education sector has also suffered tremendous effects as educators struggled to transition to digital platforms to provide remote learning and innovative approaches to reach the most vulnerable children. Staff retention has become a huge challenge as parents have stopped paying the school fees as their children are now home educated and consequently the income for the schools has fallen drastically which has in turn impacted on the teachers' wages. Schools and Colleges are now running normally but the effect in terms of school fees payment is still noticeable as parents are economically affected.

Basing on the above facts, stakeholders should join hands in insisting on collective efforts by the ecosystems in affected sectors to push for recovery and response interventions that will be specific, inclusive, holistic and dynamic including policies and immediate response measures i.e tax exemption, cash transfers for the most affected, stimulus packages for the affected sectors, awareness and education on the pandemic to reduce and control spread. Domestic violence has also been reported to be on the rise in households as more people stay at home either due to job losses, business shutdown, many taking out their frustrations on their partners. More importantly, the community should be taught to be each other's keeper and to take action against such incidents.

Business stakeholders to the other hand should help the business community with innovative business models as well as transition to the urgent emerging digital trends. Supporting start-ups and entrepreneurs in the ideation process for solutions and ideas to respond to both protective and essential needs of communities during and post COVID-19 should also be a focus. Capacity building programs launch for youth and women to re-skill and up-skill as per the demands in the current market where the workforce is now more than ever required to possess 21st century skills and digital skills to stay relevant and remain competent, efficient and productive in both employment and entrepreneurship fields is key.

It may also be true that Tanzania is in a better position than many other countries in the region to respond to the crisis, given favourable commodity price changes as an oil importer and gold exporter,

as well as fiscal space given its relatively low fiscal deficits and low risk of debt distress, as said by William Battaile, World Bank Lead Economist, and author of the TEU. "Further economic measures can be considered to help protect viable businesses and prevent layoffs."

In Africa, the World Bank's response to the economic crisis focuses on three main areas; protecting lives; protecting livelihoods and supporting recovery and growth. The Tanzania Economic Update (TEU) notes that with the country's favourable economic conditions, this approach provides a useful framework for the government to consider priority policy actions to prepare for recovery in 2021. The report calls for strengthening the health response and implementing of additional economic mitigation measures to protect lives and livelihoods:

- *Strengthened health response and transparency to save lives:* Additional resources should be directed to reinforce Tanzania's health response and implement a smart containment strategy to prevent cases from rising. Government should mobilize adequate financial resources to ensure equitable access to priority facilities and medical services.
- *Protecting jobs and medium, small and micro-enterprises:* Additional measures will be needed to help avoid the destruction of productive capacity due to potential bankruptcy of firms that would have been financially viable without the pandemic, particularly in sectors most affected by the crisis and affected global supply chains.
- *Protecting livelihoods and the future:* The on-going Tanzania Social Action Fund's Productive Social Safety Net program role toward protecting lives during the COVID-19 pandemic is limited given that is mainly oriented to rural families, while the most vulnerable households to the virus are in the informal urban economy.

There is also the benefit of investing in Tanzania's digital economy, both to support stronger policy responses to the current crisis as well as boosting the recovery in productivity and job creation. The country has already made good progress in the ICT sector, which it can build upon, including the strong network of existing mobile accounts to streamline new cash transfer schemes and widen the coverage of existing social programs. Tanzania also is currently connected to three international undersea cables and working with the private sector, the country could harness greater internet capacity to ensure continuity of government and education.

However, if the digital economy is to rapidly expand, in order to support the government's response to the pandemic, there are a number of interventions that need to be considered, including making mobile money and low-value data packages affordable for the poor and to removing barriers that currently prevent competitive mobile operators from investing in their own infrastructure (WB, 2020).

STRATEGIES

Tanzania's unconventional approach to COVID-19 may be slow in response and may lack direction, but its uniqueness illustrates the need for governments to form context-specific smart containment strategies and recovery plans. To maintain multiple competing priorities, the Tanzanian government can increase public health funding to local health centres to implement mass testing, enforce social distancing and sanitation measures, and invest in formal small-holder farmers to produce for the domestic economy.

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Exports of agricultural and manufacturing goods have also dropped significantly, driven by supply chain and cross-border disruptions. General activities in the domestic private sector have also halted. Similar to many developing country governments, Tanzania's dwindling government revenues have restricted its fiscal space and limited the capacity to respond through large fiscal stimulus. Tanzania is amongst 14 African countries that did not introduce any social safety measures, such as cash transfers. Instead, the government focused on responding with some economic measures through the Bank of Tanzania with various policies to ease liquidity and safeguard the stability of the financial sector. The bank reduced the discount rate, lowered the minimum reserve requirement ratio, incentivised the restructuring of loans for severally affected borrowers, and relaxed limits on mobile money users. The measure entails increasing the daily transaction limits by 2,000 Tanzanian Shillings (TShs) and daily balance by 5,000 TShs for all mobile money platforms, to encourage non-cash payments, and reduce gatherings in banks and mobile money kiosks. In the same month, the Ministry of Finance and Planning (MoFP) expedited domestic payment arrears and VAT refunds, giving specific priority to the Small and Medium Enterprises (SMEs) sector. Verified domestic payment arrears to the tune of 916 billion TShs were paid in March 2020.

With a view to increasing domestic production of edible oils, the government has allocated to the Tanzania Investment Centre (TIC) 13.5 hectares of land in Uvinza District, Kigoma to be used for palm farming. This was confirmed by TIC's executive director, Godfrey Mwambe during his tour in the district. According to Mr. Mwambe, the statistics show that Tanzania currently imports 400,000 tons of palm oil and spends up to Tanzanian shillings 600 billion (approximately USD 260 million) to import edible oil.

The TIC is established under the Tanzania Investment Act (TIA). The primary objective of the TIC is to be a one-stop centre for investors and the primary agency of the government to co-ordinate, encourage, promote and facilitate investment in Tanzania and to advise the government on investment policy and related matters. An investor can apply to be registered by the TIC in order access fiscal and non-fiscal incentives, benefits and protection under the TIA. Once registered, the investor will be issued with a Certificate of Incentives.

Other than businesses that are involved in activities such as mining, and oil and gas, businesses which meet certain criteria may be registered for incentives under the TIC. For example, if wholly owned by a foreign investor or a joint venture, the minimum investment is USD 500,000; and if locally owned the minimum investment is USD 100,000.

Furthermore, the government plans to construct strong rooms at various airports in the country, as a strategy to ensure promotion of the mineral business, safety and to improve the business environment in general. This was said by the Deputy Minister for Works, Construction and Communication, Mr Elias Kwandikwa, at a consultative meeting held in Mwanza with various stakeholders in the mining sector this year (2020).

To ensure improvement in the business environment, the government through various ministries has been undertaking consultative meetings in order to understand the challenges facing various sectors and to get the stakeholders' view on how those challenges can be dealt with. There have been several consultative meetings in the mineral sector following which we have seen various initiatives being implemented such as the established mineral trading hubs in various parts of the country. The Mining Act 2010 (MA) and the regulations made under it regulate the mining sector in Tanzania. The MA sets out the following broad categories of licences which can be obtained in Tanzania:

- (i) Primary mining licences (these are generally used for small-scale mining and are exclusively for Tanzanian citizens);
- (ii) Prospecting licences (these are licences to facilitate exploration);
- (iii) Mining licences (the licence for the production stage of an asset); and
- (iv) Special mining licences (for large projects of USD 300 million+).

POST COVID-19 IMPACT AND PROSPECTS OF KEY SECTORS

The impact of COVID-19 crisis can be measured at both micro and macro levels, and short and long terms. At the micro-level, the crisis will have immediate impact on the government functioning due to the restriction of travels, and this can potentially affect service delivery and implementation of government's plans at different levels. The outbreak will also have impact on the most vulnerable populations, particularly the poor in both urban and rural areas, as they may have limited access to healthcare and lower savings hence less able to purchase essential items. There is also impact on performance of SMEs in terms of access to goods due to the restrictions on gatherings and movements.

Subsequently, decreased sales and revenues are expected at a large extent. With the closure of almost all hotels in Zanzibar and the Northern tourists' hub in Arusha, Kilimanjaro, Serengeti and Tanga, the impact on employment will result in noticeable livelihood instability in the country where the tourism is the major economic activity. With the closure of schools and universities, abrupt budget disruptions especially for private schools and universities are foreseen, with the impact trickling down to other businesses that depend on schools and universities' operations including transport, stationery, food and housing.

At a macro level, the crisis could have negative impact on Tanzania's economy in the long-term. The United Nations Conference on Trade and Development, recently warned of a slowdown of global growth to fewer than 2 percent in 2020 as a result of the COVID-19, effectively wiping US\$1 trillion off the value of the world economy (WEF, 2020). With the disruption in the global economy, Tanzania is likely to join many other countries in decreased supply and demand. Sectors that are at high risk include agriculture, trade, hospitality, airline industry, finance and education due to inter alia, reduced supply of intermediate goods from China, a reduction in the number of tourists, and the closure of schools and universities. Proposed interventions include the following:

- *Government functioning:* This support will focus on setting up an effective framework to ensure continuity in government functioning. Support will be provided in facilitating the procurement and installation of ICT systems for virtual/online meetings. A quick assessment will be conducted in collaboration with the relevant government ministries, departments and agencies to assess the situation, gaps and needs. Based on this assessment, prioritization will be done and resources mobilized.
- *Multi-sectoral socio-economic impact assessment:* This study will be conducted in collaboration with ESRF and will focus on the most affected sectors and communities. At the request of and in partnership with the government of the URT, key stakeholders and development partners, the assessment will delve into positive and negative impacts of the outbreak. Using experiences gained in developing HDRs, PDNAs and DRFs, UNDP will contribute significantly to this assessment. The result of the study will inform the design and implementation of follow up programmes to address the identified challenges.

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- *Medical Equipment Procurement:* This support will build on current discussions between UNDP with the Government Medical Store Department on medical equipment procurement support. The focus will be on strengthening the local supply chains (i.e., local manufacturers and distributors in the intermediate term) and issues related to tax regimes, emergency procurement procedures and corporate procurement systems. Funding will be determined by demand.
- *Food security, production and market systems:* The anticipated impact on agriculture due to COVID-19 pandemic may affect food security countrywide since local economies rely largely on agriculture. UNDP has been supporting the government in building the capacity in the horticulture business, which is among the fastest growing sector in Tanzania growing at an average rate of 11% per annum and contributing about 43% of foreign earnings (UNDP, 2019). The main target is youth and women. UNDP will build on its pilot project on agri-business mainly in and around horticulture value chains and market systems among others.

However the impacts and prospects of the key sectors of the economy for Tanzania seem to be as follows:

Agriculture

The agricultural sector in Tanzania provides direct occupations to a common Tanzanians, 66% of whom with farmers below 20 hectares and categorized as small-scale farmers (0.1 - 4.99 ha: 31%) and medium scale farmers (5-20 ha: 35%). According to Bank of Tanzania, the sector's average share of contribution to the nation's real GDP from 2014 to 2018 was 22.42% for Tanzania Mainland and 21.7% for Zanzibar with an annual growth rate of about 5.7%. The sector is accountable for producing more than 90 percent of food requirements, the balance imported in the form of wheat, edible oil and animal and fish products. The sector is a prime supplier of basic raw materials needed by the budding agro-processing industries. The growing tourism industry has also been dependent on food (cereals, legumes, fruits and vegetables), beverages (tea, coffee, cocoa), decorations (plants and cut flowers) grown locally. Also, the country earned some USD 556.614 million in 2018 from exporting crop, livestock and fisheries related products to diverse countries such as Asia (e.g. China and India), Middle East, Europe and the United States and also regionally mostly into EAC and SADC/EAC member states (e.g. Kenya, Rwanda, and South Africa) (Comtrade, 2020). Tanzania also imports some agricultural commodities to fill domestic deficit (e.g. edible oil, wheat flour, sugar and cotton) and fertilizer (worth USD 134.66 million in 2018) for enhancing the agricultural sector's ability to generate new commodities. The importation of agricultural products and fertilizers in 2018 cost the country some USD 596.52 million.

As a result of the pandemic, Tanzania is likely to suffer from a double-edged sword impact of COVID-19 on international trade for agricultural products. On one side, there will be a reduction of export earnings due to declining export orders of the commodities, especially those whose main export destinations are outside the EAC and SADC regional economic blocs. Risks in exports come from reduced revenue coupled with reduced foreign exchange earnings from trading of crops (e.g. cereals, oilseeds, fiber crops, and horticultural) and sale of perennial crops (tea and coffee, horticultural crops (e.g. cut flowers, vegetables, fruits), fish and crustaceans, and live animals). Heavy reliance on imports for its food consumption, Zanzibar will suffer more risks mostly due to its narrow base of exportable agricultural commodities. The reduced foreign exchange revenue is likely to affect the nation's ability to import such essential food items, leading to price hikes (food price inflation) and thus affecting food security

for the majority low- and middle-income citizens, the majority of whom are youth and women. Reduced income for farmers growing cash crops and for urban poor will likely cause a form of food insecurity (weakened purchasing power). Most worrying in case the crisis persists to November- December 2020, is the impact on timely delivery of fertilizer and other imported farm inputs and machinery, which will affect farm productivity and production levels of crops in the next farming season.

For a country that has the 6th largest population in Africa, and an urban population density of 3,100 per square kilometre in Dar es Salaam, (compared to Accra, Ghana, which has 1,300 per square kilometre), the current light mitigation approach poses a huge risk of exponential growth in transmission. Even with the present situation, it was reported that 5 cases were found in mid-March, but this shot up to 254 cases by mid-April. The rise of cases is speculated to be driven by community transmission in Tanzania's main hotspots: Dar es Salaam, Dodoma, and Arusha.

Instead of restricting mobility altogether, thereby hindering economic activity and adversely impacting livelihoods in the bargain, the Tanzanian government can instead focus its strategy on increasing its capacity to maintain and manage the virus, while pursuing sustainable economic development. In other words, Tanzania can learn to adapt and live with the virus in a way that is not detrimental to the economy, but not overwhelming the health system either. There are two policy initiatives that the government can implement in the immediate term.

One initiative can be to invest in formal small-holder farmers to produce food for the domestic economy. This will result in jobs being protected and create new avenues of government revenue. Furthermore, the government can increase public health funding to local and community health centres to implement mass testing and increase the capacity to track and trace. The likes of such initiatives have already been implemented in countries such as Ghana and Ethiopia.

The recent dispute between Kenya and Tanzania over COVID-19 tests for truck drivers crossing borders and the abrupt border closure in Zambia demonstrates the complexity of cross-border trade and COVID-19 in Africa. The issue entails two strands: (i) Tanzania's role as a major trade transportation corridor and the risk of spreading the virus, and (ii) the impact of cross-border trade restrictions on livelihoods.

Out of the 55 countries in Africa, 16 countries are landlocked and 3 of these countries (Zambia, Uganda, and Rwanda) border with Tanzania, relying on Tanzania's trade corridor for their imports. Until recently, the government did not play a proactive role in maintaining low transmission in cross-border trade and resulted in border closures in Zambia, Mozambique and Kenya. However, as of recent, the Tanzanian and Kenyan government have come to a number of agreements; including issuing a 14-day COVID-19 free certificate, releasing public data on the status of COVID-19 without releasing the driver's nationality, and replacing driver crews who may be at high risk of COVID-19.

Within the East African community, Tanzania's total trade with other members in 2018 amounted to US\$ 811.3 million, with Kenya being the leading destination. However, with vast majority of countries having shut their borders, formal and informal cross-border traders (majority farmers) from Tanzania have seen their incomes drop dramatically. Going forward, it is in Tanzania's interest to contain the transmission of the virus along all its borders and coordinate closely with its partners, maintain diplomatic relationships, and ensure trade is not severely disrupted.

Wholesale and Retail Trade

20 percent of the countries Tanzania imports from have some sort of restriction placed, limiting essential supply for businesses to re-sell or use for manufacturing in Tanzania. This is especially true for pharmaceuticals and non-perishable goods that will be in high demand from panic buying should the situation escalate further. Government directives like the 30-day school suspension have cut off an essential market from a specific group of traders especially those dealing with school supplies. These businesses include suppliers of stationeries, uniforms, textbooks, street vendors, kiosks, and small restaurants that earn most of their income from sales made to students. Universities and schools has re-opened 1st of June and 29th June respectively, but probably business lives will not be the same as some adjustments may be required.

It should be noted that, the sector employs about 2,528,771 people in the labour force majority in the informal sector with a high proportion of women, has a share of 9.12% in contribution to GDP. The sector contributes about TZS 71.6 billion in domestic VAT revenue and TZS 6,776.8 billion in international trade taxes. Since the outbreak of the COVID-19 virus, the sector has been adversely affected through a number of global, regional, and domestic channels. It has been and still is continually stormed by astonishments caused by the outbreak. Tanzania's current state, much of the shock stems from international trade as global manufacturing has come to a standstill.

Likewise, the other challenge is difficulties in cross border trading which accounts for 60-percent of Tanzania's total export value. According to the rapid survey done by the UN-Women organization (2020), most businesses along the Tanzania-Congo, Tanzania-Kenya, Tanzania, Burundi and Tanzania-Rwanda borders had to close down because of strict restrictions along the borders. Women are the most affected as they constitute 70-percent of all cross-border traders. The sale of agricultural crops to foreign markets has been disrupted, affecting both small and large scale farmers that export. The sudden emergence of unsold crops within the domestic market will pressurize prices to a level that won't be profitable. Excess supply could lead to an increase in crop wastage as established markets have been disturbed.

Transport and Storage

The transportation and storage sector in Tanzania employ 521,698 people and contribute 6.48% and 3.2% of Tanzania Mainland and Zanzibar GDP respectively. It also generates substantial foreign income which is estimated at 14.56% of Tanzania Mainland total forex revenue. Road transportation is the most leading sub-sector, facilitating movements of people and goods within Tanzania and to bordering countries. Domestic aviation is in a recovery trajectory following a restoration of the national carrier; the Air Tanzania Corporation Limited (ATCL). Notwithstanding its nascent domestic aviation industry, Tanzania remains an important hub for international travels. Tanzania Mainland reported 5.7 million air travelers³, of which 2.7 million were passengers on international flights during fiscal year 2018/19. In Zanzibar, marine transportation plays a significant role transporting traders and tourists among the three cities of Zanzibar, Dar es Salaam and Tanga. According to the Zanzibar Socio-Economic Survey, there were 2,709,000 marine passengers in 2018 which translates into even more in year 2019 towards 2020.

Through Land Transport Regulatory Authority (LATRA), the government has ordered level sitting and provision of sanitizers or hand washing facilities⁴ by bus operators. Observed impacts within the public road transportation sector relate to the government's health and cautionary guidelines. These measures though commendable add extra costs to business and reduce income due to fewer passengers per route. In the case of inter-regional buses and trains, profitability declines due to lower business

volumes as more people avoid nonessential/urgent trips upcountry. On the consumer side, long waiting times, or resorting to costlier transport means such as tricycles (bajajis) and motorcycles (bodaboda). The poor are affected disproportionately because many reside far from the city centres. Also, as their compensation is often pegged on the number of deliverables or hours worked, long commutes are correlated with even lower incomes.

There has been a sharp decline in revenue in airlines. This is because, in the aviation sector, airports, airport cargo handling companies and related service providers as the number of passengers plunged following border entry restrictions and consequential flights suspension by most international airlines and measures by Tanzania Civil Aviation Authority (TCAA). Charter flights serving tourist spots such as Zanzibar and national parks in the Northern Circuit are the hardest hit mainly because of lack of international tourists and falling local demand. In December 2019 alone an estimated 12,998 tourists embarked on domestic airlines including charter flights to Zanzibar compared to none in April 2020 (GoT, 2020).

In marine transportation, countries all over the world responded by restricting transportation of both passengers and goods ships as a way of containing the spread of COVID-19. Consequently, Tanzania has witnessed a drastic reduction in the number of ships into the country. This initial analysis suggests that marine transport disruption will lead to reduced exported goods (from the manufacturing and agricultural sectors as well as imported goods and from the region through ports with the most impacted being Dar es Salaam ports and the associated logistics firms. Predicted impacts on the storage sector are linked to reduced traffic in cargo vessels. Given that domestic production is sustained, existing storage capacity may not be sufficient as exporters experience longer waiting times due to delayed take-offs from ports and airports impacting non-perishable agricultural products such as sisal, tea, cotton and coffee. Inventory backlog for non-agricultural products will likely be insignificant since exports are to SADC and EAC countries.

Tourism and Hospitality Industry

In the 2019 Financial Year, the total value of foreign exchange earnings generated from tourism amounted to USD 2.557bn¹. This is an indication that the tourism and hospitality industry is one of the major sources of employment, tax revenue, and foreign exchange earnings to the country. The earnings reported above represented 25.79% of all goods and service exports and 61.4% of service exports. In a budget speech made in 2017, it was estimated that the sectoral contribution of tourism to Tanzania's GDP stood at 17.5%². The sector is more important for Zanzibar as it accounts for about a third of its GDP, 80% of its revenue, and remains the biggest employer in the island. In this respect, the onset of COVID19 has substantially disrupted the growth and progress of a key contributor to the national economy. Among the first measures taken by most countries was to curtail movement of people from the COVID-19 countries as a measure to control the spread of the virus. Consequently, Tanzania also restricted arrivals from the affected countries, including Italy and China, both of which had in recent years been a major source of tourists. The TCAA restricted any international passenger flight from landing in Tanzania resulting in a reduced number of tourists. Although the government has recently allowed normal conducts of businesses, Universities and schools re-opening, however the rest of the world has not allowed free travel especially in the tourism sector.

The reduction in number of tourists suggests reduced hotel activities and shutting of most if not all tourist hotels, the majority of which are in Zanzibar and Arusha; decreased economic activities and fall in income due to the strong backward and forward economic linkages. Likewise, internal and regional

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transport business such as charter flights, food and beverages industry, culture and art, all of which have some implications to security of jobs, government tax revenue and household food security are negatively affected. Tourism has been a major source of foreign exchange earnings, which will also be severely affected as result of the sudden decline of tourist arrivals and low hotel occupancy rates. The reduced forex earnings and domestic tax revenue poses a risk to the ability of governments to provide basic social services to the people.

Finance and Insurance

The on-going challenges experienced in the aforementioned sectors have started to affect the finance and insurance sectors mostly through weakened liquidity positions, deterioration of credit quality thus high risk of non-performing loans emanating from challenges in sectors such as tourism and trade, large borrowers in transport and logistics, and general business slowdown as well closures. Three main groups of borrowers are affected namely, large corporate borrowers (manufacturers, transporters and traders, etc.), SMEs and micro credit clients. Large corporate borrowers whose business depend mainly on imported inputs will possibly suffer from lack of imports, thus shrink production and contract sales and thus experience challenges in loan repayment which add distress to commercial lenders in the medium to long term. The majority of the loans that go towards small borrowers often are backed by salaries and reduction in wages or termination of contracts will likely leave a number of banks exposed. The most at risk group, however, is the informal sectors (mostly women) that are heavily reliant on microfinance (SACCOs and microfinance banks). Because of the challenges faced by the informal sector operators as a result of aversive measures by the Government or individuals, repayments are likely to fall behind schedule leaving most microfinance institutions at risk in the medium and long terms. This is likely to increase the already very high cost of credit for a group that has no viable alternatives from microfinance.

In the equity market, the DSE with a total of 27 listed equity companies has already reported a dent in the equity segment in Q1, 2020 compared to Q4, 2019. DSE's total market capitalization declined by 15 percent as of 31st March 2020 compared to the previous quarter that ended 31st December 2019. The total market capitalization decreased by TZS 2,587 billion i.e. from TZS 17,906 billion on 31st December 2019 to TZS 14,510 billion as of 31st March 2020. This followed a significant decline in prices of all cross-listed companies. These are companies primarily listed in the Nairobi Securities Exchange, which are also cross listed at the DSE.

Poor and Vulnerable Sector

First, COVID 19 like any other crises is hugely resource demanding. One of the main preventative measures against COVID 19 is the use of running water or sanitizers both of which are costly and in most cases a luxury and as such most of the poor and most vulnerable will be without protection. Also, there are a huge number of people, mostly in rural areas without access to water which is key in the fight against COVID 19. Second, key sectors that employ the majority of the poor, the youth and people living with disabilities are and will continue to be severely impacted by the pandemic. Measures to curb human mobility and social distancing measures have disrupted livelihoods exposing the majority of the poor to acute financial shocks. Most of the poor and vulnerable that are self-employed in the informal sector have been affected by reduced demand for their products (less traffic, closure of schools and other measures) as a result of aversive actions against COVID-19. In the long term, most of the poor will be

impacted because of the difficulties related to the cost of inputs in the agriculture sector. In agriculture, COVID 19 has already brought about shortages of some agricultural inputs such as herbicides, pesticides and horticultural seeds thus increased the rise in the cost of inputs (fertilizer) whose impact will be felt even stronger in the next planting season. Similarly, women are hit harder by the economic impact of pandemics such as that COVID-19 is driving because most women work in low- paying, insecure and informal sectors. Tanzania's experience with COVID- 19 will is likely to yield a similar outcome as 51% of women work in the informal sector employed or running micro and small enterprises. Main attributes of this sector include daily wages, limited social protection measures and savings, reliance on entrepreneurs (owner cum operator) which cumulatively make women vulnerable particularly at times like these. The situation is exacerbated by restrictions on movement and lowered consumer demand in export markets, reduced cross border trade and total halt in the tourism sector.

CONCLUSION

The analysis indicates that COVID-19 will have a considerable devastating impact on the economy, affecting incomes of enterprises and individuals; and ultimately government revenue collections and its ability to provide social and economic services. The already emerging devastating impact will be even more exacerbating on women and youth in poverty and vulnerability such as those in the informal sector, rural communities, people living with disabilities and marginalized urban dwellers. The aversion measures being undertaken coupled with the regional/neighbour countries measures and the global recession consequences are all adding to the already depressed situation on the ground domestically. Such hard times require some hard decisions to mitigate the economic impact of COVID-19 on enterprises to prevent total collapse of firms and alleviate the pain being suffered by the vulnerable segments in the country. The measures, will include, but not limited to redirecting trading to win more accessible markets within the East African Community (EAC), Southern African Development Community (SADC), especially for agricultural exports, supporting the private sector to invest in local manufacturing, agriculture and food systems, rescuing fragile businesses providing essential services and supporting the most vulnerable segments of the society to sail through the difficult phase before economic recovery.

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Chapter 7

Promotion of Digital Entrepreneurship for Youth Employability in the Post Covid-19 Era

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ABSTRACT

The persistently high youth unemployment rate has long been one of the most pressing socio-economic problems in South Africa. This calls for a mix of innovative, creativity, digital skills, and entrepreneurial spirit to create job opportunities and prepare the youth for the digital economy. Digital entrepreneurship is perceived as a key pillar for job creation and economic growth. The purpose of this chapter was to investigate the role of digital entrepreneurship development in promoting youth employment through the application of novel digital technologies and the innovative application of such technologies. Barriers to effective digital entrepreneurship development were identified and among others include inadequate funding, lack of infrastructure and resources, lack of digital and entrepreneurial skills, poor collaboration between stakeholders, lack of awareness in digital entrepreneurship opportunities, and lack of appropriate mentors and role models. The chapter proposed a roadmap for promoting digital entrepreneurship development among youth in South Africa.

INTRODUCTION

The COVID-19 crisis has resulted in economic shutdown, leaving millions of people out of work, with young people, women and less-skilled people worst affected. Global youth unemployment rate is three times higher than for adults, and the global recession is thus expected to result in the loss of twenty five million jobs, with these young people be the hardest hit by the recession (Organization for Economic Cooperation and Development)(OECD, 2018). Kasid (2020) reported that during 2008 economic crisis, one in ten jobs in Europe held by workers under 30 were lost while half of working young people lost their

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jobs between 2008 and 2014 in Spain, Greece and Ireland. Despite economic recovery, youth unemployment rate stagnated since 2010 and never recovered to pre-2008 economic crisis levels (OECD, 2018). South Africa's youth unemployment rate is among the highest in the world and it has increased from 38.9% at the end of 2018 to 40.1% at the end of 2019 (Statistics SA, 2020). This is further compounded by a 16% decline in entrepreneurial skills among youth (Global Entrepreneurship Monitor, 2019). As stated by Kasid (2020) one in five young people were Not in Employment Education or Training (NEET) pre COVID-19, and two-thirds of them were young women. Young black women are most vulnerable to underemployment due to lack of access to networks, limited social capital and resources to further their studies or develop their skills (Baldry, 2015). These young women that make up over half of the youth unemployed will therefore find it harder than ever to close the gender gap in post COVID-19.

The reality of a stagnant economy and dwindling job opportunities as a result of COVID-19 crisis thus calls for a need to find new ways to create youth self-employment. This crisis is thus forcing economies and companies to speed up digitalization and combat youth unemployment through the promotion of digital entrepreneurship development. Dy, Martin and Marlow (2018) pointed out that understanding digital entrepreneurship as a way to create jobs and careers not only assist in understanding the thinking patterns of youth but also helps better comprehend the current and future global labour market trends and dynamics. Digitalization may be considered as one of the coupling mechanisms between different dimensions of the socio-economic system (technological, social, economic and ecological) (Satakina & Steiner, 2020). Hamilton and De Klerk (2016) concur that a solution-oriented approach to combating youth unemployment requires that the country pay more attention to entrepreneurship as an alternative to formal employment specifically digital entrepreneurship and the monetizing of social media in the wake of the Fourth Industrial Revolution.

Digital entrepreneurship can be defined as entrepreneurial opportunities being created and pursued through the use of digital platforms and other information communicating equipment (Giones & Brem, 2017). It is a business activity which takes place primarily online or on a digital medium, and this form of business allows companies or individuals to expand their target market, reaching more people than the traditional storefront (Dy, Martin & Marlow, 2018). On the other hand, entrepreneurship, can be described as self-employment (Gohman, 2012). In this regard, digital entrepreneurship can be described as a sub-category of entrepreneurship that includes enterprises that are actively employing and creating new novel technologies, as well as enterprises undergoing digital transformation through the adoption of digital technologies (Hansen, 2019). Novel technologies such as mobile and social solutions, cloud computing, data analytics as well as digitization of manufacturing offer a new range of opportunities for business services in the digital economy (Bogdanowicz, 2015). The entrepreneurs involved in the digital entrepreneurship are then described as digital entrepreneurs while ventures or firms which provide economic and social value for their communities are referred to as digital enterprises (Zhao & Collier, 2016). In embracing digital technologies, digital entrepreneurs are realizing the potential of digital devices and systems, such as the smartphone, the internet, social media and cloud computing in exposing new markets and opportunities, resulting in the growth of new digital enterprises (Hansen, 2019). The greater use of advanced digital technologies by youth and Small Medium Enterprises (SMEs) can boost both economic growth and employment (European Commission, 2015). The country thus need to promote digital entrepreneurship to prepare youth in post COVID-19 era by equipping them with innovative and creativity skills in this digital economy, through using various digital technologies.

This chapter aims primarily to discuss how the current economic crisis caused by COVID-19 could be addressed through the promotion of digital entrepreneurship development so that the digital era becomes a source of business opportunities to youth. Consequently, the objectives of this chapter were to:

- Investigate the promotion of digital entrepreneurship development in South Africa;
- Establish the barriers to digital entrepreneurial opportunities;
- Determine the factors enabling digital entrepreneurship development;
- Determine the role of creativity and innovation as major drivers of digital entrepreneurship development;
- Determine the role of universities, government and industries in promoting digital entrepreneurship; and
- Propose a roadmap for digital entrepreneurship development.

BACKGROUND

The persistently high youth unemployment rate, poverty and low economic growth has been one of the most pressing socio-economic problems faced by the developing countries such as South Africa, pre COVID-19 crisis. COVID-19 crisis creates and exacerbates the issue of a rapidly growing unemployed youth globally. South Africa, reported an unemployment rate of 30.1%, unlike other BRICS nations (Brazil, Russia, India and China) (Statistics SA, 2019). The weak economic situation pre pandemic crisis is expected to deteriorate further in many countries, leaving tens of thousands of young people as NEETs in the short term (Kasid, 2020). The OECD(2020) estimates that the high number of Youth NEETs results in economic losses of USD 360 to 605 billion per year in developing countries, which is equivalent to 0.9% to 1.5% of Gross Domestic Product. These challenges necessitate not only the establishment of new business ventures but also the need to provide support to existing SMEs to ensure that they remain important contributors to the development of economies and continue to provide jobs and improve citizens' livelihoods, thereby reducing poverty levels (Ahl, 2006). Digital entrepreneurship could be one of the most effective means to mitigate youth unemployment in post COVID-19 and digital era. Digital entrepreneurship can be defined as creating new ventures and transforming existing businesses by developing novel digital technologies and novel usage of such technologies (Nambisan & Baron, 2013). The advancement of technology has opened up an opportunity for many people to acquire new skills and thrive in a new labour market, dominated by a typical work including digital entrepreneurs. New ventures have been believed as a pathway for increasing employment, especially for youth suffering from a disproportionate lack of job opportunities (Autio, et al., 2014), while the start-ups, considered as innovation-based new ventures have been spurred by the ambition of accelerating the adoption and diffusion of digital technologies. The adoption of digital technologies are therefore shifting the traditional way of creating and doing business, determining the emergence of a new specific type of entrepreneurship referred to as the digital entrepreneurship (Nambisan, 2017). As traditional jobs continue to be undermined by digital technologies, it is imperative that digital entrepreneurship among youth be encouraged more aggressively as a viable alternative to generate employment in the digital economy. To speed up the realization of digital entrepreneurship potential, the country thus need to develop and support young digital entrepreneurs, while also providing innovative and creativity stimulus for economic growth.

PROMOTION OF DIGITAL ENTREPRENEURSHIP AS AN ALTERNATIVE FOR YOUTH EMPLOYMENT

South Africa's unemployment rate is among the highest in the world with the youth being the most affected by joblessness, and accounted for 63, 3% of the total number of unemployed persons. Digital entrepreneurship has been regarded as an alternative to generate youth employment and it makes it easy and more affordable to start and maintain a business because of the technological resources available online such as social media marketing, the availability of big data and crowd funding platforms (Sahut, Landoli & Teulon, 2019). Digital entrepreneurship is basically the adoption of digital technologies and the creation of digital businesses by existing entrepreneurs. It may provide youth in the digital world a flexible space within which to not only display their creativity but also to make an income. For some youth around the world, self-employment provides income, self-reliance and a dynamic path for growth and the development of human capital (Schoof & Semlali, 2008). Digital entrepreneurs have a reliance on digital media tools and Information Technologies (IT) in the pursuit of entrepreneurial prospects, and are offered significant opportunity through the use of digital networking capabilities (Giones & Brem, 2017). Young entrepreneurs could be more likely to benefit from digital technologies for business creation and growth, including the wider access to external markets offered by the internet (OECD, 2019). For example, digital entrepreneurs, specifically influencers, are using their social media pages to generate income by monetizing their content. Dy, Martin and Marlow (2018) identified the benefits of digital entrepreneurship including improved access to market research, business data and networks, wider reach and lower cost of client-facing operational functions (i.e. advertising, communications and distribution), lower cost of internal operational functions, improved customer relations through social media, improved access to existing sales channels, creation of new sales channels, new digital platforms development, existing platform transformation and creation of economies of scale. Although digital transformation offers many opportunities for the firms including the self-employed, European Commission (2014) reported that only about 2% of youth are taking full advantage of the digital economy. As indicated by OECD (2019) in international survey, youth and women are greatly under-represented among digital entrepreneurs and it is estimated that women and youth accounted for only 15.6% of digital start-ups, in 2018. There is also a large gap in adoption rates of digital technologies between small and large firms (OECD, 2019). These gaps are due to many factors, including a lack of mentors and role models, lack of funding or access to finance, lack of digital and entrepreneurship skills and ineffective entrepreneurship networks. One of the drawback identified in the literature is the limited mention of this concept and policy measures which could assist young people in becoming digital entrepreneurs.

Tailored policy actions are also needed to address obstacles to the development of digital entrepreneurship and to support digital entrepreneurs, particularly youth and women (OECD, 2019). There is a need to actively encourage innovation, creativity and exploration in education since institutionalized thinking in current education system hinders new teaching methods which are critical in imparting digital skills and the ability to learn these skills (Manyuon, 2019). Current initiatives should focus on fostering innovative, creativity, digital and entrepreneurship skills, improving access to resources and facilitating access to finance for youth. In order to promote an enabling environment for youth employment and entrepreneurship in the digital economy, a comprehensive national digital skill strategy and policy need to be developed and implemented and be shared at the national level (Manyuon, 2019). Smallbone (2016) concur that whilst entrepreneurship results from the creativity, drive and skills of individuals,

the actions of government and its policies are a key influence on the external environment in which entrepreneurship takes place.

DIGITAL MARKETING STRATEGIES AND DIGITAL ENTREPRENEURSHIP

Digital marketing is the use of technologies to help marketing activities in order to improve customer knowledge by matching their needs (Chaffey, 2013). In the developed world, companies have realized the importance of digital marketing.

Digital technologies such as social media, mobile computing, data analytics, 3d printing, and clouding computing lead to a remodeling of productive patterns originating new market opportunities, higher revenue streams, faster time-to-market, enhance service provision and increase productivity (European Commission, 2015). All these technologies are shifting the traditional way of creating and doing business, determining the emergence of a new specific type of entrepreneurship called the digital entrepreneurship (Nambisan, 2017). Digital entrepreneurship is starting and managing business on digital platforms, including but not limited to selling products and rendering services (McAdam, Crowley & Harrison, 2020). It is a way of creating new ventures and transforming existing businesses by developing novel digital technologies or novel usage of such technologies. The examples of this type of businesses are the digital marketing platforms such as Airbnb, Facebook, Uber, Alibaba, Amazon and Netflix. Some other recognizable digital ventures include social media platforms like YouTube, Instagram and most recently TikTok.

The marketing has become increasingly digital and present marketers with new challenges and opportunities. In the developed world such as Europe, China, Germany etc. companies have realized the importance of digital marketing. Digital marketing is the use of digital technologies to help marketing activities in order to improve customer knowledge by matching their needs (Chaffey, 2013). It is about connecting and linking a brand to target audiences at the right place and at the right time. It is focused on how a company and its brands use the web and other digital media such as e-mail and mobile media to interact with its audiences in order to meet its marketing goals. With digital marketing, a marketer or company can reach its target audience with wider reach and better service assurance. Sharma and Verma (2018) asserted that social media allows for unprecedented opportunities to engage with consumers which gives brands direct insight into ever changing consumer attitudes. The growing usage and prominence of the internet and social media are all advantageous for youth who find themselves in precarious employment positions (McAdam, Crowley & Harrison, 2020).

Digital entrepreneur can benefit from using social media as social media influencer or digital influencer. Social media influencer has the ability to influence the buying patterns and decisions for certain products and services of their peers. Social media influencer appeals mostly to youth, a group born in the information age, who spend a considerable amount of time on the internet and social media and whose behavior is influenced by what takes place on sites such as YouTube, Facebook, Twitter and Instagram (Duffet, Edu & Negricea, 2019). Digital influencers can have a blog or YouTube channel about makeup for example, and create partnerships with brands that have an interest in reaching the audience. Businesses also use influencers to promote their products and services and are paid according to the range of their influence (Duffet & Wakeham, 2016). Facebook has also opened new marketing opportunities in the online market (Rohm & Hanna, 2011). The survey conducted by Duffet and Wakeham (2016) found that in South Africa, youth's buying habits were influenced by advertisements seen on especially Face-

book with 61% of these young generation log in to social media sites at least once a day. South Africa also has the highest tweet rate in Africa and is in the top 10 countries (United States, United Kingdom, Canada, Brazil, Australia, Germany, Netherlands, France, India and South Africa) with the most Twitter users in the world (Lipman, 2014). Content creation and blogging have also become a creative and innovative use of technology around the world (Clemons, 2009), and this refers mainly to bloggers and vloggers in diverse industries who are using their social media pages on Facebook, Twitter, Instagram and YouTube propelled by their popularity to promote brands in exchange for money. Some content creators have taken these opportunities and become digital entrepreneurs, starting their own online businesses (Clemons, 2009). Duffet and Wakeham (2016) also identified other kinds of social media networks that satisfy several needs including LinkedIn, (professional and job seeking sites), Second Life, Fortnite and Minecraft (for gaming and entertainment) and Trip Advisor (information sharing sites). Deal-makers play another key role in promoting digital entrepreneurship. Feldman and Zoller (2012) describe deal makers as individuals with valuable social capital, who have deep fiduciary ties within regional economies and act in the role of mediating relationships, making connections and facilitating new firm formation. Deal makers can be entrepreneurs, investors or service providers who are well-connected, qualified and experienced who informally or with a fidelity role offer support to young firms and startups, helping them to develop their potential (Napier & Hansen, 2011), while also support information sharing process.

DIGITAL ENTREPRENEURSHIP DEVELOPMENT IN SOUTH AFRICA

Digital entrepreneurship is globally acknowledged as an important source of employment and stimulating economic growth in most countries. It embraces all new ventures and the transformation of existing businesses that drive economic and social value by creating and using novel digital technologies (European Commission, 2015). Yoo et al. (2012) and Nambisan (2017) noted that the infusion of new digital technologies transforms the nature of uncertainty inherent in innovation and entrepreneurship in terms of both processes and outcomes thereby encouraging a radical rethink of how individuals, organizations and collectives may pursue creative endeavors. Social media platform has also made room for new jobs and business opportunities to emerge. However, South Africa has consistently ranked very poorly in the Global Entrepreneurship Monitor survey in terms of entrepreneurial activities (GEM, 2015), and it is clear that the country is not producing a sufficiently entrepreneurial economy. These need to be addressed so as to create employment, expand markets, increase production and revitalize communities. With today's economic globalization alongside the booming digital age, the country need to encourage and support unemployed youths and graduates to develop digital entrepreneurial spirit.

Initiatives to Promote Digital Entrepreneurship Development

A comprehensive strategy for youth employment as part of a broader focus on expanding employment is necessary. Digital entrepreneurship has been acknowledge as one of the strategies and as a significant source of income to most nations as it provides job opportunities, wealth and societal well-being to the nations. Government and universities across the world play an important role in providing young people with innovative, creativity, digital skills and to uncover entrepreneurial qualities. South Africa as a developing nation has also explored and formulated structures and strategies to promote technology-based SMEs growth and to offer a promising future in the digital economy. The South African Institute

for Entrepreneurship (SAIE) (1996) was developed to address poverty and unemployment through entrepreneurially focused initiatives. The institute was born out of the Triple Trust Organization (TTO) in recognition of the critical need for easily accessible business literacy training materials for both the small enterprise sector and for schools (TTO, 1996). The SAIE promotes a positive mindset in youth and adults, and assist in the creation of effective entrepreneurs and enterprises. The institute trains educators, youth and community-based organizations to convey business skills, uncover entrepreneurship qualities and ensure sustainable economic development and wealth creation (SAIE, 1996).

Entrepreneurship Development Programme (EDP) was another initiative aimed at creating a conducive environment for young entrepreneurs to acquire relevant entrepreneurship skills, knowledge, values and attitudes for their businesses. The Youth Empowerment Project (YEP) was also developed with the aim of promoting entrepreneurship in selected townships of South Africa's Western Cape and its activities include research, training and mentoring to prepare young people in the business world, by equipping them with the character traits, life skills, basic business skills and continued mentoring while maintaining small businesses (YEP, 2011). Young Entrepreneur South Africa (YESA) is the movement established for the sole purpose of creating an entrepreneurship eco-system in South Africa. Seda business talk programme was also initiated, aimed at advising youth on how to start a business, how to test if their ideas can work, where else they can get help about starting their business and training on business incubation.

Sable network is a trusted knowledge network providing mentoring and consulting services to the companies, young entrepreneurs and institutions seeking to fund or commercialize innovation and partner in worldwide markets. This network connects entrepreneurial organizations with highly qualified and experts that can assist at any stage, from launch to exit and become a consultant, gain insights and inspirations from innovators and mentors on their advancements and achievements, and discover new programs and activities through SABLE blog. African Leadership Network (ALN), is another initiative currently working with eight companies across six countries, connecting them to business leaders and other influencers who can support their growth with mentorship, leads and investment. Umbono is another technology accelerator program developed by Google in conjunction with South African business incubators that provides seed funding, networking, workspace and visibility to investors for businesses preparing to bring their product to market. The Small Enterprise Finance Agency (SEFA) was also formed from a number of funds and is orientated around providing funding for small and medium enterprises across South Africa. InfoDev (1995) is a World Bank Group multi-donor program that supports entrepreneurs in developing economies and it was founded as an ICT for development research. InfoDev oversee a global network of business incubators and innovation hubs for climate technology, agribusiness and digital entrepreneurs while also publishing educational resources on topics like crowd funding, angel investing and business incubator management. It connects entrepreneurs with the knowledge, funding and markets they need to grow their businesses through climate innovation centers, Mobile Application Labs (mLabs) and Agribusiness Entrepreneurship Centers.

Although these initiatives have been marked by some successes, there is still a need for more initiatives to service the much needed entrepreneurs in the country, specifically digital entrepreneurs and technology entrepreneurs. This necessitated the need for universities, government and industries to further explore other alternatives avenues of promoting and developing more young entrepreneurs in South Africa. However, a number of enabling factors need to be considered for a successful digital entrepreneurship and both organizations as well as individuals can consider creating new business ventures or transform existing enterprises by creating or making use of innovative technologies.

BARRIERS TO DIGITAL ENTREPRENEURIAL OPPORTUNITIES

Young entrepreneurs in developing countries face many challenges in their journey to launch their SMEs, and yet when they succeed can act as powerful agents of change, reducing inefficiencies, creating jobs and boosting economic development. One of the pivotal issues in South African government, industries and universities is a lack of a culture of promoting and supporting the development of digital entrepreneurship. There are still number of hurdles that keep youth from fully embracing the digital evolution. Ghaz (2011) observed that awareness amongst these ‘young bloods’ with regards to assisting channels remained low. Rendova, Barry and Ketchen (2009) identified number of barriers that prevent this pursuit of entrepreneurial opportunities including excessive amounts of data which cannot be properly processed, lack of proper budget for new technologies, a distinct lack of training on business knowledge and lack of digital skills, disproportionate competition and competitor-drenched markets as well as a lack of investor interest or inability to attain capital. Weak marketing channels and limited capital are also identified as one of the major obstacles faced by young entrepreneurs. Other noteworthy setback includes a poor understanding of how to run a business including social, cultural, economic, and legal risks and requirements. Extant literature has also reported how dilapidated infrastructure, red tape and the absence of training opportunities affected the growth of SMEs (Asah, Louw, & Williams, 2020; Asitik, Sharpley, & Phelan, 2016). Young people with ground breaking ideas thus thumb suck because of red tapes and complicated procedures that they have to go through before receiving assistance from the few organizations that may be of assistance to them. Graham and Mlatsheni (2015) identified lack of skills as one of the causes of high unemployment rates among the youth as their older counterparts in the market have more skills and work experience increasing their employability over youths. Cost to start-up and the inability to keep up with disruption factors and also need to be addressed when considering digital entrepreneurship, owing to the fact that digital entrepreneurship is fundamentally based on digital enablement (Dy, Martin & Marlow, 2018). Some of the factors inhibiting youth to become an entrepreneur given the structural constraints include limited access to education and training as well as monetary and social capital which challenges the notion of determinism put forward by structuralists (Lee & Jones, 2014). Some of the barriers inhibiting youth entry into entrepreneurship that need to be addressed and overcome are discussed as follows:

• Development of Policy Framework

Some of the challenges South Africa is faced with require multi-pronged efforts that simultaneously promote the development of sustainable livelihoods, create jobs, reduce poverty and prioritize the development of policies to create an enabling environment for young digital entrepreneurs. The country must therefore create the environment favorable for young people to explore their concepts. Lockett and Brown (2006) noted that for initiatives to work effectively, support mechanisms informing which systems enterprises can or should adapt, supplemented by research on business adoption, is necessary if policies are to be successful. Global economic restructuring and the adoption of neo-liberal policies in the developing world has however, changed the world of work tremendously. The industrial policy measures have been developed at providing instruments increasing start-ups and the emergence of the self-employment by promoting entrepreneurial culture and stimulating the direct participation of citizens in entrepreneurial process (Thomas, Passaro & Quinto, 2019). Lockett and Brown (2006) explored policy initiatives implemented in the UK, where government sought to decrease the growing digital gap

between small and large firms aiming to increase the understanding of e-business adoption including complex applications.

However, there has been no comprehensive policy framework focusing on innovation and digital entrepreneurship in South Africa so far. Building stronger networks for entrepreneurs from under-represented and disadvantaged groups so that they can improve their access to business opportunities and funding can be complemented by policy actions aimed at improving connectivity, stimulating innovation and strengthening the regulatory environment. Existing regulations have largely been implemented for non-digital industries and may stifle digital entrepreneurship (OECD, 2019). Three key regulatory areas that affect digital entrepreneurship are product market regulations, competition policy and regulatory harmonization across jurisdictions (OECD, 2019). Since digital start-ups are very often international, regulations often vary across jurisdictions making it difficult for digital entrepreneurs to operate relatively seamlessly across jurisdictions. This is particularly important for entrepreneurs from disadvantaged groups who typically lack knowledge about the regulatory environment and have more difficulty accessing legal advice and support from the networks or professionals (European Commission, 2015).

• Lack of Awareness in Digital Entrepreneurship Opportunities

The majority of youth are unaware of some of the organizations and initiatives aimed at developing and supporting digital entrepreneurs. Therefore, aspiring youth wanting to start SMEs or their own businesses struggle to get accurate information, advice and direction. Government and universities thus need to provide more promotional campaigns and conduct more training and awareness programs or initiatives to promote the entrepreneurial activities across the nation and to induce the entrepreneurs to become digital entrepreneurs.

• Inadequate Infrastructure and Resources

There is less funding or lack of funding for developing and supporting young digital entrepreneurs. Although funding is available from institutions such as banks and public sources, however, the procedures for accessing such funding are often complex, lengthy and bureaucratic and not conducive to innovation and entrepreneurship. Most start-up and emerging digital entrepreneurs hit the administrative brick when they apply for funding or support. Infrastructure thus contribute drastically for young people to pilot their concepts as digital entrepreneurs, especially in rural areas (Iwu, 2018). Government, industries and universities must collaborate and improve their infrastructure that it enables young people to execute their ideas. Internet connection is also a challenge in most rural residential areas and it becomes a stumbling block for young digital entrepreneurs as it plays an important part in research and communication (Harper, et.al, 2008). In most cases, innovators and entrepreneurs must travel long distances at their own expense to receive mentorship or other support. Abetti (1992) proposed some key elements to help young entrepreneurs including sources of technical expertise, availability of human resources and a variety of financing sources. Given these challenges, the country need to create the environment favorable for young people to explore their ideas or concepts by providing strong education system, more training programs and technological infrastructure with free internet access.

• **Poor Collaboration Between Stakeholders**

Universities, government and industries have an imperative role to play in fostering, developing and providing continual support to digital entrepreneurship, especially in developing emerging young digital entrepreneurs. Although there is much potential to grow the current handful digital entrepreneurs in South Africa, however, support structures (universities, government and industries) for aspiring and emerging digital entrepreneurs is keen and as a result, more still needs to be done to support start-up digital entrepreneurs. As pointed out by Kumar (2017), embedding entrepreneurship in education and providing greater access are important steps for building an innovative culture and creating entrepreneurs. The formal education system has a strong role creating social attitudes that are supportive of entrepreneurship by increasing the understanding of the role of entrepreneurship in an economy, building entrepreneurial mindsets and start-up intentions, and developing entrepreneurship skills (European Commission, 2015). Digital entrepreneurship thus need to be introduced to the students at higher education institutions as are having the potential to produce cutting-edge innovative concepts. For example, the developing countries like Paris, Europe, Spain etc., are conducting diploma, degree and masters courses in digital entrepreneurship in Higher Education Institutions (HEIs). However, South African education system is not oriented towards innovation and digital entrepreneurship and this situation is worsened by the lack of infrastructure and resources in the educational institutions and delays or lack of funding in technology innovation projects.

• **Lack of Appropriate Mentors and Role Models**

One of the most valuable resources an emerging entrepreneur can obtain is the advice of an experienced business person. Mentors and coaches who have appropriate experience and have succeeded in their own right thus have a positive impact on developing young digital entrepreneurs. These mentors and role models must support and guide the current frustrated start-up young digital entrepreneurs. Mentor programs can also pair young entrepreneurs with business veterans and allow them to discover unexpected opportunities in different sectors. A lack of role models in digital entrepreneurship can have a negative influence on an individual's decision to start a digital business or adopt digital technologies, especially for those who are self-employed. This is also a strong barrier to young women as they are greatly under-represented in digital fields and as a result fewer women pursue digital entrepreneurship. Young women entrepreneurs are therefore deprived of being exposed to strong role models in digital entrepreneurship, which has a negative impact on how digital entrepreneurship is viewed. More business network programmes also need to be implemented to support young entrepreneurs and provides those with a bright idea and the determination to succeed, with a start-up loan and the services of a volunteer mentors.

• **Lack of Digital and Entrepreneurial Skills**

A lack of basic digital skills significantly hinders an individual's ability to be successful in digital businesses or adopting digital technologies if they are already self-employed (OECD, 2019). This also include the ability to identify technology-enabled business opportunities and exploit them (Van Welsum, 2016). Although the vast majority of youth use computers daily, about half of them lack basic digital skills. Thompson Jackson (2009) argued that young people that live in households with parents that have low levels of digital literacy are less likely to be able to maximize the use of technology. In addition, a

recent survey by the Prince's Trust in the United Kingdom suggests that about half of youth that are not in employment, education or training (NEET) do not consider themselves very good at using computers (Jones, Brinkley & Crowley, 2015). Moreover, about one-quarter of youth NEET lack confidence when undertaking basic tasks with a computer such as creating a spreadsheet (Jones, Brinkley & Crowley, 2015).

A lack of basic digital skills greatly diminish the chances of launching a sustainable digital business. The marketing has also becomes increasingly digital and continuous technological developments present marketers with new challenges and opportunities. New knowledge, skills and approaches are required by today and future marketers not only for understanding the changing and technology enabled marketing environment but also for comprehending and communicating with customers. One of the challenges to building digital skills among youth is modernizing education and training systems to ensure that teachers are equipped with the skills and resources to teach basic and advanced digital skills to students (Thompson Jackson, 2009).

Most of the young digital entrepreneurs thus acknowledge technology as a basis for starting their business, however, they are hesitant to take on innovative ideas because of lack of innovative, entrepreneurial and technical skills. As a result, the potentially higher returns from digital entrepreneurship take time to realize because not enough entrepreneurs have required skills. Given these challenges, the country need to create the environment favorable for young people to explore their ideas or concepts by providing strong education system, more initiatives and training programs. Future innovators and entrepreneurs will require range of skills such as technical skills, thinking and creativity skills, as well as social skills to be able to meet the demands of the changing economy (OECD, 2016). Pascarella and Terenzini (2005) identified the following overlapping sets of skills referred to as the 21st century skills:

- Technical skills including disciplinary know-what and know-how;
- Thinking and creativity skills such as curiosity, critical thinking, problem solving and making connections; and
- Social and behavioral skills such as interest, engagement, self-directed learning, self-confidence, organization, communication (cross-cultural), collaboration, teamwork and leadership.

FACTORS ENABLING DIGITAL ENTREPRENEURSHIP DEVELOPMENT

Gnyawali and Fogel (1994) described the entrepreneurial environment as a combination of factors that play a role in the development of entrepreneurship, including the overall economic, socio-cultural and political factors that influence people's willingness and ability to undertake entrepreneurial activities. This chapter found it appropriate to investigate the enabling factors in order to develop a roadmap for digital entrepreneurship. Thomas, Passaro and Quinto (2019) identified factors enabling digital entrepreneurship such as implementation of policies and strategies, adequate resources and technological infrastructure, establishing strong collaboration and partnership between stakeholders (government-industry-academia), creating conducive environment with proper resources (free internet access, access to financial resources and proper infrastructure) to enable young people to execute ideas and encourage problem-based learning, talent pool, technical skills, creativity and innovative skills as well as mentorship, coaching and training emerging young digital entrepreneurship. European Commission (2015) also identified the creation of specific digital knowledge base and digital markets, the creation of digital

Promotion of Digital Entrepreneurship for Youth Employability in the Post Covid-19 Era

business environments, an easier access to finance facilitations, the diffusion of digital skills, the creation of e-leadership and the creation of entrepreneurial culture, as enabling factors.

Some of the required skills and competencies for a successful digital entrepreneurship, include hard skills, the ability to use computer programs and packages, use of specific machines and tools for production such as social, mobile, analytics, cloud, artificial intelligence, robotics, Internet of Things and cyber security (Thomas, Passaro & Quinto, 2019). While soft skills linked to relationships and behaviors of people enabling the effective use of new digital tools such as problem solving, knowledge networking, the new media literacy, etc. (Thomas, Passaro & Quinto, 2019). Schumpeter (1939) also identified important effects of non-economic factors within the innovation system, such as personal motivation, cultural and historical factors. Schwarzkopf (2016) and Kumar (2017) further identified the factors that contribute to developing young entrepreneurs, namely: commitment, determination, leadership, opportunity obsession, tolerance of risk, ambiguity and uncertainty, creativity, self-reliance and ability to adapt and motivation to excel. The following are some of the factors that contribute to the successful development of digital entrepreneurship, as summarized by (OECD) (2019):

- ***Building more inclusive culture towards digital start-up*** - this include entrepreneurship modules in science-based programmes in higher education to increase awareness about the potential of entrepreneurship for the youth; designing tailored digital entrepreneurship schemes for women, youth and immigrants so that they convert participants into role models and ambassadors after successful completion of the initiative
- ***Supporting the development of digital entrepreneurship skills*** - this entails embedding digital entrepreneurship modules in entrepreneurship education to help youth develop digital and entrepreneurship skills in parallel and this would also require developing teaching materials and training teachers on the digital economy, offering digital entrepreneurship training programmes for women, youth and immigrants, covering the identification of opportunities in the digital economy, effective use of social media, reaching international markets and understanding regulatory differences across jurisdictions and ensuring that training initiatives include opportunities to build networks and gain access to business development service providers.
- ***Improving access to resources for the creation of digital businesses*** - this include clear targets for different population groups in national digital plans and strategies to ensure that internet accessibility does not exclude people from digital entrepreneurship and ensure that digital entrepreneurship schemes increase awareness about digital entrepreneurship and digital business networks and their benefits.
- ***Improving access to finance for digital entrepreneurship*** - this include supporting and promoting crowd funding platforms to improve access to start-up financing for digital entrepreneurs, particularly women and youth, using award programmes to provide small grants and visibility digital entrepreneurs from under-represented and disadvantaged groups and using the application and selection process to provide workshops on key topics, for example, pitching business ideas and identifying opportunities as well as coaching.

CREATIVITY AND INNOVATION AS MAJOR DRIVERS OF DIGITAL ENTREPRENEURSHIP

Okpara (2007) described entrepreneurship as innovative, creative, flexible, dynamic and prone to take risks, and argued that the organization that is not creative and innovative cannot survive in the market place. Digital entrepreneurship as a process and as an outcome is a mechanism within the innovation system that is related to the formation of new ventures or the transformation of existing businesses, with novel ways of value creation (Vendrell-Herrero, 2017). One of the first steps in developing digital entrepreneurship is therefore unleashing young people's creativity and innovation skills through formal and non-formal learning. OECD (2016) described creativity and innovation as skills that an entrepreneur should have to be effective. Over the last decades, creativity and innovation have become critical skills for achieving success for developing countries and they can help young people from disadvantaged backgrounds to become resources in co-creating solutions that can benefit the society. Creativity and innovation have therefore been identified as some of the major drivers of digital entrepreneurship process. Okpara (2007) define creativity as the ability of creating new ideas and innovative thought whereas innovation is the application of new ideas and believes that innovation can be a new product, new service or a new way of doing something. Creativity can be expressed as the intersection between three separate components, namely domain-relevant skills, creativity relevant skills and intrinsic task motivation (Amabile, 1998). Rogers (2003) describe creativity as a process involving the generation of new ideas or new associations of the creative mind between existing ideas while an innovation is an idea, practice or object that is perceived as new by a unit of adoption and carried out into practice. The intellectual skills required for creativity include: a synthetic skill to see problems in a new way and to escape the bounds of conventional thinking; an analytical skill to recognize which of one's ideas is worth pursuing and practical-contextual skill of how to persuade others of the value of one's ideas (Sternberg, 2010). On the other hand, Amabile (1998) mentioned the domain relevant skills including factual knowledge and expertise, technical skills, special talent, self-motivation, enthusiastic, self-driven and commitment while creativity relevant skills include cognitive abilities, risk orientation, diverse experience and social skills. Innovation is the implementation of a new or significantly improved product (good or service) or a process, a new marketing method or a new organizational method (OECD, 2016).

Innovation and consequently, the innovation system may be considered a meta-system in which entrepreneurial activities become the driving force for the utilization of digital opportunities (Satalkina & Steiner, 2020). It is considered as a new combination of factors that determines creative destruction and relates to five core spheres, namely products, methods of production, markets, sources of raw materials and industry structure (Schumpeter, 1939). The key role of entrepreneurs lies in undertaking Schumpeter's "new factor combinations, commercializing ideas and inventions and creating new opportunities for investments and employment, enhancing, ultimately, economic competitiveness and change (Schumpeter, 1939). Drucker (1985) further argued that innovation is the tool of entrepreneurship and that both innovation and entrepreneurship demand creativity. Fostering creativity and innovation skills among youth can therefore play a crucial role in developing young digital entrepreneurs.

ROLE OF UNIVERSITIES, GOVERNMENT AND INDUSTRIES IN PROMOTING DIGITAL ENTREPRENEURSHIP

The high rate of unemployment thus calls for government to work collaboratively with universities and industries to establish centers that will fuel the process of supporting young digital entrepreneurs. The success of developing young digital entrepreneurs is based on collaboration between university, government and industry structure which concentrated on creating and sustaining the necessary support structures to foster youth entrepreneurial activities through various initiatives. Governments around the world are constantly implementing new ways and methods to increase the number of young digital entrepreneurs. In Korea and China, entrepreneurial activity is also enhanced by the emergence of science parks and incubators, which mostly linked to universities (Lalkaka, 2002). Chinese incubators had helped bridge the gap between government research and the marketplace and had fostered entrepreneurial attitudes. The China Communist Party (CCP) also launched an ‘Internet Plus’ action plan as part of the 5YP aimed at stimulating the entrepreneurial environment in China, providing motivations for digital start-ups by building a government supported entrepreneurial culture (Zhang, 2016).

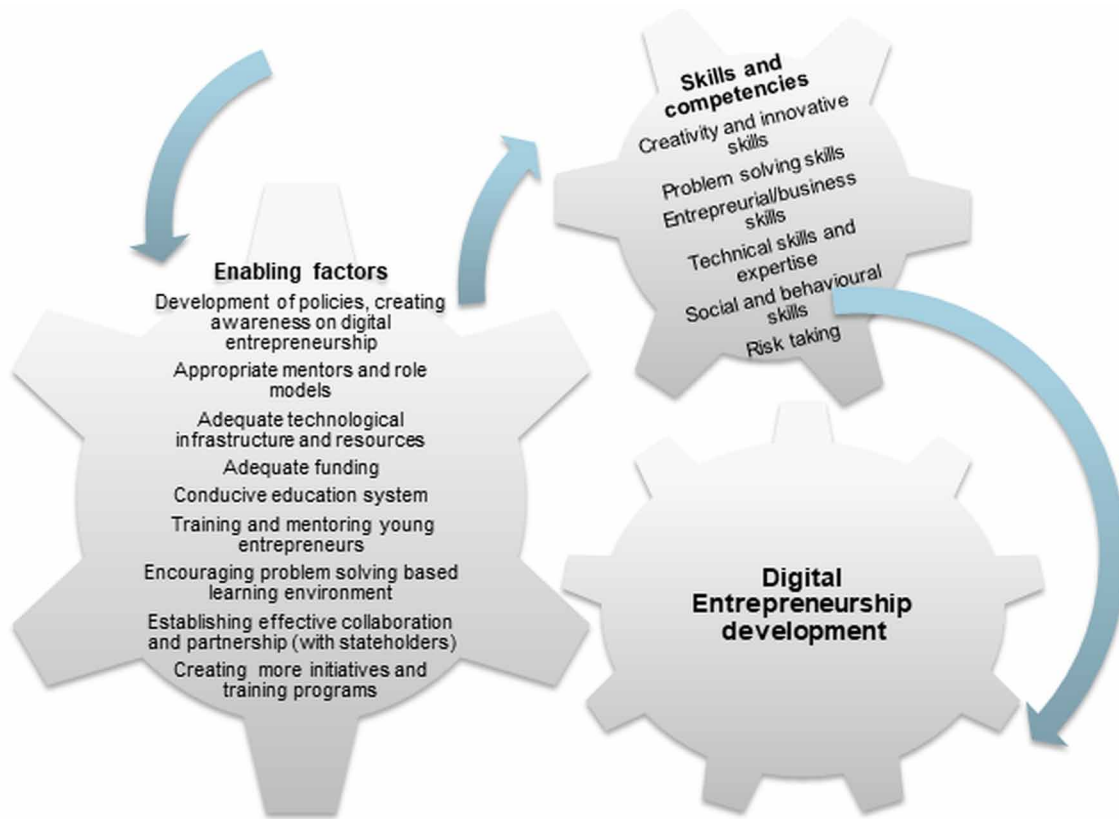
A study conducted by Colombo and Delmastro (2002) shows that Italian parks managed to attract entrepreneurs with better human capita and entrepreneurs who undergone incubation programs performed better in terms of adoption of advanced technologies and establishment of collaborative arrangements with universities. As noted by Rothschild and Darr, (2003), in Israel, an innovation-based nation was created through the relationship between incubators and affiliated research institutions and this relationship has created synergy towards the success of entrepreneurial activity. Government in Singapore has also created favorable conditions to help young entrepreneurs to blossom by providing strong education system, infrastructure and free internet access (Burnett, 2000).

Malaysia has also shown progress in entrepreneurship by having technology parks, multimedia super corridor and incubators to nurture start-ups companies (Khalid, Gilbert & Huq, 2014). It is evident from these initiatives that the success of developing and supporting emerging and aspiring digital entrepreneurship fully depends on government-academia and industry to provide opportunities. Interestingly, the South African government has created a new department for small business development that caters to their needs, including incubation hubs, networks, capital and other forms of business support. It is hoped that this department creates the enabling business environment for youth and SME sustainability and growth as well as mutually beneficial public-private partnerships. However, more is still need to be done and it is thus important that universities in South Africa work hand-in-hand with government, industries and agencies the focus on innovation, technology and entrepreneurship. The Department of Higher Education Technology must also re-engineer the current technology and entrepreneur module curricular to be relevant to the current digital economy, and include problem solving questions to enable young people from higher education to think and apply their minds and to explore some of their own innovative concepts. It is also important to establish steady and effective connections among all other involved actors and networking linkages, with the purpose of building “bridges” between different actors through the creation of communities of best practices or entrepreneurial networks (Mason & Brown, 2014). There is also the necessity to plan initiatives acting on the cultural pattern of the territory, stimulating universities and school to focus on entrepreneurial education and promoting events which celebrate local entrepreneurship and innovation (Thomas, Passaro & Quinto, 2019).

PROPOSED ROADMAP TO DEVELOP DIGITAL ENTREPRENEURSHIP

The roadmap for successful digital entrepreneurship development was developed after investigating the needs and requirements as well as analysing the required competencies and enabling factors. Figure 1 provides a roadmap that could be used to enhance digital entrepreneurship development.

Figure 1. Proposed roadmap for successful digital entrepreneurship development
Source: Author Developed



It is argued that all these factors are key to understanding and guiding digital entrepreneurship initiatives and are appropriate for implementing the sustainable digital entrepreneurship programme.

SOLUTIONS AND RECOMMENDATIONS

The purpose of this chapter was to investigate the promotion of digital entrepreneurship development for youth employability in post COVID-19 era. Although there is much potential to grow the handful digital entrepreneurs in South Africa, however, more still needs to be done to develop and support start-up digital entrepreneurs. Manyon (2019) concur that Africa needs a multi-stakeholder approach to promote digital entrepreneurship development and create an enabling environment where the youth can live and

drive digital economic trends. There is still a need for good practices and the strategies that enhance implementation of digital entrepreneurship. Therefore, all the domains such as a favorable culture, enabling policies, availability of adequate financing, high-quality human capital, safety-friendly markets for products, institutional supports, etc. that lead to the successful development of digital entrepreneurship must be aligned and coordinated. Moreover, these needs to also involve various stakeholders (universities, government and industries) or actors including large corporations, policy makers, local bankers and venture capitalists, people acting on the local culture etc. The steady and productive relationships among all the local stakeholders need to be established, and network building, institutional alignment of priorities, strategic guidance, leadership development and mentoring be provided to youth.

Digital entrepreneurship education should also be included in tertiary courses as this will enable young people at tertiary education level to explore some of their own innovative and creativity concepts. Exhibiting awareness campaigns on digital entrepreneurship can also develop the entrepreneurial spirit in the young minds. Furthermore, African youth need to be familiar with the technological drivers and create some homestay areas for sharing knowledge with others, e-commerce logistics, e-commerce sellers and e-commerce producers. Governments should encourage investments in youth and SMEs through a funding practice that allows for easy access to finance, creation of networks that offer mentorship and other assistance as well as instituting a culture that values entrepreneurship. In other words, to expect meaningful economic growth through investment in SMEs necessitates some strategic elements such as the development of sustainable physical infrastructure, removal of unnecessary red-tape which hampers the registration of business, sourcing finance and access to business education.

FUTURE RESEARCH DIRECTIONS

The barriers and enabling factors determined within the scope of this study have the potential to guide stakeholders ((universities, government and industries) in developing successful digital entrepreneurship. As a future study, an empirical research can be carried out, by conducting questionnaires to the youth, to get a quantified or qualitative evidence or a feedback about the validity of success factors determined in this study. Additionally, studies can also be carried out to measure the readiness level of various stakeholders in promoting digital entrepreneurship through creating enabling business environment for youth. Key actors such as policy makers, local bankers and venture capitalists actors can also be included as the more intense cooperation among these key actors and stakeholders, the more likely the digital entrepreneurship development will succeed. Existing business agencies and networks that are also promoting entrepreneurship and preparing youth in the business world, can also be the center of attention.

CONCLUSION

South African need to establish more agencies that deal specifically with digital entrepreneurship to provide intensive support and mentoring, as well as facilitations for startups through business incubators. These agencies should work hand-in-hand with government, universities and industries that will also be reachable to youth in most parts of the country. This could start with governments implementing policies on innovation and digital entrepreneurship development and build the proper infrastructure and adequate financial opportunities for the young generations. A focus of entrepreneurship policies may

also increase the number of start-ups and spreading the entrepreneurial culture. SMEs and emerging young entrepreneurs are critical to the economy and should be provided with necessary utilities such as efficient infrastructure, access to funding, education and training opportunities, and effective regulatory systems. Digital platforms need to also be created for the welfare of the digital entrepreneurs in order to examine their business thoughts and implement new ideas. Lack of digital and entrepreneurial skills has been identified as one of the major causes of high unemployment rates among the youth. Therefore, more should be done to support young people in developing necessary skills to be able to meet the demands of changing economy, thus contributing positively to the digital economic growth. Policy measures which could assist young people in becoming job creators as opposed to job seekers, need to be implemented.

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Chapter 8

Entrepreneurial Pillars and Women Entrepreneurship Relationship in OECD Countries

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ABSTRACT

This chapter has the main objective of investigating whether there is a relationship between the main pillars considered in the “Global Competitiveness Report” database and the rate of female entrepreneurship in OECD countries with available data using the fsQCA methodology. These pillars are the basic ones (institutions, infrastructure, macroeconomic environment, primary education, and health), the efficiency enhancers (higher education, efficiency of the goods market, efficiency of the labor market, development of the financial market, technological preparation, size market), and the pillars related to innovation (business sophistication and innovation itself). It is based on the data available for the OECD countries for the year 2016, which cover different geographical areas. The purpose of this analysis is to extract specific conclusions about potential entrepreneurship policies that could be applied, government programs that could be developed, and specific measurements to be designed to improve female entrepreneurship at national level.

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INTRODUCTION

Entrepreneurship is of great importance in the economy and in global society and is increasingly attracting public decision-makers due to its growing importance in economic activity (Thurik, 2014). According to various studies, entrepreneurship creates employment, boosts competitiveness and actively participates in the modernization of the economy (Romero and Milone, 2016; Hoskisson et al., 2011; Bird et al., 2012; Carlsson et al., 2013). Concretely, in recent decades, entrepreneurship has become increasingly important. Various authors consider entrepreneurship as a way to transform knowledge into knowledge with economic value, thus becoming a key factor in the modern economic gear (Lupiañez et al, 2014), thus conceptualizing the company as an engine of growth, a source of wealth and employment creation.

The supply of entrepreneurial activity is latent in society and is materialized by the individual considerations that potential entrepreneurs make of the market situation at all times. It is basically determined by the characteristics of the population from which it arises, including both purely demographic aspects and those linked to human capital. It is, therefore, a perspective of the labor market in which supply is defined as the entrepreneurial activity that underlies society. The determinants of supply are fundamentally individual in nature, but there are certain socioeconomic aspects that influence the “raw material” from which entrepreneurs may emerge (Martí and Tabuenca, 2006).

Overall, the chapter has been organized as follows. First, literature review supporting the research provided. Then, the research methodology and data collection have been highlighted along with the main results of this study, together with the discussion. Finally, conclusions, as well as limitations and future lines of research have been proposed.

BACKGROUND

Over the past 40 years, there has been a significant change in the status and political weight of women entrepreneurs, as well as a rapid increase in interest and research on the subject. The first articles were published in the 70s, expanding to various disciplines, methods and countries (Minniti and Naudé 2010). As a generalization, it is known that businesses created by women tend to be smaller and grow less than those with men as owners (Minniti, 2009).

The importance of female entrepreneurship has been a topic of growing interest due to two main reasons: first, female entrepreneurship can be considered a key source of economic growth, with different weights depending on the country and second, in different disciplines, female entrepreneurship has generally been a object of study (Ascher, 2012). Specifically, other researchers documented that in recent years, an increasing and significant number of women decided to start entrepreneurial activities, contributing to entrepreneurship in the different world economies. According to a study from the World Bank, gender equality, which means that there are no differences between women and men earnings in the workplace, would be the cause of enriching the global economy by around \$160tn (World Bank, 2018).

In the literature, there are different types of studies related to female entrepreneurship. For example, there are studies on the classification of specific typologies (Bruni et al, 2004), which identify the different profiles (aimless, success-oriented, strongly success-oriented, dualist, return workers, traditionalists, radicals) for women entrepreneurs . Other, focus the analysis on evaluating the relationship between female entrepreneurship and social and demographic conditions (Tominc and Rebernik, 2004; O’Gorman and Terjesen, 2006; Verheul et al, 2006; Noguera et al, 2013; Čirec and Močnik, 2015).

Other articles found are based on the characteristics of female entrepreneurship due to their success or failure in entrepreneurial activity (Justo et al, 2015) or focused on finding the differences between the entrepreneurial activity of men and women (Crespo, 2017). There are other articles that focus on showing the relationship between female entrepreneurship and different variables, for example with the Better Life Index (Ribes-Giner et al, 2019) or the relationship between female entrepreneurship and the Country Risk Score and the Glass Ceiling Index. (Ribes-Giner et al, 2018).

There are authors (Chaganti, 1986 and Brush, 1992) who have centered their attention on management aspects related to the phase the startup is in, reaching very interesting results, such as, for example, that female entrepreneurs manage their companies in a more flexible way than men, women tend to avoid long-term decisions, their leadership style focuses on involving and motivating employees and not evaluating results only based on income. On the other hand, there are also studies that focus on analyzing the reasons why women entrepreneurs leave their businesses (Justo and Detienne, 2015). There are various studies related to the factors that affect entrepreneurship in different countries of the world, for example: Iran (Mohammadi, 2018), Romania (Dumitru, 2018), Italy (Matricano and Sorrentino, 2018) etc. Other articles analyze the most notable differences between male and female entrepreneurship, for example, identifying that businesses created by women tend to be smaller and grow less than those with men as owners (Du Rietz and Henrekson, 2000).

There are also researchers who focus their study on temporally and geographically analyzing different aspects related to entrepreneurship. Beynon et al., (2016) present a novel longitudinal study of entrepreneurial attitudes and activities, using data from the GEM database, encompassing a total of 54 countries. Khyareh and Torabi (2018) study the effect of elements of Iran's entrepreneurial ecosystem, examining the ecosystem problems that hampered economic growth.

The role of women in the labor market has changed dramatically in recent decades (Santos et al, 2019; Alperstedt et al, 2014). There are employees but also employers in their own companies. While male entrepreneurs are more likely to create jobs, female entrepreneurs are of key importance in the labor market in several countries, such as Germany or Denmark (Cowling, 2009). For example, in Germany in 2003, one million women owned their own business and created around 2 million employees (Kay et al, 2003). According to a report by Bain & Co and Google, "Boosting the Economy with It", women entrepreneurs will be able to generate between 150 and 170 million job opportunities by 2030, representing a total of 25% of the expected new jobs needed then.

The main objective of the study is to investigate whether there is a relationship between the main pillars considered in the "Global Competitiveness Report" database and the rate of female entrepreneurship in OECD countries with available data using a fuzzy-set qualitative comparative analysis (fsQCA) methodology. These pillars are: the basic ones (institutions, infrastructure, macroeconomic environment, primary education and health), the efficiency enhancers (higher education, efficiency of the goods market, efficiency of the labor market, development of the financial market, technological preparation, size market) and the pillars closely related to innovation (business sophistication and innovation itself).

Methodology and Hypothesis

The main objective of this analysis is to evaluate the relationship of female entrepreneurship, measured with the TEA relationship between women and men at national level, and the different pillars considered in the Global Competitiveness Report. Those pillars analyzed are related to different variables that are identified below:

- **Sub-index of basic requirements**, which are: institutions, infrastructure, macroeconomic environment, health and primary education. According to the authors' knowledge, it is the first study that relates female entrepreneurship with the variables that compose the basic pillars of the Global Competitiveness Report. Different hypotheses are established based on the variables used.
- **Sub-index of efficiency enhancers**, which are: higher education, efficiency of the goods market, efficiency of the labor market, financial market development, technological preparation, market size. Different hypotheses are established for the variables used.
- **Innovation sub-index, the pillars included are:** business sophistication and innovation itself. Given that with two variables there is not enough information to evaluate this sub-index, this pillar is broken down into the most relevant variables that compose this pillar. Therefore, to analyze the innovation sub-index, the indicators related to business sophistication, the capacity for innovation, the quality of R&D research centers, and the spending of R&D companies will be used. Different hypotheses are established for the variables used.

Related to the different pillars introduced, different hypothesis are established. More precisely, 12 different hypothesis are proposed within this study:

Institutions

The institutional environment of a country depends directly on the efficiency and behavior of public and private agents and may have a relationship with the competitiveness and growth of a country. There are several aspects that define the quality of public institutions in a country, including the legal and administrative framework, companies and governments. It is key to establish a transparency framework for proper management that guarantees good corporate governance to maintain the trust of consumers and investors over time (Schwab, 2017). This pillar considers different variables, the following stand out: judicial independence, public trust in politicians, property rights, protection of intellectual property, strength of auditing and reporting standards, or the reliability of police services.

Hypothesis 1: Female entrepreneurship rate is related to the institutional framework development.

Infrastructure

Having a wide and efficient infrastructure is essential for good economic practice. In the first place, it is important to break down this pillar, detailing that it is made up of high-quality information on roads, railways, ports and airports, which makes it easier for entrepreneurs to offer their goods and services to different markets. Second, this pillar also includes electricity providers, as it is also a critical dependency for companies and factories. And third, this pillar also includes the telecommunications network, since it allows a fast and free flow of information that helps entrepreneurs to communicate effectively. There are other studies that analyze how competitiveness influences entrepreneurship activities (Nasrin et al, 2019), for different countries considering the factors, efficiency and approaches driven by innovation. This pillar considers different variables, therefore, it is important to highlight the following: quality of roads, quality of railway infrastructure, quality of port infrastructure, quality of electricity supply or mobile phone subscriptions.

Hypothesis 2: Female entrepreneurship is directly related to the quality of the infrastructure.

Macroeconomic Environment

The macroeconomic environment pillar is related to an important factor when analyzing the stability of companies, since it is directly related to the competitiveness of a country. The macroeconomic environment includes the fiscal deficit, inflation, the interest rate ... etc. Companies need a stable environment in order to grow sustainably. There are studies that directly relate the level of entrepreneurship with the per capita gross domestic product, the unemployment rate, the marginal tax rate or the volatility of inflation (Arin et al, 2015). This pillar considers different variables, such as inflation, public debt, the country's credit rating, gross national savings (in% of GDP), and the government budget balance (in% of GDP).

Hypothesis 3: Female entrepreneurship is related to the development of the macroeconomic environment.

Health and Primary Education

It is important to consider that the health of workers is key to the country's competitiveness and productivity, therefore, the country's health systems are very important for the growth of the economy within a region. In addition, the quality of basic education is also critical, as it impacts the productivity and efficiency of the economy. Several studies consider that the level of education directly affects the entrepreneurship rate (Mickiewicz et al, 2017; Giotopoulos et al, 2017; Ratan and Dheer, 2017; Van Roy and Nepelski, 2017), or more specifically, there are other articles that analyze the relationship between female entrepreneurship and education level (Brush et al, 2017). Other studies focus on relating the international orientation of a company with the level of education of an entrepreneur (Paweta and Zbierowski, 2015).

Hypothesis 4: Female entrepreneurship is directly related to health and primary education.

Higher Education

The resource of higher education as well as quality training is very important for the development of economies, more specifically, in a globalized world, the possibility of carrying out high complexity and in a changing environment is critical to have a remarkable growth. This variable considers the secondary and tertiary enrollment rate, the quality of education, the training of workers, etc.

Hypothesis 5: Female entrepreneurship is related to higher education.

Goods Market Efficiency

Having a market for goods is efficient in order to produce an adequate combination of products and services based on the terms of supply and demand, with the main objective of effective marketing. This variable depends on the conditions of demand, customer orientation, buyer sophistication ... etc.

Hypothesis 6: The efficiency of the goods market is directly linked to female entrepreneurship.

Labor Market Efficiency

The labor market should be able to flexibly assign workers from one economic activity to another and allow incentives based on meritocracy, promote equity in the work environment. The main variables that affect the market and that ensure an effective economy are efficiency and flexibility.

Hypothesis 7: Greater efficiency in the labor market facilitates the increase in female entrepreneurship.

Financial Market Development

The financial sector must be organized in a reliable, regulated and transparent environment. Business investment is one of the most critical factors for productivity. There are results in the literature that confirm that one of the main problems faced by women when starting a business is related to access to the finance (OECD, 2016; Khaleque, 2018; Skonieczna and Castellano, 2020).

Hypothesis 8: Having a developed financial market increases female entrepreneurship.

Technological Preparation

This pillar focuses on measuring the agility with which existing technologies are adopted with the main objective of improving productivity in the industry.

Hypothesis 9: Greater technological preparation encourages female entrepreneurship.

Size of the Market

Market size is directly related to productivity due to economies of scale. The main objective of large markets is to exploit economies of scale to improve their productivity.

Hypothesis 10: A smaller market size prevents the growth of female entrepreneurship.

Business Sophistication

This pillar encompasses two concepts: the quality of the general commercial networks of a country and the quality of the operations and strategies of each of the companies individually.

Hypothesis 11: Greater business sophistication enhances female entrepreneurship.

Innovation

As economies approach the frontier of knowledge, innovation takes on more significant relevance. Some of the most significant factors of this pillar are: a strong investment in research and development (R&D), existence and promotion of high-quality scientific research institutions, research collaboration, protection of intellectual property... etc.

Hypothesis 12: Having high indicators related to innovation is related to the promotion of female entrepreneurship

Data Utilized

To perform this analysis, data from year 2016 and from 28 OECD countries covering different areas, such as Europe, Middle East, North America, South America ... etc., was used. Two different databases have been used: the Global Entrepreneurship Monitor (GEM) and the Global Competitiveness Report with data from year 2016.

The Global Entrepreneurship Monitor is the largest and most developed entrepreneurship research program that includes data from more than 100 different countries. This database is based on the analysis of companies and also on the behavior of people related to starting or managing a business. In general,

GEM is considered a trusted resource on entrepreneurship for key international organizations, such as the United Nations, the World Economic Forum or the World Bank. The variable used related to this database is the TEA woman / man ratio, which is the main indicator to discriminate entrepreneurship between women and men, in theory, it is the percentage of the female population aged 18 to 64 that is a nascent entrepreneur or owner-manager of a “New Business” divided by the equivalent percentage for her male counterparts. The availability of the data was the first condition to obtain 28 countries in the analysis.

The Global Competitiveness Report is an annual report published by the World Economic Forum. This report has been published since 2004 with the aim of classifying countries based on the Global Competitiveness Index. This index is based on 12 different pillars, which are organized into three sub-indices: Basic Requirements, Efficiency Enhancers, and Innovation Factors. The basic requirements are based on the following factors: institutions, infrastructure, macroeconomic environment, and primary health and education. Efficiency enhancers are based on higher education, goods market efficiency, labor market efficiency, financial market development, technology readiness, market size. The pillars of innovation are based on business sophistication and innovation itself.

The data extracted from this report belongs to the 2016/2017 Global Competitiveness Report and for 28 different OECD countries. More details of the data used can be found in Appendix 1, Appendix 2 and Appendix 3.

Analysis

This analysis is based on the methodology provided by the fuzzy-set Qualitative Comparative Analysis. This method is an empirical method based on Boolean logical algebra that results in a minimal causal combination to explain a given problem (Ragin, 2008). To apply this method, some preliminary steps are needed, for example, to start working with the fsQCA v. Software. 3.0 0 (Thiem & Dusa, 2013). First, it is necessary to calibrate the different variables used with the main purpose of indicating the degree of belonging to a different defined set. The percentiles have been taken to calibrate the different variables, based on the percentiles (95%, 50% and 5% percentiles for all the variables analyzed). The analysis performed have been split into three different phases, each phase related to each pillar set: basic requirements, efficiency enhancers and innovation.

BASIC REQUIREMENTS

Related to this pillar, there are 4 different factors analyzed in this study: institutions, infrastructure, macroeconomic environment, health and primary education. In the process to compute the variables, the calibration functionality is used for all the variables in scope. The variables with the suffix fz indicate the calibrated variable and by obtaining the results from the truth table, it is possible to find 16 different combinations (there are 4 different conditions, which makes 2^4 combinations). The truth table can be shown in table 1.

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Table 1. Truth table

institu_fz	infra_fz	heaedu_fz	macro_fz	Number	Teafz	raw consistency
0	0	0	0	6 (24%)		0.738956
1	1	1	1	5 (44%)		0.684673
0	0	0	1	3 (56%)		0.730645
1	0	1	1	3 (68%)		0.684956
1	1	0	0	2 (76%)		0.801706
0	1	0	0	1 (80%)		0.80226
0	0	1	0	1 (84%)		0.763975
1	0	1	0	1 (88%)		0.858536
1	1	1	0	1 (92%)		0.728723
0	1	0	1	1 (96%)		0.852941
1	1	0	1	1 (100%)		0.758416
1	0	0	0	0 (100%)		
0	1	1	0	0 (100%)		
1	0	0	1	0 (100%)		
0	0	1	1	0 (100%)		
0	1	1	1	0 (100%)		

Source: Own elaboration

The main considerations to take into account with the truth table is that, for each combination, the value equals to 1, identifies a score for the calibrated variable that could be greater than or equal to 0.5, which means that it is close to the “full membership” category. Meanwhile the value equals to 0, identifies the values of the calibrated variable with a value less than 0.5, which means close to the category “category without member”. The column “Number” indicates the cumulative %, ranked from the lowest to the highest number of cases, considering the membership score. Additionally, the raw consistency is also displayed for each configuration.

Considering the fsQCA methodology, the second step is to delete the configuration without cases, or the ones that appear only within a single case. In general, the settings that are kept should cover 75-80% of the cases and for this particular analysis, it covers 88%, so combinations of this value are eliminated. The third step is to define a threshold for the identification of causal combinations that are subsets of the outcome of those that are not. Values below 0.75 are commonly considered to indicate substantial inconsistency. In this case, 0.8 was the selected consistency threshold, and therefore the value equals to 1 was assigned to the result variable (tea_fz), if the consistency of the setting exceeded this selected threshold. In any other case, the value will be equal to 0. Table 2 shows the combinations that are subsets of the result of those that are not.

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Table 2. *FsQCA Output. Basic requirements*

institu_fz	infra_fz	heaedu_fz	macro_fz	Number	Teafz	raw consistency
0	0	0	0	6 (24%)	0	0.738956
1	1	1	1	5 (44%)	0	0.684673
0	0	0	1	3 (56%)	0	0.730645
1	0	1	1	3 (68%)	0	0.684956
1	1	0	0	2 (76%)	1	0.801706
0	1	0	0	1 (80%)	1	0.80226
0	0	1	0	1 (84%)	0	0.763975
1	0	1	0	1 (88%)	1	0.858536

Source: Own elaboration

The following table shows the intermediate solution that applies to the fsQCA method.

Table 3. *Output FsQCA: intermediate solution. Reduced final set: results related with a high female entrepreneurship.*

Sets	Raw coverage	Unique coverage	Consistency
$\text{infra}_{fz}^* \sim \text{heaedu}_{fz}^* \sim \text{macro}_{fz}$	0.344063	0.16309	0.791118
$\text{institu}_{fz}^* \sim \text{infra}_{fz}^* \text{heaedu}_{fz}^* \sim \text{macro}_{fz}$	0.251788	0.0708154	0.858536
Solution coverage: 0.414878			
Solution consistency: 0.790191			

Source: own elaboration

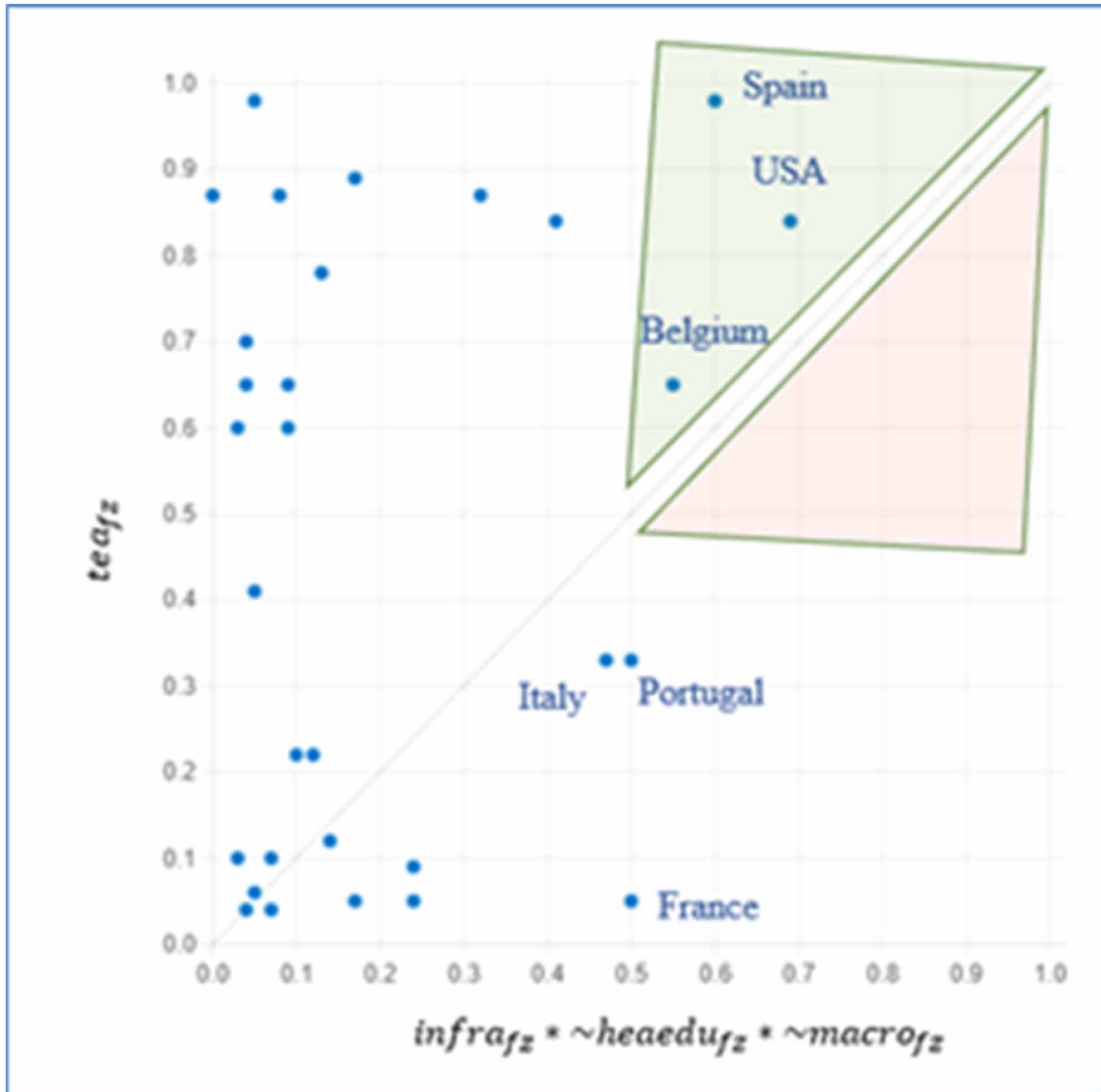
Table 3 shows the intermediate solution, the two combinations that increase female entrepreneurship sufficiently:

The solution found can be expressed as:

$$\text{infra}_{fz}^* \sim \text{heaedu}_{fz}^* \sim \text{macro}_{fz} + \text{institu}_{fz}^* \sim \text{infra}_{fz}^* \text{heaedu}_{fz}^* \sim \text{macro}_{fz}$$

The two combinations sufficiently increase female entrepreneurship in 79% of all cases and cover 41% of them. This means that a high level of infrastructure, a low level of health and basic education and a low level of the macroeconomic environment lead to increasing female entrepreneurship sufficiently. It should be noted that a high value in institutions, a low value in infrastructure, a high level in health and basic education and a low value in the macroeconomic environment lead to an increase in female entrepreneurship. The variables related to infrastructure, macroeconomic environment and health and education are in both combinations so it can be extracted that it is a necessary condition related to female entrepreneurship.

Figure 1. Solution 1
Source: Own elaboration



After identifying the most important combinations, it is interesting to identify the countries that meet the conditions and analyze those that are consistent with the result and those that are not. Each country is represented by two coordinates, X and Y. The first coordinate, X, shows the degree of membership in each combination and the second coordinate, Y, shows the degree of belonging to high female entrepreneurship. Consistent countries are those whose second coordinate is greater than the first one. Consequently, inconsistent countries are those with a first coordinate greater than the second one. There is a diagonal represented in the graph, and the countries below that diagonal are inconsistent (represented as $X > Y$), while the countries above are consistent (represented as $X \leq Y$). In addition to this basic

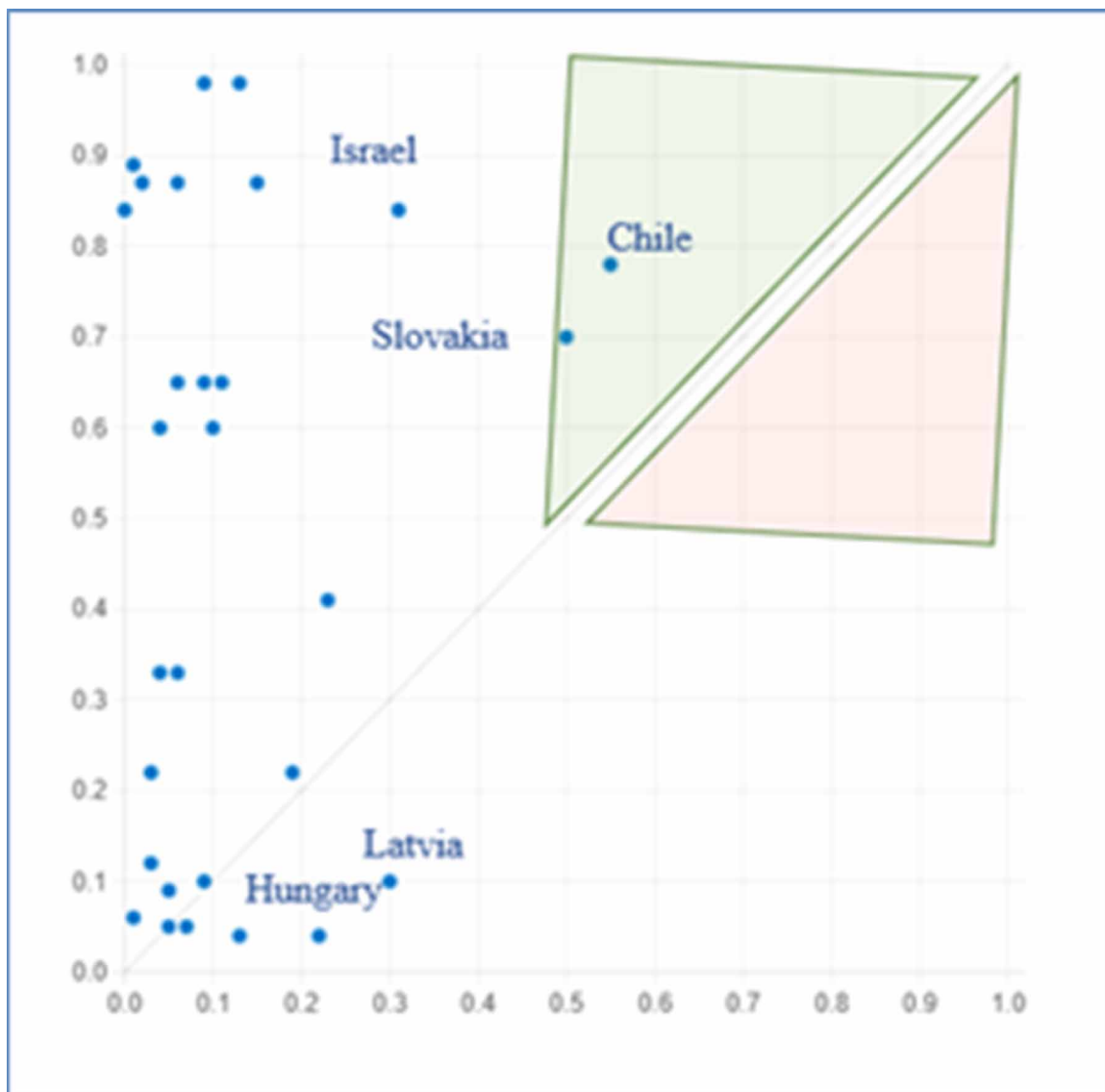
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segregation, there are different ones within the quadrant, in which the lower triangle represents a critical inconsistency, while the upper triangle represents the most relevant consistency area.

According to these factors, and the results obtained in Figure 1, the countries with the greatest coherence with solution 1 are the United States (0.69, 0.84), Spain (0.6, 0.98) and Belgium (0.55, 0.65). In the opposite triangle, the lower triangle, there are no results. However, analyzing the situation of the countries below the diagonal, it is possible to find countries such as Portugal, Italy and France.

Figure 2. Solution 2

Source: Own elaboration



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Analyzing the results obtained in Figure 2, the country with the greatest coherence with solution 2 is Finland (0.53, 0.87). In the opposite triangle, there are no results. However, analyzing the situation of the different countries below the diagonal, it is possible to find that Ireland is one of the most inconsistent countries with this solution.

As the FsQCA is not a symmetric technique, it is also interesting to analyze the combination factors that produce low female entrepreneurship. Table 4, shows the results that reduce female entrepreneurship.

Table 4. Output FsQCA Negative: Intermediate solution. Reduced final set: results that reduce the female entrepreneurship.

Sets	Raw coverage	Unique coverage	Consistency
~institu_fz*~infra_fz*~macro_fz	0.384519	0.117978	0.746667
institu_fz*heaedu_fz*~macro_fz	0.44819	0.155431	0.751046
~infra_fz* heaedu_fz *~macro_fz	0.303995	0	0.835335
institu_fz* ~infra_fz *heaedu_fz	0.318352	0.0074906	0.822581
Solution coverage: 0.691011			
Solution consistency: 0.725426			

Source: own elaboration.

The coverage of the proposed solution (69%) and a consistency of 72%, have 4 different combinations that lead to low female entrepreneurship. One of the combinations that leads to low female entrepreneurship is having a low value for institutions, a low value for infrastructure and a low value for the macroeconomic environment. Another combination that results in low female entrepreneurship is having a high value for institutions, a high value for health and primary education within a low value for the macroeconomic environment. The third possible combination that results in low female entrepreneurship considers a low value for infrastructure, a high value for health and primary education, and a low value for the macroeconomic environment variable. Finally, the fourth combination takes into account a high value for institutions, a low value for infrastructure, and a high value for health and primary education.

Efficiency Enhancers

The same process described above was performed for the efficiency enhancers variables, where it is possible to find 64 different combinations (as there are 6 different conditions). The variables analyzed here are: higher education (educa_fz), efficiency of the goods market (efmerc_fz), efficiency of the labor market (efmarklab_fz), financial market development (devmarkfin), technological preparation (prepatecno), market size (marketsize).

The first 16 records of the truth table can be displayed in table 5.

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Table 5. Truth table (first 16 lines)

educa_fz	efmerc_fz	efmarklab_fz	devmarkfin_fz	prepatecno_fz	marketsize_fz	Number	teafz	raw consistency
0	0	0	0	0	1	5 (20%)		0.690544
0	0	0	0	0	0	4 (37%)		0.688041
1	1	1	1	1	1	4 (54%)		0.723485
1	1	1	1	1	0	2 (62%)		0.786195
0	0	1	0	0	0	1 (66%)		0.79661
0	0	0	1	0	0	1 (70%)		0.870026
1	1	1	1	0	0	1 (75%)		0.879679
1	1	1	0	1	0	1 (79%)		0.795918
0	0	1	1	1	0	1 (83%)		0.924915
0	1	1	1	1	0	1 (87%)		0.761538
0	1	0	0	0	1	1 (91%)		0.8728821
1	1	1	0	1	1	1 (95%)		0.803493
1	1	0	1	1	1	1 (100%)		0.886161
1	0	0	0	0	0	0 (100%)		
0	1	0	0	0	0	0 (100%)		
1	1	0	0	0	0	0 (100%)		

Source: own elaboration

Following the same steps and methodology as for the previous category, the intermediate solution obtained is defined in the following table:

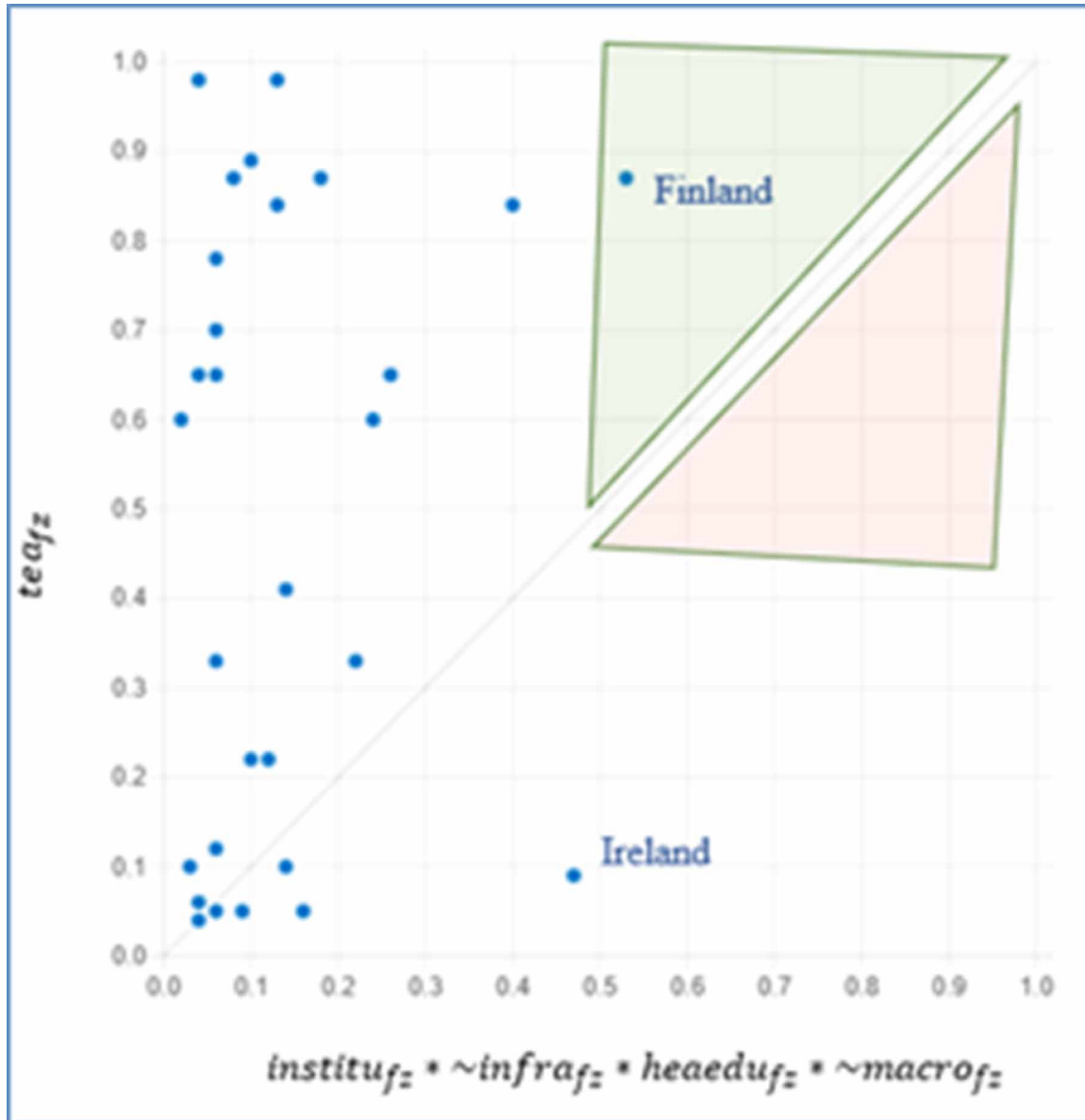
Table 6. Output FsQCA. Efficiency enhancers: intermediate solution. Reduced final set: results related with a high female Entrepreneurship.

Sets	Raw coverage	Unique coverage	Consistency
~educa_fz*~efmerc_fz*~efmarklab_fz*devmarkfin_fz*~prepatecno_fz*~marketsize_fz	0.234621	0.0622317	0.870026
~educa_fz*~efmerc_fz*efmarklab_fz*devmarkfin_fz*prepatecno_fz*~marketsize_fz	0.193848	0.0193133	0.924915
educa_fz*efmerc_fz*efmarklab_fz*devmarkfin_fz*~prepatecno_fz*~marketsize_fz	0.235336	0.0622317	0.879679
Solution coverage: 0.321888			
Solution consistency: 0.833333			

Source: own elaboration.

Table 6 shows the intermediate solution, with the three combinations that increase female entrepreneurship sufficiently.

Figure 3. Solution 1
Source: Own elaboration

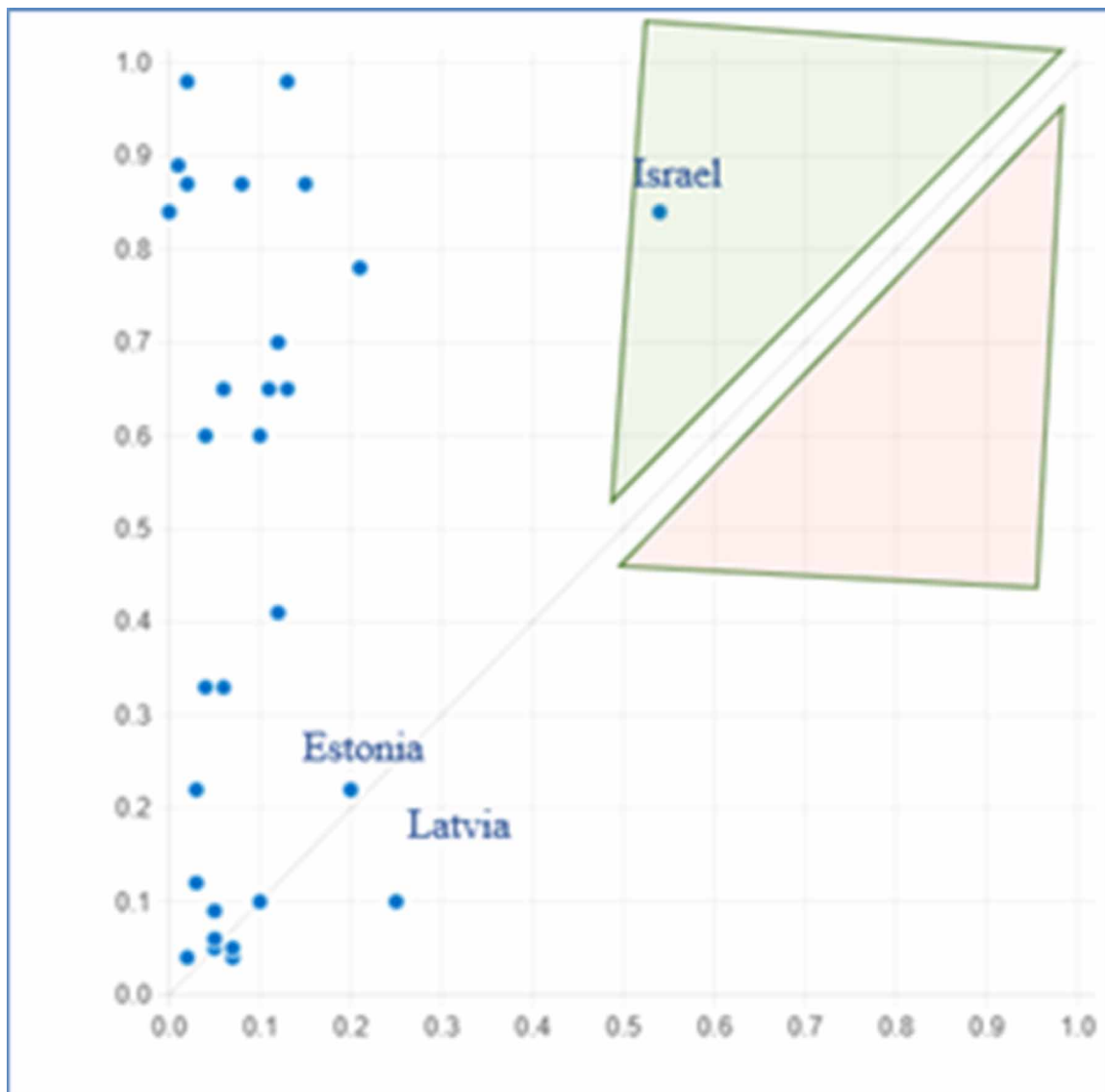


The three combinations sufficiently increase female entrepreneurship in 83% of all cases and cover 32% of them. This means that a low level of education, a low levels of efficiency of the goods markets, a low efficiency of the labor market, a high development of the financial market, a low technological preparation as well as a low size of the market in the country, they are factors that promote female entrepreneurship. Likewise, it is also found that they cause an increase in the presence of female entrepreneurship that the country has a low level of education, low level of efficiency of the goods market, high efficiency of the labor market, high value of financial market development, high technological preparation and a small market size. Additionally, the combination of a high level of education, a high level of ef-

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efficiency of financial markets, a high level of efficiency of the labor market, a high level of development of the financial market, a low technological preparation and a small size of the market, they also lead to an increase in female entrepreneurship. The 6 variables analyzed are present in the 3 combinations obtained, so it can be extracted that they are a necessary condition related to female entrepreneurship.

Figure 4. Solution 2
Source: Own elaboration

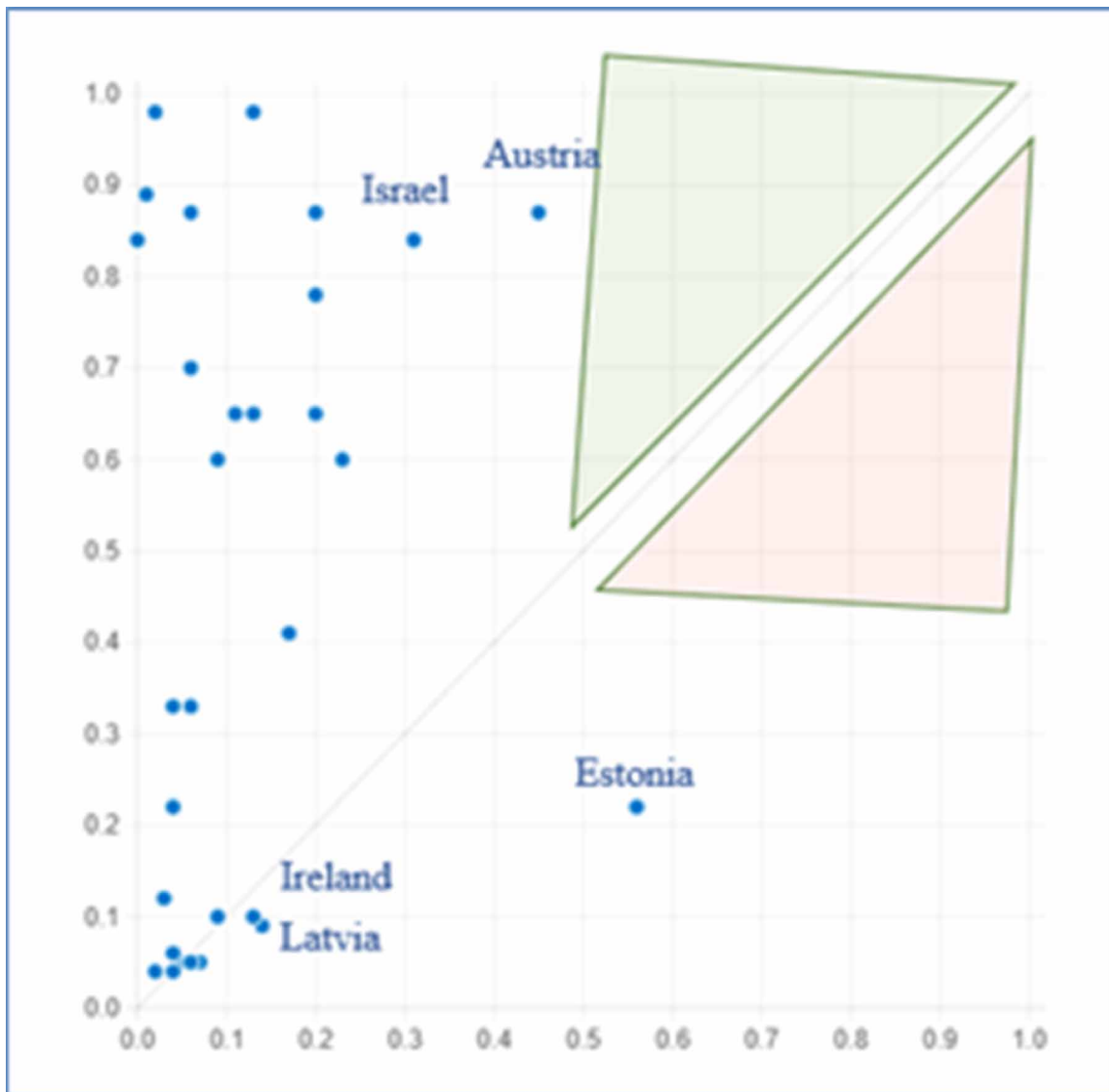


According to these factors, and the results obtained for Solution 1, represented in Figure 3, the countries with the greatest coherence with solution 1 are Chile (0.55, 0.78) and Slovakia (0.5, 0.7). In

the opposite triangle, the lower triangle, there are no results. However, analyzing the situation of the countries below the diagonal, it is possible to find countries like Hungary and Latvia.

Analyzing the results obtained in Figure 4, showing the results for Solution 2, the country with the greatest coherence with solution 2 is Israel (0.54, 0.84). In the opposite triangle, there are no results. However, analyzing the situation of the different countries below the diagonal, it is possible to find that Latvia is one of the most inconsistent countries with this solution.

Figure 5. Solution 3
Source: Own elaboration



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Table 7. Output Negative FsQCA. Efficiency enhancers. Intermediate solution. Reduced final set: results that reduce the female entrepreneurship.

Sets	Raw coverage	Unique coverage	Consistency
~educa_fz*efmarklab_fz*devmarkfin_fz*prepatecno_fz*~tammercado_fz	0.220974	0.0480649	0.830986
educa_fz*efmerc_fz*efmarklab_fz*~devmarkfin_fz*prepatecno_fz	0.302747	0.125468	0.866071
~educa_fz*~efmerc_fz*efmarklab_fz*~devmarkfin_fz*~prepatecno_fz*~tammercado_fz	0.196629	0.0362048	0.889831
Solution coverage: 0.400749 Solution consistency: 0.820972			

Source: own elaboration.

Table 8. Truth table

sofbus_fz	capinn_fz	calcient_fz	expid_fz	Number	teafz	raw consistency
0	0	0	0	12 (46%)		0.603035
1	1	1	1	12 (92%)		0.613674
1	1	0	1	1 (96%)		0.775
0	1	1	1	1 (100%)		0.865196

Source: own elaboration

Additionally, evaluating the results obtained for the Solution 3 in Figure 5, the country with the greatest coherence with solution 3 is Austria (0.45, 0.87), despite not being in the triangle that defines the optimal solution zone. In the opposite triangle, there are no results. However, analyzing the situation of the different countries below the diagonal, it is possible to find that Ireland, Estonia or Latvia are some of the most inconsistent countries with this solution.

As it was performed for the basic requirements above, the analysis to identify the combinations that reduce the female entrepreneurship is also executed. The negative results of the configuration are displayed below in table 7:

The coverage of the proposed solution (40%) and a consistency of 82%, has 3 different combinations that lead to low female entrepreneurship. In the first place, having a low level of higher education and a small market size leads to low female entrepreneurship despite having a good efficiency in the labor market, a high development of the financial market and a high technological preparation. Second, having a

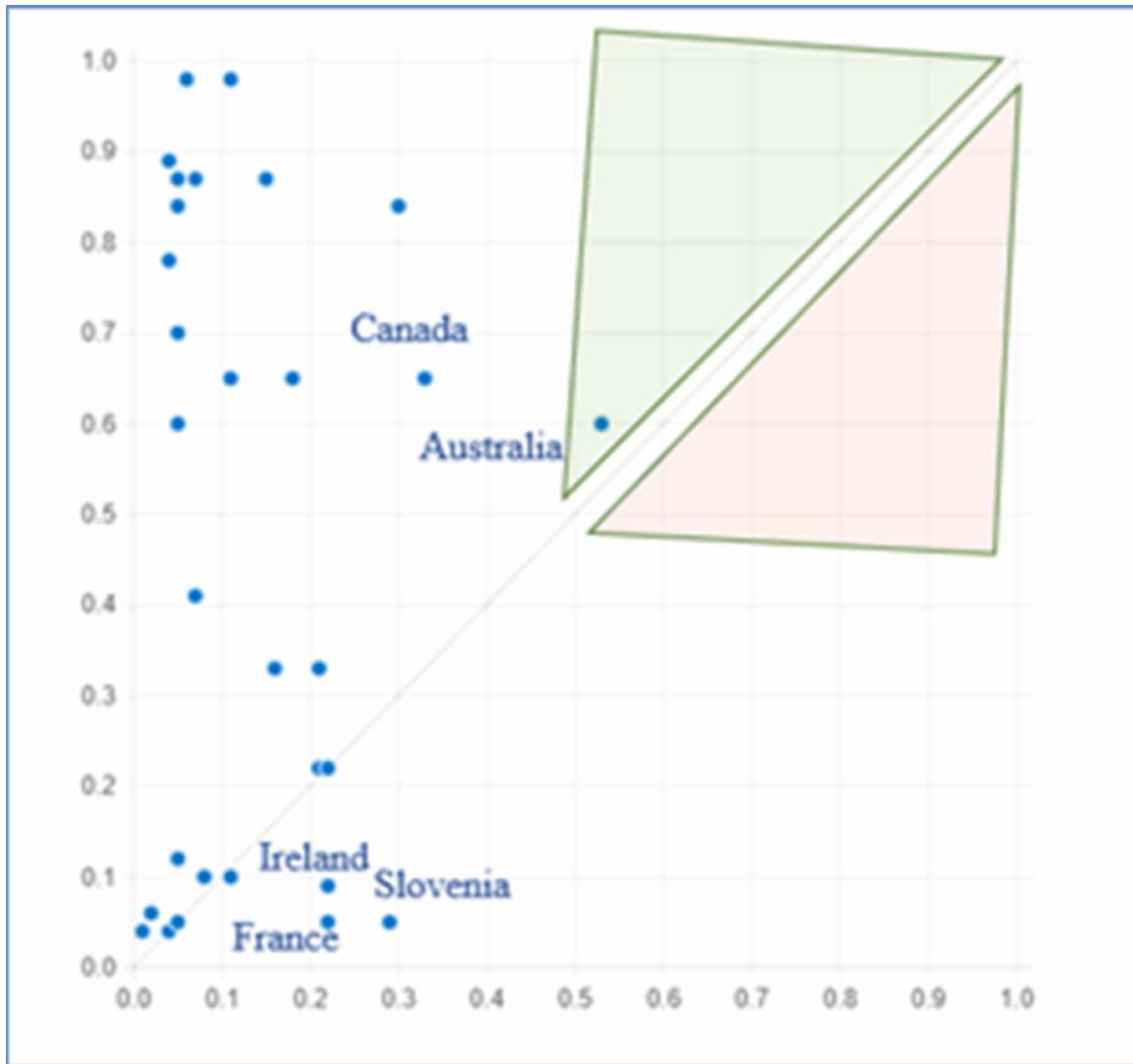
Table 9. Output FsQCA: intermediate solution. Reduced final set: results related to a high female Entrepreneurship

Sets	Raw coverage	Unique coverage	Consistency
~sofbus_fz*capinn_fz*calcient_fz*expid_fz	0.252503	0.252503	0.865196
Solution coverage: 0.252503			
Solution consistency: 0.865196			

Source: Own elaboration.

low development of the financial market results in low female entrepreneurship despite having high levels of education, an efficient goods market, an efficient labor market and high technological preparation. Finally, having an efficient labor market does not improve the situation of female entrepreneurship if the level of higher education is low, the market for goods is not efficient, the development of the financial market is low, technological preparation is low and have a small size market.

Figure 6. Solution 1
Source: Own elaboration



Innovation

The same process described above was performed for the innovation variables, where it is possible to find 16 different combinations (as there are 4 different conditions). The variables analyzed here are:

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business sophistication (sofbus) and innovation itself (R&D expense (expid), quality of the research center (calcient) and innovation capacity (capinn)).

The first 4 records of the truth table can be displayed in table 8. Following the same steps and methodology as for the previous category, the intermediate solution obtained is defined in the following table:

Table 9 shows the intermediate solution, which consist on 1 combination that increase female entrepreneurship sufficiently:

The solution found can be expressed as:

$$\sim \text{sofbus}_{f_z} * \text{capinn}_{f_z} * \text{calcient}_{f_z} * \text{expid}_{f_z}$$

This combination sufficiently increases female entrepreneurship in 86% of all cases and covers 25% of them. This means that a low level of business sophistication, a high level of capacity for innovation, a high level of quality in scientific research centers, and high spending on research and development (R&D) encourage female entrepreneurship. This makes sense as increasing the level of researching, which can be performed by augmenting the level of innovation capacity, the spending in research and the quality of the scientific research center, foster to increase the female entrepreneurship. In the other hand, a low sophistication in the business could imply easing the process of creating a company, what helps to increase the female entrepreneurship.

According to these factors, and the results obtained in Figure 6, the country with the greatest coherence with the solution obtained in this category is Australia (0.53, 0.6). In the opposite triangle, the lower triangle, there are no results. However, analyzing the situation of the countries below the diagonal, it is possible to find countries like Ireland, Slovenia, France.

The analysis to identify the combinations that reduce the female entrepreneurship is also executed. The negative results of the configuration are displayed below in table 10:

Table 10. Output Negative FsQCA. Innovation: Intermediate solution. Reduced final set: results that reduce the female entrepreneurship.

Sets	Raw coverage	Unique coverage	Consistency
sofbus_fz*capinn_fz*~calcient_fz*expid_fz	0.263421	0.0823971	0.879167
Solution coverage: 0.263421			
Solution consistency: 0.879167			

Source: Own elaboration

The coverage of the proposed solution (26%) and a consistency of 87%, have 1 combination that lead to low female entrepreneurship. The combination that leads to low female entrepreneurship can be summarized as having a high value in business sophistication, a high value in innovation capacity, a high value in companies' research and development spending and a low value in the quality of the research centers.

EMPIRICAL FINDINGS

A total of 30 different countries belonging to the OECD have been the focus of this study. These countries belong to different geographical areas: Western Europe, Eastern Europe, Central Europe, North America, Middle East ... etc. The method used was selected taking into account that the sample used was very small, so an fsQCA methodology was selected to analyze the causal conditions, since it is an appropriate method for small samples. Therefore, to perform the analysis, different data have been used: the TEA variable along with the data from the 3 pillars of the Global Competitiveness Report. Consequently, 3 different analysis have been executed, one for each pillar analyzed. The first analysis focuses on the basic requirements and provides 4 key variables, the second analysis focuses on efficiency enhancers and provides 6 key variables, and finally the third analysis focuses on innovation and provides 4 key variables.

Regarding the first analysis covered by this study, it can be concluded that countries with a high level of infrastructure, a low level of health and basic education and a low level of macroeconomic environment lead to an increase in female entrepreneurship. In addition, the combination of having a high value in institutions, a low value in infrastructure, a high level in health and basic education, and a low value in the macroeconomic environment also cause an increase in female entrepreneurship activities. The highest percentage of female/male entrepreneurship occurs in those countries that have a high level of infrastructure, a low level of health and basic education and a low level of macroeconomic environment, as occurs in Spain, the United States and Belgium.

Regarding the second analysis, 3 different combinations are obtained that can cause high female entrepreneurship. In the first place, a low level of education, a low level of efficiency of the goods markets, a low efficiency of the labor market, a high development of the financial market, a low technological preparation as well as a low size of the market in the country, are factors that promote female entrepreneurship. Second, that the country has a low level of education, low level of efficiency of the goods market, high efficiency of the labor market, high value of financial market development, high technological readiness and a small size of the market also leads to a high female entrepreneurship. Finally, the combination of a high level of education, a high level of financial market efficiency, a high level of labor market efficiency, a high level of financial market development, low technological preparation and a small size of the financial market, also lead to an increase in female entrepreneurship

Regarding the third analysis that focuses on different variables related to innovation, it is concluded that countries with a low level of business sophistication, a high level of capacity for innovation, a high level of quality of scientific research centers and high spending on research and development (R&D) encourages female entrepreneurship, with Australia standing out as the country most consistent with this solution.

The main implications of this study can be used as a reference by governments, especially those of OECD countries, to identify the factors that improve the quality of female entrepreneurship. The most relevant factors are listed below:

- Having a good level of infrastructure is key to improve the activities of women entrepreneurs, which can be used as a guide when establishing national infrastructure plans to identify potential areas where, for example, minimum telecommunications infrastructure should be allocated for improve the potential business that could be created in those areas.
- Another important issue is to improve the level of health and basic education to achieve high value female entrepreneurship activities. This could be achieved with general health programs for the

entire population and increasing the quality of and access to basic education programs, especially for women.

- Higher education is also key to training future generations of entrepreneurial leaders and therefore, it is necessary to offer degrees and education programs in line with cutting-edge lines of research so that they can take over and continue developing and undertaking.
- Having an environment where companies have high spending on research and development enhances female entrepreneurship. It would be advisable to establish programs that make known the fundamental lines of research of these companies, especially those directed by women, so that they serve as a reference to become entrepreneur.
- The quality of research centers is key to increasing female entrepreneurship. The countries with the best positioned research centers in terms of international prestige tend to have the countries with the highest rates of female entrepreneurship (United States, Australia, Canada ... etc.). The centers themselves promote entrepreneurship and help programs to start up new ideas.
- Even though the business sophistication is low, it does not impact female entrepreneurship negatively, as long as the quality of the research centers, the capacity for innovation and the quality in scientific research center are high.
- As it can be observed in the results, when considering innovation is key the quality of the research centers, as it can impact strongly in the female entrepreneurship rate, causing to reduce the female entrepreneurship even though the other variables (such as the innovation capacity, the research spending, business sophistication) are considered to be good enough.
- It is key to have a developed financial market to foster women entrepreneurship. This result is in line with many papers and reports found in the literature that directly related the access to finance problems faced by women when starting a business.

DISCUSSION

The analysis performed, using the method fsQCA, provides fresh insight into the relationship between the Global Competitiveness Report pillars and the female entrepreneurship rate. The obtained results could, potentially, be interesting and relevant for government decision-makers when analyzing how to foster female entrepreneurship. There are different findings specifically for each set of pillar (basic requirements, efficiency enhancers and innovation). First, considering the basic requirements, it is important to highlight that a low level in the macroeconomic environment is a necessary condition to improve female entrepreneurship. Another point would be that combination of low infrastructure is leading to increase the number of female entrepreneurs when having a high level of health and education. In the other hand, if there is a high level of infrastructure, then, despite of having a low level of health and education, as well as, a low level of macroeconomic environment, the number of women entrepreneurs is increased. It seems that having a low value of infrastructure is a key factor when decreasing the number of women entrepreneurs.

Second, considering the efficiency enhancers pillar, some highlights can be extracted: a small market size is a condition to increase the female entrepreneurship, probably, because women entrepreneurs try to find solution by necessity entrepreneurship and expanding boundaries to international markets.

Having a high development of the financial market is also a key factors when increasing the number of women entrepreneurs. Access to finance is one of the main barriers faced by women when starting their

own business, so considering a developed financial market is a crucial factor to favor access to financing and therefore, to foster increasing female entrepreneurship. Finally, the combination of having high education and a good technological preparation is also useful to increase the female entrepreneurship.

Third, related to the innovation pillar, some key finding can be summarized: linked to innovation it has been found that increasing the level of researching, which can be performed by augmenting the level of innovation capacity, the spending in research and the quality of the scientific research center, help fostering to increase the female entrepreneurship. In the other hand, a low sophistication in the business could imply easing the process of creating a company, what helps to increase the female entrepreneurship.

LIMITATIONS, FUTURE RESEARCH DIRECTIONS AND CONCLUSION

The aim of this study is to identify the combination of the variables in each pillar defined in the Global Competitiveness Report that lead to an increase in female entrepreneurship. To this end, the fsQCA methodology has been used.

This chapter is a reference for researchers, practitioners and policymakers interested in women's entrepreneurship in the OECD countries. The chapter helped to explain complex causal relationships between the entrepreneurship rate and the key pillars. It provided useful suggestions for scholars already researching women's entrepreneurship and those intending to in the future. Due to the exponential role of women in society and in the economy, the growth of women entrepreneurship is expected to continue growing in the future.

Researches analyzing female entrepreneurship using GEM data are usually focused on applying regression techniques, therefore the application of the fuzzy-set Qualitative Comparative Analysis is one of the main novel characteristics of this analysis. To be more precise, this analysis contributes to the literature in 2 ways. The first contribution is related to extend the existing female entrepreneurship literature by creating a relationship between the different pillars of the Global Competitiveness Report with the female rate of entrepreneurship at national level, obtaining consisting results. The second contribution is related to the implications of the results obtained within the fsQCA methodology, which implies that considering the first pillar, having a good level of infrastructures, improving the level of health and basic education, having a high spending environment on research and development, and quality research centers along with a high education level are relevant factors to obtain a high rate of female entrepreneurship at national level. Focusing on the second pillar, it is key to have a developed financial market to foster women entrepreneurship. This result is in line with many papers and reports found in the literature that directly related the access to finance problems faced by women when starting a business (OECD, 2016; Khaleque, 2018; Skonieczna and Castellano, 2020). Moreover, living in a place with a small market size is a condition to increase the female entrepreneurship, probably, because women entrepreneurs try to find solution to a complicated labor market condition by necessity entrepreneurship and therefore, they try to expand boundaries to international markets. Focusing on the third pillar, it has been found that it is necessary a high value of the research dependent variables, which are the innovation capacity, the spending in research and the quality of scientific research center to foster female entrepreneurship. It is in line with the literature as the better the researching conditions, the better environment to find an opportunity to become entrepreneur, especially related with technology startups. In the other hand, a low sophistication in the business could imply easing the process of creating a company, what helps to increase the female entrepreneurship

There are several limitations to the results of this study. The study is limited to the available data for the year 2016 and to the countries with data related to this year. The independent variables are the pillar considered by the Global Competitiveness Report.

As a future line of research, this analysis can be performed considering the variables that compose each of the pillars with the main objective of analyzing in detail the influence of each indicator. Another potential approach could be to extend this analysis to non-OECD countries to find the relationships, especially focused on countries driven by the need to analyze what factors influenced female entrepreneurship.

It is important to highlight that the conclusions obtained in this study are consistent for most of the OECD countries, which basically means that the analysis of the causes that directly affect women entrepreneurship is valid in countries located in different geographies, implying different social conditions

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KEY TERMS AND DEFINITIONS

Basic Requirements: According to the Global Competitiveness Report, this pillar groups the most critical areas for the factor-driven countries. This includes the infrastructure, the institutions, the macroeconomic environment and the health and primary education.

Efficiency Enhancers: According to the Global Competitiveness Report, this pillar groups the most critical areas for the efficiency-driven countries. This includes the higher education and training, the goods market efficiency, the labor market efficiency, the financial market development, the technological preparation, and the market size.

Entrepreneurial Pillars: Areas defined by the Global Competitiveness Report in which the entrepreneurship is based. Those pillars are the basic requirements, the efficiency enhancers and the innovation capabilities.

Female Entrepreneurship: It is an area in the entrepreneurship research field focused on analyzing the characteristics of women who organize and manage a company.

FsQCA Methodology: It is a social science method with the main purpose of combining case-oriented and variable-oriented quantitative analysis.

Innovation: According to the Global Competitiveness Report, this pillar groups the most critical areas for the innovation-driven countries. This includes the business sophistication, the capacity of innovation, the quality of the research centers and the R&D expense.

OECD Countries: An association of 37 different nations located in Europe, North America and Asia. It is an Organization for Economic Co-operation and Development.

APPENDIX 1

Table 11 below shows the data used related to the pillars of the basic requirements category for each country that is analyzed in this study

Table 11. Data Used for Pillars of the Basic Requirements Category for Each Country

Country	TEA ratio (women/ men)	Global Competitiveness Report			
		Institutions Infrastructure		Macroeconomics elements	Health and primary education
Australia	0.65	5.3	5.6	5.7	6.6
Austria	0.72	5.2	5.8	5.5	6.4
Belgium	0.66*	5.2	5.5	4.8	5.7
Canada	0.66	5.4	5.7	5.2	6.6
Chile	0.69	4.5	4.7	5.4	5.7
Estonia	0.56	5.1	5	6.1	6.5
Finland	0.72	6.1	5.3	5.1	6.9
France	0.47	4.9	6.1	4.7	6.4
Germany	0.52	5.2	6.1	6	6.5
Greece	0.73	3.8	4.8	2.9	6.1
Hungary	0.46	3.3	4.2	5.1	5.6
Ireland	0.5	5.6	5.2	5.2	6.5
Israel	0.71	4.8	5.3	5.1	6.3
Italy	0.59	3.5	5.4	4.2	6.4
Korea	0.66	4	6	6.6	6.3
Latvia	0.51	4	4.4	5.6	6.2
Luxemburg	0.56	5.8	5.7	6.2	6.2
Mexico	0.83*	3.3	4.3	5	5.7
Norway	0.51	5.9	4.9	6.8	6.6
Poland	0.61	4	4.3	5.1	6.2
Portugal	0.59	4.3	5.5	3.7	6.4
Slovakia	0.67	3.5	4.2	5.3	6
Slovenia	0.47	4.1	4.8	4.9	6.5
Spain	0.81	4.1	5.9	4.3	6.3
Sweden	0.72	5.9	5.6	6.3	6.4
Switzerland	0.48	5.9	6.2	6.5	6.6
Netherlands	0.65	5.7	6.4	5.7	6.7
Turkey	0.45	3.9	4.4	4.9	5.6
United Kingdom	0.47	5.5	6	4.4	6.5
United States	0.71	5	5.9	4.6	6.2

Source: Own Elaboration Based on the Data Analyzed from GEM Database (2016) and the Global Competitiveness Report (2016/2017)

APPENDIX 2

Table 12 below shows the data used related to the pillars of the efficiency enhancers category for each country that are analyzed in this study.

Table 12. Data Used for Pillars of the Efficiency Enhancers for Each Country

Country	TEA ratio (women/man)	Global Competitiveness Report					Tecn.Prep.	Mark.size
		Education Ef.Mark.Goods	Eff.Mark.Job	Dev.Mark. Financ.				
Australia	0.65	5.9	4.8	4.7	5.4	5.7	5.1	
Austria	0.72	5.8	4.9	4.5	4.5	5.7	4.5	
Belgium	0.66*	6	5.2	4.5	4.7	6	4.7	
Canada	0.66	5.5	5.1	5.3	5.3	5.8	5.4	
Chile	0.69	5.2	4.6	4.4	4.8	5.1	4.5	
Estonia	0.56	5.5	5.1	5	4.8	5.4	3	
Finland	0.72	6.2	5.1	4.8	5.5	6	4.1	
France	0.47	5.5	4.7	4.4	4.6	5.9	5.7	
Germany	0.52	5.6	5	4.8	4.9	6.1	6	
Greece	0.73	4.9	4.2	3.8	2.5	5	4.2	
Hungary	0.46	4.4	4.4	4.1	4	4.5	4.3	
Ireland	0.5	5.7	5.4	5.1	4	6.1	4.3	
Israel	0.71	5.4	4.7	4.8	4.9	5.8	4.2	
Italy	0.59	4.9	4.3	3.6	3.1	5	5.6	
Korea	0.66	5.3	4.9	4.1	3.9	5.5	5.5	
Latvia	0.51	5	4.5	4.6	4.2	5.2	3.2	
Luxemburg	0.56	4.8	5.5	5	5	6.4	3.2	
Mexico	0.83*	4.1	4.3	3.8	4.5	4	5.6	
Norway	0.51	5.9	5.1	5.3	5.2	6.2	4.4	
Poland	0.61	5	4.6	4.1	4.2	4.8	5.1	
Portugal	0.59	5	4.7	4.3	3.3	5.6	4.3	
Slovakia	0.67	4.5	4.5	4	4.6	4.8	4	
Slovenia	0.47	5.4	4.6	4.1	3.2	5.2	3.3	
Spain	0.81	5.1	4.5	4.2	4	5.6	5.4	
Sweden	0.72	5.6	5.3	4.9	5.2	6.3	4.6	
Switzerland	0.48	6	5.4	5.9	5.3	6.4	4.6	
Netherlands	0.65	6.1	5.4	5.1	4.5	6.2	5.1	
Turkey	0.45	4.7	4.5	3.4	3.8	4.2	5.4	
United Kingdom	0.47	5.5	5.3	5.5	4.9	6.3	5.7	
United States	0.71	5.9	5.2	5.5	5.6	6	6.9	

Source: Own elaboration based on the data analyzed from GEM Database (2016) and the Global Competitiveness Report (2016/2017)

APPENDIX 3

Table 13 below shows the data used related to the pillars of the innovation category for each country that are analyzed in this study.

Table 13. Data Used Related to the Pillars of the Innovation Category

Country	TEA ratio (women/men)	Global Competitiveness Report			
		Bus.Soph. Innov.cap.	Qual.Cent.Resch	Exp.ID	
Australia	0.65	4.7	5.1	5.7	4.6
Austria	0.72	5.5	5.6	5.3	4.9
Belgium	0.66*	5.4	5.4	5.9	5.1
Canada	0.66	4.9	5	5.6	4.2
Chile	0.69	4.1	3.9	4.3	2.9
Estonia	0.56	4.3	4.9	5.3	3.9
Finland	0.72	5.3	5.6	5.8	5.4
France	0.47	5.2	5.4	5.8	5.2
Germany	0.52	5.6	5.7	5.8	5.6
Greece	0.73	3.9	3.8	3.9	3.1
Hungary	0.46	3.5	3.8	4.5	3
Ireland	0.5	5.2	5.3	5.6	4.8
Israel	0.71	5.1	5.9	6.2	5.7
Italy	0.59	4.8	4.7	4.7	3.9
Korea	0.66	4.9	4.8	4.6	4.5
Latvia	0.51	4.1	4.3	4.2	3.3
Luxemburg	0.56	5.2	5.4	5.2	5.2
Mexico	0.83*	4.2	4.1	4.3	3.2
Norway	0.51	5.4	5.4	5.4	4.9
Poland	0.61	4.1	4.1	4.1	3.4
Portugal	0.59	4.2	4.6	5.1	3.7
Slovakia	0.67	4.1	4.2	3.9	3.3
Slovenia	0.47	4.2	4.8	4.9	4.1
Spain	0.81	4.5	4.3	4.5	3.5
Sweden	0.72	5.6	5.9	5.8	5.5
Switzerland	0.48	5.8	6.1	6.5	6
Netherlands	0.65	5.6	5.4	6	5.1
Turkey	0.45	4	4.1	3.3	3.3
United Kingdom	0.47	5.6	5.4	6.3	4.9
United States	0.71	5.6	5.9	6	5.7

Source: Own elaboration based on the data analyzed from GEM Database (2016) and the Global Competitiveness Report (2016/2017)

Chapter 9

Government Strategies to Minimize the COVID-19 Fallout on MSMEs in India

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ABSTRACT

Currently, the whole country is going across a stressful era. Pandemic has swept the whole planet into its grasp and has smudged the lives of citizens as well as the global economies as a result. COVID-19 has been one of the 2020 mega tragedies. The correlation is clear since the primary issue does seem to be unemployment and financial losses, which causes a huge decrease in consumer spending for all industrialized nations. Consequently, workers have been eliminated, and consumers have a drastic lack of their wages, creating a large fall in prices. Findings reflect that economies all around the world are suffering from COVID-19, which has made the entire world panic and the pandemic virus has taken over almost 195 countries in its grip. It is quite evident that the enterprises in the MSME sector are the most vulnerable ones in the era of the COVID-19 pandemic because of their size, the scale of operation, limited financial managerial resources, and more importantly, they do not have the capacity to deal with something so unexpected.

INTRODUCTION

After the twenty-first century, various viruses such as the Portuguese Epidemic, Asian Influenza, H1N1 Pig Influenza disease outbreak, West African Ebola epidemic, Zika Virus Pestilence, and the current have not only culminated in the population but also affected the infrastructure (Despres, Aguilar, McAlister, & Ramirez, 2020; Dong, Du, & Gardner, 2020). The dramatic effect of the current on service-based organizations and the informal economy triggers a significant unemployment increase. It has escalated as the financial system became more intertwined in recent years than at any point (Aguinis, Villamor, & Gabriel, 2020). Such interdependence only caused an immediate spreading of the disease in the world

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and activated financial disruption. Although manufacturers and retailers are forced to agree on production reductions and long lines, the economic region is faced with a credit-focused workforce around the globe that are staring at occupational misfortunes.

Furthermore, the oil sector is affected tremendously by the reduced competition in the global market. Despite these differences, many areas such as the travel sector, eateries, and aeronautics are most surviving due to shutdowns in multiple countries (Mukherjee et al., 2020; Pillay & Barnes, 2020). Despite shutdowns growing as the only way to curb the pace of virus transmission, the planet faces a tough question of saving on lockout, which would inevitably wreck the workplaces. Losses of life and the defensive lockout proportion have a significant effect on the global economy, although the accelerated financial consequences can also decrease with time. The patient death pace influenced by COVID-19 is low compared to different great evils before; its effect on nations increases. The COVID-19 is used to reduce the global gross domestic product's growth rate by 1.5 percent (Gössling, Scott, & Hall, 2020; Hassan, Hollander, van Lent, & Tahoun, 2020; Jallow, Renukappa, & Suresh, 2020).

In developing economies like India, the effect of this emergency may be even higher due to previously loosening development rates, unexpected frailty foundations, as well as an enormous people residing in outrageous destitution. Expansion of pandemic aggravated our nation's economy, which was in threat, primarily because of loosening local concern and external factors such as the US-China war on exports. To such a degree, Moody's ought to slash India's Gross Domestic Product Conjecture to 2.5 percent for 2020 (as opposed to the 5.3 percent forecast barely ten days prior). The rapid shutdown actions during the COVID-19 are reminiscent of India's casual segment collapse, which utilizes around 80 percent of its used population (Sharma, Talan, & Jain, 2020; Shehzad, Sarfraz, & Shah, 2020). To tackle this extraordinary task, India's legislature announced an assistance package to the extent of 1 percent of the nation's Gross Domestic Product, decreased support expenses, increased ticketing period, credits, EMIs, and reduced the CRR. The reaction to the COVID-19 requires, as in some other calamity, an organized exert. The government also affirmed the flare-up of COVID-19 as recommended as well as means to reply effectively to this pandemic calling for its response to be constructive, pre-emptive as well as checked (Priya et al., 2020; Rakshit & Basishtha, 2020; Sardar, Nadim, Rana, & Chattopadhyay, 2020). The paper tries to explain the effect of pandemic on our country's welfare by examining policymakers' and specialists' meetings on the nation. The policymakers' successful reaction to holding the economy above water may be condensed by isolating these meetings in seven topics; (a) Flow monetary projections made by the administration; (b) Monetary structure options as well as a package of improvements; (c) Worldwide outlook as well as difficulties; (d) (f) Long-term financial consequences of pandemic. Via a comprehensive analysis of these discussions, we try to determine their reactions to the economic as well as money-related room for coping with this emergency (Atalan, 2020).

RESEARCH METHODOLOGY

Secondary research was conducted to develop government strategies to minimize the COVID-19 fallout on MSMEs in India. A detailed study of the existing literature has been done to come across the significance and investigate the necessity of MSMEs. The data was collected from secondary sources, i.e., available articles, journals, reports, books, and websites.

LITERATURE REVIEW

The pandemic incident is triggered by an extreme disease coronavirus outbreak that initially occurred in China. The infection has spread to 24 different nationalities from somewhere in China, including various states and provinces. Although China's situations declared a fall next to each other on 29 May 2020 (for the fourth day), cases from different nations proceeded to climb, irrespective of more sincere standard guidelines and procedures. The flare-up recovered the memory of a recently identified comparative virus, primarily COVID-19, which originated in China and began to build cases in 37 nations somewhere in the year. It regulated, and the predicted development of disease was still not yet quite assessed. It was declared a global wellness epidemic of universal apprehension in the wake of the significant general well-being threat presented to the world by COVID-19 and formulated COVID-19 as a worldwide pandemic (Pillay & Barnes, 2020; Priya et al., 2020; Rakshit & Basishttha, 2020; Sardar et al., 2020). Examination, in the light of witnessing and managing irresistible illnesses, even as their impact on financial development has had the energy late gathered. This concern is further revived by the emergence of several emerging irresistible diseases, particularly severe respiratory distress (SARS). Globalization increases the likelihood that irresistible infections will travel from one country to another. With a reliable network in the whole world, the disease's effect extends away from the usual death (those who bite the dust) or grimness (individuals who are disabled or who think of the poor and unable to work for some time). There are many quick and circuitous ways through which an unavoidable episode of illness affects the economy. However, such budgetary impacts do not fall into the standard methodology of calculating infection financial expenses (Shafi, Liu, & Ren, 2020; Shahabi, Azar, Faezy Razi, & Fallah Shams, 2020; Sharma et al., 2020; Shehzad et al., 2020). The traditional neoclassical growth model indicates that a decrease in demographic production stimulates a quicker accumulation of resources, further improving and increasing the nation's yield growth. For example, analyze the present state of affairs Portuguese global pandemic, which killed 40 million people worldwide but instead 1 million Legal residents, and conclude that even the outbreak is undoubtedly correlated. What should be predicted is to locate an unimportant impact of the flu epidemic of 1918–1919 on real estate per capita planted in India. The standard technique of calculating the resulting financial costs goes beyond measuring the disease's actual monetary losses, which are highly contagious and for which there is no antidote.

The manipulate of the biotechnology companies in Taiwan at a late stage and have a crucial impact on the organization's creative research proportions, existing proportions, and resources;) (investigate the budgetary consequences of swine regenerative and respiratory disorder (PRRS); The episode of SARS, which originated somewhere in 2002 and 2003 from the Guangdong area of China, infected around 10,000 citizens, murdered around 1,000 very low-individuals), (and also spurred an unusually lopsided financial impact). Analyze the expected effect of pandemic flu in the US, and why there is a monetary consequence of \$187 per citizen as a loss to civilization without any intervention. (Bonaccorsi et al., 2020; Chaudhary, Sodani, & Das, 2020) Summarize the SARS outbreak's epidemiological data and deduce higher mortality levels in places where emergency clinics provided a crucial dissemination wellspring. The insight acquired from these previous illness incidents offers valuable information and will help establish restorative steps to destroy COVID-19. Across the first five percent of 2019, right well before the pandemic portion, the country's economy collapsed at that point with modest growth to 4.1 percent a year ago (Despres, Aguilar, McAlister & Ramirez, 2020).

In contrast, the jobless rate was 50 years high, and nine centerpieces of Indian culture yield fell 5.0 percent annually. The COVID-19 stun altered the situation, with all the figures for 2020 becoming re-

considered upwards; for instance, India Surveys and Exploration reduced the national income of Asia prediction to 3.6 percent from 5.5 percent for the 2020–2021 monetary year) (and Moody’s likewise reduced India’s 2020 gross domestic product forecast from 5.3 percent to 2.5 percent (Fauzi & Paiman, 2020; Ghosh, Nundy, & Mallick, 2020; Ghosh, Sengupta, Manna, & De, 2020; Gössling et al., 2020). The void between the facts on the table, asking for striking and thought-strategy steps, and unwavering confidence in a self-correcting global economy, shattered ideas of a need for more concrete deal negotiations, rather than giving rise to fiscal adjustments and “simple improvements.” Our inquiry requires a sincere contribution to evidence collection in two different respects. By reacting to our qualitative research as discussed in the last sections of the article, we contribute philosophically to the executive board’s gathering of knowledge in the area of general well-being, pandemic analysis, and disaster. Respectively, an applicable contribution by educating policymakers in India and other countries developing the environment to cope with it (Hassan et al., 2020; Jallow et al., 2020; Kanitkar, 2020; M et al., 2020).

IMPACT OF COVID 19 ON ECONOMY AND MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES

Covid-19 places the socioeconomic security of classes of individuals and institutions at risk. The pandemic affects the worldwide state of well-being and threatens the framework of the global financial market. Therefore, in the daybreak of contraction, various economies are. Detailed in their most recent international economic inquiry, the emergency has lowered global monetary growth from 0.5 percent to 1.5 percent as of May 2020. In their review of the Worldwide Capital Certainty Indicator, 73% of respondents had an extreme effect on the world economy, while the other 27% had a minor effect (Wasdani & Prasad, 2020; Zu et al., 2020). The large community and cross-border growth regulations are often affected by closing local, regional, and global market components. As a result, many workers are under repression, and organizations are hard to get through and try to get back the typical path. Roaming, the travel industry, travel-related projects, inns, cafés are among the most prominent troubled divisions during the MCO. Simultaneously, the suppliers of staple products, goods, medicinal services, pharmacy, and farming organizations are likewise less defenseless. Critical challenges include revenue problems, the end of the operation, the laying off of experts, restructuring, and struggling companies’ capacity to expand in the future. The results can fluctuate in recognizing the types of business behavior, scale, and properties that have been (Bartik et al., 2020; Bonaccorsi et al., 2020; Chaudhary et al., 2020). There is a fundamental need to examine the effect of such marvels when little evidence is currently available to practitioners, creators of strategies, and references to the scholarly community.

Consequently, the impact on company protection of fast stuns circumstances is unavoidable. Having regard to online research on manageability among 15,627 Malaysian MSMEs, it is claimed that most MSMEs are incredibly near in their income and anticipated to have no cash inflow for three months after MCO in any event due to various obligations, such as workers salaries, leasing, and other legal increments. Approximately 33.3 percent of MSMEs will provide only enough income for the month when just 37.8 percent will help until April (Despres, Aguilar, McAlister, & Ramirez, 2020; Dong, Du, & Gardner, 2020). Whatever the case, full calculations and authority details on Covid-19’s monetary impact on free additionally, MSMEs in Malaysia are still unavailable. Therefore, unparalleled in world history, the enormous possibility of boosting subsidizing is provided by most nations to assist the market sector and its employees (Fauzi & Paiman, 2020; A. Ghosh et al., 2020; K. Ghosh et al., 2020).

Government Strategies to Minimize the COVID-19 Fallout on MSMEs in India

Consequently, on 26 May 2020, the Malaysian government had propelled the PRIHATIN Monetary Boost Bundle 2020 with an RM3.3 billion expenditure plan to assist MSMEs in continuing business, work, and local venture tasks (Malaysian Head of Administration, 2020). Via budgetary organizations, including the business banks, Islamic banks, and other money-related entities, would be guided to various regions. Bank Negara Malaysia's Common Alleviation Office totaling RM3.0 billion is allocated to mitigate difficulty for MSMEs in terms of existing wages and working resources.

Financial Measures

New financial initiatives allude to the Indian administration's actualized operations and behavior because of pandemic infections. The nation-wide shutdown of 21 days was announced in India. In either scenario, with the growing number of complex cases and the expense of transfers escalating to 370, the lockdown was hit at the end. In comparison, the lockout was followed by the billions of investment package announced on 26 May 2020 (Pillay & Barnes, 2020). The administration executed movement restrictions and the assembly of around 249 electors (Varalakshmi & Swetha, 2020). With the pandemic's flare-up, a succession of steps followed with a definite cause to stop the propagation of this pandemic, and further, Prime Minister, Narendra Modi extended the sustained lockdown.

Goods and Services Tax (GST) Related Measures

Due to budgetary steps to adjust to the lockout, sustainability in the market should also keep the industry going. Credit crunch projections such as increasing the usable capital propulsion cap by 38 percent throughout all states and organization territories, continued extension of tariff acceptance, lowered the repo rate by 68 premise focuses and decreased money save ratio by inference concentrates fell liquidity costs and offered assistance to individual states and the general financial system (Chaudhary et al., 2020). Because of India-made medicines' expanded involvement in battling pandemic abroad, these initiatives aim to profit exporters, particularly the pharmaceutical section. Additionally, specific improvements in the annual valuation and billing of goods and businesses (GST) prices must balance these financial strategy options. The administration has also extended the date for recording personal expenditure forms, while at the same time granting an extension to report GST returns for organizations. Small and Medium Projects (MSMEs) are two divisions that are struck hard by lockdown on the head of a chronically debilitated household program.

Additionally, the graceful chain was disrupted with a small, versatile volume of coarse material from abroad. The legislature has just provided the pending GST and customs discount to counter this one-two punch, which will help all companies, including MSMEs. Furthermore, the legislature has also loosened up the GST compromise commitment, which might help the organizations. In any case, more measures are required to give more help to citizens. Individual enterprises that are enduring, including the travel industry, goodwill, and flight, anticipate upgraded standards, including further expense waivers.

Global Perspective and Difficulties

From now on, pandemic causes a sweeping impact through nations and enterprises and is likely to be dangerous, mainly if the infection is not quickly controlled. China accounts for about 18% of the world's gross domestic product in terms of buying parity of control, which would significantly affect the market,

namely financial pause, trade, gracefully chain disruption, etc. The pandemic flare-up has just introduced tremendous human suffering and significant monetary troubles, with legislative initiatives like isolates, fringe terminations, broader last-interest for foreign goods and projects, more massive geographical falls in the transport sector and international transport worldwide (Priya et al., 2020; Rakshit & Basishtha, 2020; Sardar et al., 2020; Shafi et al., 2020; Shahabi et al., 2020). When requirements are, the annual Gross domestic product production of the globe is expected to slip to 3.4 percent in 2020, down from an essentially meager 3 percent. In India, the emphasis is still on monetary variables, like growth, the Gross Domestic Product, the business's return rate, etc. For example, Figure 8 shows the terms downturn, which explicitly poses a potential danger. Since the economy is entirely affected by the pandemic flare-up, India would possibly record the most notably terrible growth execution after the 1991 advancement for this financial year (Fauzi & Paiman, 2020).

Compared with interviews showing capital sources, tax, well-being, currency, and exchange prices, which was the most remarkable among Asian nations. Furthermore, monetary inequalities have not increased much concern since late. UT financial imbalances should be the policymakers' focal point, as they pose real dangers to post-outbreak recovery. Stringent job marker directives supporting pay protection, training, and arrangements for medicinal facilities should be aimed at strategic initiatives (Gössling et al., 2020; Hassan et al., 2020).

Long-Term Impact on Investment

Pandemic has changed the world with secured countries on a fundamental level to ensure their kin while the organizations remain financially. The country-wide immediate shutdown declaration left vulnerable day by day staff and needy individuals with no access to food and little money nearby. The current situation is equally evident where food, poor people, workers, business, wages, and pay are the primary concerns. Therefore, overnight lockout forced the poor citizens to return to the areas they grew up because they had no cash or place to stay (Mukherjee et al., 2020; Pillay & Barnes, 2020; Priya et al., 2020).

GOVERNMENT STRATEGIES TO DEAL WITH COVID 19

Recommendations to help in the recovery of the MSME sector heavily affected by the invasion of COVID-19 In the beginning, we applaud the administration's push towards contingent lockdown relief in particular areas where risks to this virus continue to emaciate. There is no justification the entire nation should struggle due to a full lockout because specific limited provisions might yield more significant benefits than the dangers that lay ahead. The MSME sector is already facing untold sufferings. Most of each other are now under the menace of eventual annihilation, and therefore any reasonable efforts to break the stalemate to evaluate the reality of the matter are a promising development (Rakshit & Basishtha, 2020; Sardar et al., 2020; Shafi et al., 2020; Shahabi et al., 2020; Sharma et al., 2020). While more than a month's shutdown has endangered this sector absolutely and any kick-off would undoubtedly be faced with a range of insurmountable problems such as fund shortage, dispersed and transient workers, contact obstacles, supply chain deadlock, stoppage of international trade pathways, and on and on, which would thwart the largest share of the small businesses that have yet to be identified In periods of this ambiguity, when everything is blurry, we thought the government should take the following considerations.

Flexible Strategy Writing Up

Counteracting any tragedy of this catastrophic sort that at this point demonstrates no indication of decay and maybe much more damaging than we imagine if it magnifies throughout our understanding, needs a systemic solution to combating it (Fauzi & Paiman, 2020; A. Ghosh et al., 2020; K. Ghosh et al., 2020). While the ministry is likely to be heading in the right direction by this period, our modest assumption is that the government should draw up some versatile concepts to tackle various evolving situations and co-ordinate its numerous re-addressing steps under each one of these possibilities.

Trying To Mitigate Employees' Fears Regarding Living

This is a weeping need at this moment, which may be fruitful if not overcome with all endeavors. The whole part of our MSME units (upwards of 90 percent) is so-called small and medium enterprises. Many systems are operated by small-to-size businessmen. The continuous shutdown has practically dumped everyone's purses to manage their finances, even if only to ensure their workers/workers are paid incomes/salaries. To maintain these employees/workers actively involved and provide their smooth compensation, the state could think of incentivizing a percentage of these interest earned / wages for just a fixed time through a well-designed support network (Gössling et al., 2020; Hassan et al., 2020; Jallow et al., 2020; Kanitkar, 2020). It is a simple task in no way considering the absence of an accurate MSME registry detailing the country's exact number of micro-enterprises. Therefore, the state should find a viable resolution that confides in various MSME body organs, legislative bodies/institutions, trade unions, appropriate government departments, etc.

Logistical Help to Resume

Surrounded by white years, the shutdown has virtually interrupted all the strolls of our lives, excepting MSMEs' core businesses. Network system dislodged throwing punches production capacity instability, business entry, and also whatnot. So the Policy will first look at the re-establishment and stabilization of places that have a systemic impact. Another such goal is the reinstatement of the communication and contact network (M et al., 2020; Mukherjee et al., 2020; Pillay & Barnes, 2020). It would also help integrate the professional and unqualified labor force dispersed throughout the world. It will also help fix many other vital issues such as factory grounds difficulties, idle plants, equipment, product injury, fund shortage, etc.

Providing Businesses

MSME enterprises, more precisely micro-business people, are often the casualties of the scenario which require support on multiple levels to survive who move free. They need assistance throughout the areas below.

Delivery of public services: energy bills such as power, heating, hire, millage rate, etc. present a tremendous burden throughout this time of crackdown; all of these charges are fixed costs of existence are accrued and becoming an immense burden for people in business to endure at least first (Sardar et al., 2020; Shafi et al., 2020; Shahabi et al., 2020). The government may intervene here and, in appropriate

cases, find ways to postpone it or allow partial concession/exemption up to a reasonable period covering both its non-working and initial operating period together to mitigate the entrepreneurs' liquidity crunch.

Data Supply

The components were also likely to experience input limitations at the early stages of the production. Distributors could distrust even to provide loan modification, insist on reimbursement of repayments, may unreasonably hike valuations, or may arise any other unnecessary restrictions. This could happen because the issues are unique to the sector or individual item (Bartik et al., 2020; Bonaccorsi et al., 2020; Chaudhary et al., 2020).

Mitigating Fund Constraints

Role of Banks, NBFCs, and other financial organizations: While RBI in its two stimulus packages has ushered in many measures to enhance liquidity in the system and provide various facilities to the MSMEs and small borrowers that inter. Our suggestions, in this respect, are:

Extension of Moratorium Period on Term Loans

The moratorium of 3 months on term loans may be extended to 6 months or even more as today, most of the MSMEs are in the lockdown zone with no certainty when they start their operations. Moreover, the instability created worldwide due to this lockdown will not be congenial for the enterprises to earn profit at the initial stages of starting their operations.

Sanctioning Short Term Loan

Although several banks have declared the COVID-19 emergency line of credit for their affected existing borrowers, the problem's severity may call for a more holistic approach. After assessing a case-specific requirement, banks may give short-term loans with specific repayment schedules and without any additional securities to mitigate the issue of cash flows and circumvent their working capital constraints. This may be in addition to the working capital limit already sanctioned to the unit

Interest Subvention

Granting a moratorium on term loan or deferment of interest on working capital limits might temporarily help an MSME enterprise. Still, strictly, they cannot give any real concession because deferment is not a debarment of interest payment. Our experience suggests any deferment of any sort does not stall part charging; instead, it ultimately results in more payment by way of interest as interest gets compounded on the unpaid amount.

Reclassification of NPAs

Since many of the MSMEs, for no fault of theirs, will not meet repayment commitment, it is perhaps the right time when RBI should develop new classification norms of NPA. We suggest NPA's criteria on an

overdue period of installment of principal or interest may be extended from present 90 days to 180 days for a specified period with scope for gradually reinstating it to its earlier position as per improvement of the situation.

Enhancing Guarantee Coverage of CGTMSE

During this trying period, there may be the scope of bringing more and more MSMEs under CGTMSE cover by enhancing the upper limit of term loan and working capital to be eligible for cover. While we speak of the CGTMSE guarantee scheme, the government may partially guarantee individual MSME loans with a good rating and good repayment history under some specific guidelines.

Stalling Encashment of Guarantee

We endorse the MSMEs' apprehension that PSUs may encash the performance guarantee during the Covid-19 lockdown for disrupted supplies. We suggest that the government direct state-owned entities put any such move on hold temporarily until the situation becomes normal, allowing MSMEs to function smoothly.

Preferential Purchase From Government and PSU and Innovative Platform for Marketing

The public procurement policy for MSEs that was effective from 1 April 2019 comes in handy in enhancing the scope of marketing for MSEs by mandating a minimum 25% annual procurement of reserved MSE products by every Central Ministry/Department/PSUs. The Policy also ensures the scope of review of the number of exclusive, mysterious items, including the content of suitable enhancement of the minimum target level and the number of reserved items for this procurement. Concept of single window system: As a plethora of different supporting stimulus's for the MSMEs are on the anvil, one point that the government may seriously ponder over is to see that there remains perfect co-ordination among all the bodies entrusted to implement these stimulus "s and should see there is no duplicity. It should also be ensured that the benefits of all these schemes are transmitted to the ground level quickly and adequately. Unless the government can develop that dedicated bottom line, many of the MSME entrepreneurs may be left unnourished (Pillay & Barnes, 2020; Priya et al., 2020; Rakshit & Basishtha, 2020; Sardar et al., 2020). The government can think of building some single window system at the district/zonal level to co-ordinate all MSME related activities that inter-alia may include linking MSMEs with different government schemes, linking small units with different marketing platforms, GST regulations, loan approval and disbursement, rehabilitation of sick units, dissemination of various MSME related information, helping them to be more digitalized and so on. This window may act as an interface of the government to assess the groundwork reality, intermittently review what has been done and what is left, may consider building a wide network of different MSME related bodies/organizations/institutions so that an inclusive and comprehensive response can be meted out. In this connection, we want to reiterate the importance of the planned website of MSME ministry -- "Bank of Ideas, Innovation, and Research" meant for compiling innovative and ingenious ideas for the growth of MSMEs (Despres et al., 2020; Dong et al., 2020; Ebrahim, Ahmed, Gozzer, Schlagenhaut, & Memish, 2020). The website will be an immense help in this trying time, and so a hearty welcome. 8. Spread of Digital awareness: Many

people believe that there will be a noticeable change in doing business after this pandemic is over. A company will try to shed its physical activities and movements as much as possible and heavily depend on its digital platform.

We have already spoken of the growing role of fintech companies for lending purposes, TReDs for bill discounting schemes, GeMs for the marketing of their products. Besides that, the increasing use of plastic money, network-based payment, etc. would be more in vogue. Here, the government's role is to build up the necessary logistics and infrastructure on a war footing so that MSME of the smallest size and at the remotest corner of the country can take advantage of that. The government should make wide publicity among the MSMEs for adopting the order of the new regime, and proper training facilities for this purpose are also a need of the day (Shafi et al., 2020; Shahabi et al., 2020; Sharma et al., 2020; Shehzad et al., 2020).

Relief From the Burden of Compliances and Ease of Doing Business

Admittedly, our MSME sector is bulldozed with the enormous burden of huge compliances and regulations. Thousands of employer compliances with their constant changes in a year make India an unresponsive habitat for MSME job creation. Our government is aware of the problem, and already some commendable initiatives to lessen the compliance burden have been initiated. Again, matters related to Raising the turnover threshold for the audit of accounts of MSME borrowers to Rs.5 crores is also an enabling step in this direction. 10.Social security for MSME employees:

This aspect is a critical point to reckon, which our Hon'ble Prime Minister has already noted seriously. The program highlighted by the finance ministry regarding launching a mission aimed at MSME employees to get Jan Dhan Accounts, Provident Fund, and Insurance should gather the required momentum immediately. It should be meticulously monitored how this outreach program of the government can be strengthened and what more measures can be adopted to provide social security to the MSME employees (Mukherjee et al., 2020; Pillay & Barnes, 2020; Priya et al., 2020; Rakshit & Basishtha, 2020). In this respect, we can mention the PF dues of thousands of workers working in MSMEs, which cannot be met by most of the entrepreneurs of small means. Here the government should reasonably come forward, can shoulder the burden of PF payment for a specified period, say for six months, thus relieving the entrepreneurs a lot.

Technology Upgradation

Although this is a long term issue but needs worth mentioning. Technology will be the most determining factor in the coming days for MSME to reign in the market. We have a pool of talented engineers, have some well accredited premier educational institutions, and enough unutilized resources. A bit of stewardship on the government's part in harnessing these resources with provisions of required incentives, facilities, logistic support, foreign collaboration, import of need-based high-end technology, etc. can do the miracle.

Address to Right Information

The flexible policy framework with multiple scenarios that we have mentioned should include this point as a medium and long-term measure at the outset of our observation. Many of the MSMEs usually

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(Pambudianti, Purwanto, & Maulana, 2020) at the remotest parts of the country suffer from ignorance and lack of information regarding the documentation and other formalities for obtaining licenses and registrations. Government portals and websites should be updated with all information to reach the unreached in the country's remotest part for removing unnecessary confusion amongst the entrepreneurs. Here the government can moot over in launching a centralized online system of licensing with proper use of technology to resolve the issue.

Simplifying Patent Registration Laws

This point should also find a place in the government's flexible policy framework to be initiated as a medium and long-term objective. Our country's research and development aspect lag far behind compared to many other countries in the world. The vast expenses that it entails cannot be subscribed by most of our MSME entities. Similarly, the long-drawn process of registration of patents and lack of proper monetary incentives for research and development is a permanent drag for this sector (Pambudianti et al., 2020; Pillay & Barnes, 2020; Priya et al., 2020). Here, the government may envisage what can be done, make a tie-up with many premier educational institutions, goad the big business houses to provide necessary wherewithal in terms of money and means and dig many other innovative ways.

Unified Labor Code

This point may also be treated as a long-term policy measure. This is a cry from different quarters for a long time. Multiple numbers of labor legislations govern factory and manufacturing establishments in India. Many of these acts overlap, and the companies face difficulty complying with each legal requirement every month. Moreover, many provisions of these legislations are upgrading necessary up-grading with new technological advancements and business models. In this scenario, the compilation of all these legislations into a single labor code that may take care of all major verticals like wages, industrial safety, welfare, industrial relations, social safety, etc. may need the hour.

Export Incentives

While the MSME sector, in general, is impacted a lot due to this lockdown. It is estimated that more than 50% of the country's total outbound shipments are catered by MSMEs. The problem seems to be gloomier in the sense that due to this global pandemic, global trade in goods is set to decline steeply in the coming days, which may vary from 13% to 32% as estimated by WTO. A comprehensive incentive package should be rolled out like many other countries in the world for these exporters. In this respect, the government's initiative to drive eCommerce platforms for pushing exports with an emphasis on small enterprises located in remote areas should gather the enhanced steam. The government should consider allowing more significant export incentives for the exports effected through eCommerce platforms.

IMPLICATIONS AND RECOMMENDATIONS

The pandemic's flare-up has come about in not just the sworn off earnings-related with bleakness and mortality. However, it has likewise prompted a considerable increment in the private and open uses on

social insurance. It has a more notable effect on the part arrangement and human capital of the financial system. It depends on securing the whole nation for 21 days, in the first place. Given the country's colossal casual economy loaded up with short work, the lockdown has just prompted the loss of employment for some, starting lockdown infringement. To make the lockdown a triumph, it is relevant for India's administration to take quantifies to the goal that the majority remain inside, giving the nation time to plan for the emergency. This must be finished by offering some monetary help to the weak gatherings of individuals. Before the episode of the pandemic, India was at that point under gigantic financial deficiency. Along these lines, It will not be possible for the Indian government to invest so much in preserving the country. In just about any event, the parliament has announced a pair of steps to stimulate the nation. The program update recommends to every other low-income family 5 kg of rice and maize for nothing; available-cooking gas chambers to 190 million powerless family members; once transfer funds from \$14.31 to \$40 million to older people and \$8.65 a quarter to about 3 billion vulnerable ladies; including clinical protection worth \$76,000 to each front-line well-being specialist, specialists, medical attendants, and paramedics to individuals associated with clean administrations (Jallow et al., 2020; Kanitkar, 2020; M et al., 2020).

India will most likely be unable to co-ordinate with the assets of these created countries. India can unquestionably co-ordinate with their strategies, however.

At the end of the day, until an antibody or a fix isn't discovered, the administration must arrangement to make an extra improvement of 9% of Gross domestic product, with the goal that administration spending proceeds, and the rural homes, transient laborers, and day by day breadwinners are shielded. That will compress the economic deficit that had recently taken hold, but there is a need to switch between the two colors of evil. As a former RBI lead representative has pointed out, concerns that the organizations have operated at will not be satisfactory manner tended towards, and emphasizes that companies like helpfulness and the travel trade require more support from the government. Banks in India boss marketing adviser further notes that an extra package of 10.8 million dollars is necessary to cope with this situation. In such cases, two measures may demonstrate helpfully. The inventive methods of overseeing little and medium endeavors and day by day breadwinners ought to be received. This technique would augment the nation's monetary deficiency yet empower the weak part to support their employments. The legislature must offer critical help to virtually upset farming, which further faces the extra weight of opposite relocation. India's Agricultural Alliance (FCI) typically keeps its claim based on an incredible abundance of agricultural products. Making the rounds these agricultural commodities can be an option available to deal with the emergency, yet it is embroiled in a different society such as India. In July, India's national court asked the Focal Government to consider promulgating agricultural goods, whether for available or negligible costs. It may well be that the Focal govt around then accepted that expecting to start executing this proposed bill and evacuate the agricultural commodities for doing nothing) (is well beyond the bounds of possibility. However, the world's leading court stated that although food grains were also cast aside in such an amount and spoiled in godowns, great outdoors of agricultural commodities is a requirement and not a clear proposition (Press Trust of India, 2010a).

The government should initiate the calibrated opening up of various export-oriented MSMEs to start production under strict safety guidelines to mitigate this sector's woes and avert the possibility of losing market in different countries to many other peer competitors.

1 Focus on providing tangible benefits. A three-month transition to micro and small enterprises to help them navigate financial obligations.

Government Strategies to Minimize the COVID-19 Fallout on MSMEs in India

- 2 Expand priority purchasing under public contracts, given that MSMEs are willing to satisfy consumer demand. Private firms below the value of INR 10 crore (billion dollars) should be confined for MSMEs and up to the cost of INR 50 of the total (USD 6.6 thousand) for small businesses.
- 3 Create favorable conditions for MSMEs to ensure that they participate in the contract bidding process and remove barriers to the supply chain management of bank guarantees * (in particular for micro-enterprises).
- 4 Include subsidies to services, that is to say, energy or water, namely to engineering firms.
- 5 Allow central banks to proceed with loan complete ban for at least some other six months. The moratorium will be applied through mediators, banks, and the NBFCs. In a brief period, this should give some support to MSMEs.
- 6 Also, the government may offer interest subsidies on mortgages to small and medium scale enterprises via providing loans.
- 7 Banks could also significantly raise the existing capital expenditure ceilings for MSMEs by 35-50 percent. The Policy will understand the requirement on the expanded cap.
- 8 Encourage the partnership of fintech companies with a conventional bank to provide quick loans to MSMEs with minimal track records or transactions; data on GST, permanent account, and income tax may be used for registered companies and alternate frameworks for other companies.
- 9 incentivize banks for using credit check company correspondents and KYC to lend to rural MSMEs.
- 10 Expand the scope of the existing Business Immunity Platform to cover e-commerce and social trade information, digital payments, and alternative financing modes, including those from the private sector. Introduce tax incentives for e-commerce platforms to sell to MSMEs.
- 11 Ensure that all COVID relief packages cover Shishu and Kishore credit borrowers under the MUDRA scheme. Nearly all of these borrowers are micro-enterprises.
- 12 Ensure simple processes to seek COVID-specific cash transfers for unorganized enterprises registered under various national, state, and local governments. Use this opportunity to register and make micro-enterprises official.
- 13 In terms of providing COVID relief benefits, county council bodies may be used to target indirect and undocumented companies that seem covered earlier in this thread. Along with third-party agencies or NGOs, these bodies may collect village or block-level data on unregistered MSMEs.
- 14 All MSME regulations should be followed by an action process to achieve such policies are implemented rapidly.
- 15 Create agile plans for the different stages of the COVID-19 disease outbreak along with contingency plans Ensuring the control systems are in place for all COVID relief actions. This should help measure success and suggest proactive steps where appropriate.

CONCLUSION

Despite the likely casualty count and the significant interruption to an extreme amount of persons, multiple superintendent professionals have hesitated to sink money into everyone's standard human services offices satisfactorily. As to the system of a lockdown period, residents may be eager to endure such reconnaissance if they trusted it was brief. Such concealment systems may work for some time; however, they require a leave strategy. On the off chance that the administration forces enormous social

and monetary expenses and the infection influences a gigantic extent of the populace, at that point, such a circumstance may end up being unforgiving on the administrative authorities and legislators.

The improvement measures are an inviting step when the economy has halted. Given the assessed drop out of COVID on the Indian economy, the administration ought not to stress the financial govern and go all out to embrace counter recurrent monetary measures to prevent things from turning sour to more awful. It's the ideal opportunity for massive activities to help firms rely upon the homegrown economy and global exchange. The government also needs to guarantee that the improvement measures are coordinated at a portion of the most exceedingly terrible influenced parts like assembling, development, travel, transportation, the travel industry, inn, and so forth. Firms in most noticeably awful controlled segments are enduring because of the shutting down of industrial facilities, breakdown of worldwide interest, retractions of requests, delays in shipments, and so on. Hence, these organizations need to uphold as intrigue free working money to take care of their compensation expense and fixed cost (lease and enthusiasm) to get by during these tough stretches. However, the financial bundle has given credit to ensure the ideal time currently to support requests so that there is credit take-up. MSME division is work serious and lifeline of India's assembly and exchange. The area is severely influenced by the disturbances to flexibly and requests chiefly because of homegrown and global lockdowns. Aside from the credit and other money-related motivating forces, the need for great importance is to help firms, businesses, and financial movements get back on the operational mode. The economic effect of the Corona pandemic is enormous. It would require a humongous exertion concerning the Government, industry, everyday society, and all key partners to guarantee that the Indian economy recuperates adequately and soon.

In this article, we started by looking at the enormous economic different facets of research that outline the appropriate structures and frameworks for remedying such scenes and further broadening measured and structured forecasts. In the calculation inquiry context, we use a quantitative research framework to consider experts' opinions about pandemic monetary analyses. The test requires a real contribution to the area of accounting, just like applicable. Although hypothetically, it applies to pandemic exploration, the board's general well-being, and the executives' fiasco; in a practical sense, we suggest several initiatives for Indian-based policymakers and other developed world countries. These initiatives will help expand our understanding of the links between addictive diseases, personal choices and behavior, general approaches to well-being and the environment, and endeavors to improve overall extremely poorly-being policies and eventually encourage the general population's financial quality life-being. The consequence of yet another invasion of creatures differs fundamentally between produced and producing nations. Improved cooperation and global engagement in ordinary, possibly the best-being and economic inclusion are also necessary, specifically in time to prevent the spreading of these pathogens after a while.

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KEY TERMS AND DEFINITIONS

CRR: The percentage of cash required to be kept in reserves, vis-a-vis a bank's total deposits, is called the Cash Reserve Ratio. The cash reserve is either stored in the bank's vault or is sent to the RBI. Banks do not get any interest on the money that is with the RBI under the CRR requirements.

FinTech: Financial technology (Fintech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. When fintech emerged in the 21st Century, the term was initially applied to the technology employed at established financial institutions' back-end systems.

KYC: KYC means Know Your Customer and sometimes Know Your Client. KYC or KYC check is the mandatory process of identifying and verifying the client's identity when opening an account and periodically over time.

NBFCs: Nonbank financial companies (NBFCs), also known as nonbank financial institutions (NBFIs), are financial institutions that offer various banking services but do not have a banking license. Generally, these institutions are not allowed to take traditional demand deposits—readily available funds, such as those in checking or savings accounts—from the public.

NGOs: A non-governmental organization (NGO) is a non-profit group that functions independently of any government. Sometimes called civil societies, NGOs are organized on the community, national and international levels to serve a social or political goal such as humanitarian causes or the environment.

NPA: A nonperforming asset (NPA) refers to a classification for loans or advances in default or arrears. A loan is in arrears when principal or interest payments are late or missed. A loan defaults when the lender considers the loan agreement to be broken, and the debtor is unable to meet his obligations.

PSUs: A state-owned enterprise in India is called a public sector undertaking (PSU) or a public sector enterprise. Those companies that are owned by India's union government or one of the many state or territorial governments or both.

APPENDIX

ACRONYMS

GST: Goods and Service Tax

NGOs: Non-Governmental Organisations

MSMEs: Micro, Small, and Medium Enterprises

MUDRA: Micro Units Development and Refinance Agency Ltd.

KYC: Know Your Customer

Fintech: Financial Technology

NBFCs: Non-Banking Financial Companies

USD: United States Dollar

INR: Indian Rupee

RBI: Reserve Bank of India

WTO: World Trade Organisation

TreDs: Trade Receivables Discounting System

GeMs: Global Education Management Systems

PSU: Public Sector Undertaking

CRR: Cash Reserve Ratio

SARS: Severe Acute Respiratory Syndrome

NPA: Non-Performing Assets

CGTMSE: Credit Guarantee Fund Trust for Micro And Small Enterprises

Chapter 10

Human Resource Management Strategies of the Indian Information Technology Sector Post–Pandemic

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ABSTRACT

The objective of this chapter is to discuss the changes incorporated in the human resource management strategies post-pandemic situation owing to the COVID-19 pandemic which has instigated disaster across the Indian information technology sector. However, the information technology (IT) industry has been cruising through the situations steadily compared to the other sectors as it has adopted certain innovative human resource (HR) management strategy coupled with technological innovation. The theoretical investigation using the secondary data sources and views of HR professionals clearly reveals that the information technology sector has incorporated strategic changes to restore the balance and control the distortion caused by the COVID-19 pandemic to the industry. More specifically, the diverse HR strategies incorporated by the IT firms in their efforts were focused to combat the economic repercussions caused by the pandemic, keeping in mind the financial strength of the company, employee morale, future business outlook, and employer branding.

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INTRODUCTION

Coronavirus disease (COVID-19) is an ongoing pandemic of a highly infectious disease which was first identified during late December 2019 in Wuhan, a city in China's Hubei province and has since spread rapidly across the world leading to mass economic and healthcare disruption. The World Health Organization initially declared the outbreak as a "Public Health Emergency of International Concern" on 30 January 2020 and subsequently as a pandemic on 11 March 2020 (WHO, 2020).

India is one of the most severely affected countries in the world with 3.77 Millions of confirmed cases as of September 2020 according to the Governments Ministry of Health and Family Welfare of India. The country is placed in the second position next to USA in the list of first five most badly effected countries by COVID-19 pandemic across the world. The Coronavirus outbreak has caused significant disruption in the economic activity of the country fuelled by consecutive nationwide lockdowns in varying scales marking it the first dreadful life crippling experience of its kind for a population close to 1.35 billion people. (Singh, Goel, Kumar & Gettleman, 2020). Restrictions in different forms and versions like country wide to state-wide, 21 days to weeklong lockdown formats have halted the mobility of common public. This has brought adverse impact across all the sectors from Primary to Tertiary in multiple ways and forms, leaving behind millions of white collared professional and blue collared worker's jobs in doldrums.

The consumer demands of the products and services are also steeply declining beyond imaginations because of untimely and sudden lockdowns enforced by the Government to curb Covid-19 pandemic. The Economists have shared their predictions on the contraction of the Gross Domestic Product (GDP) of the country which is the fifth largest Economy of the world. Other major implications for the economic downfall due to the COVID-19 situations are supply disruptions and manufacturing disruptions due to the dependency of India majorly on China towards import of intermediary goods and raw materials for the business operations. The next vector is the spending of the consumer has been experiencing a very bad hit which has resulted in the steep decline of the service sector, specifically the Aviation and Hospitality industries have been hit very badly. The other important vector is the Banking and Financial sectors who are also experiencing a big blow because of the mounting defaults of loan repayments by the customers. The last but not the least disaster is the fluctuating crude oil prices during the pandemic situation has also fuelled the negative effect on the business growth. The recent report of the Government of India on the GDP (April-June) shows colossal contraction of the GDP by a 23.9 percentage year on year. This contraction has happened for the first time in the past four decades' according to the National Statistical Office (NSO) of India. As per the April –June quarter Gross Value added (GVA) has declined to -22.8 percentages as shown in Table 1.

Table 1. Service and manufacturing % change in Gross Value Added (GVA)

Sector	% change in GVA
Gross capital fixed formation	-47
Manufacturing	-39.3
Services Including Construction	-26.8
Private final consumption expenditure	-26.7
Public administration and Defence	-10.3
Agriculture, Mining	-1.2
GVA	-22.8

Source: As per the National Statistical Office (NSO)

The Quarter One economic report of the country indicates that except the Agricultural sector which has a positive growth of 3.4 percentages against 3 percentage growth year on year, all the other sectors contracted drastically when a year on year comparison is made.

IMPLICATIONS OF COVID-19 RESTRICTION ON VARIOUS SECTORS

In India during the first lockdown of 21 days, nearly all services and factories were forced to suspend their operations, and only the sale of essential goods was made available sporadically through small retail shops, road side platform vendors and through e-commerce websites (Singh, Goel, Kumar & Gettleman, 2020). The subsequent lockdowns were also enforced with similar rigour exempting a few more essential services such as postal services, banking services and courier services. A significant proportion of relaxation was later witnessed from the third phase of the lockdown where the country was demarcated into Red, Orange and Green zones and considering relaxation and providing exemptions were determined based on the 'risk related to the spread of infection' due to COVID-19.

A survey seeking responses from about 380 companies across sectors was conducted jointly by professional research agency part of FICCI and a tax consultancy named Dhruva advisors said that there remains a "tremendous uncertainty" with regards to their future prospects. A substantial majority of the respondents said that they do not foresee a positive demand outlook for the fiscal year 2020. Seventy per cent of the surveyed firms were expecting negative growth in sales for the year 2020. Another set of 'Layoff' surveys conducted during March 2020, on 1124 companies across 11 industry sectors by My-HiringClub.com and Sarkari-Naukri.info revealed that 73 per cent of the employers decided to decrease the salary of their employees, further 57 per cent have laid off their employees temporarily while 21 per cent companies have resorted to permanent layoffs. The quantum impact of this is given in Table 2.

Table 2. Quantum Impact of COVID-19 on Sectors in India

Sector	Impact	Reason
Pharmaceutical and Drugs	Moderate	Due to government support production will quickly recover for essential commodities.
Retail and wholesale (non-food items)	Sever	Essential items sales will be able to recover quickly whereas the recovery will take time for non-essential goods
Livestock	Sever	The demand and the cost may increase after the epidemic
Textiles	Moderate	Discretionary expenditure is projected to be low for a quarter. Nevertheless, demand for vital commodities such as masks cotton roll the demand will increase
Logistics	Sever	The tourism sector will witness slowdown and will have a knock on effect. There will be a rise in cargo traffic once business resumes. However the recovery will be delayed due to low consumption expenditure
Automotive	High	Due to low disposable income and higher prices of cars the demand may be dropped or delayed.
Entertainment	Sever	Due to the social distancing norm people will not take the risk.
Banking	High	Due to outbreak of COVID-19 RBI estimates that by September 2020 there may be an increase in Non-performing assets from 10.2% to 10.5%.
Hospitality	High	The tourism sector is witnessing a slowdown that will witness a knock-on effect on hospitality sector. The rate of occupancy will be very low until the first quarter of 2021. Many business are expected to cut down expenditure on travel and accommodation
Tourism	Sever	The foreign and domestic tourism travel will remain low due to the high risk of covid and problems in social distancing
Electronics	High	The demand for consumer durables will reduce due to low disposable income and ambiguity over the prospects of growth.
Micro, Small, and Medium Enterprises (MSMEs)	High	There is direct impact of the recession across the globe for exports. The impact over Indian MSMEs is going to be sever and will last a longer time.

Sources: Ministry of Commerce & Industry, Ministry of MSMEs, D&B Survey

The Reserve Bank of India has made the required initiative to bring down the benchmark repo rate on a total of 115 points since the month of February and has been keeping the rates on strong hold in the month of August 2020 in spite of growing inflation. When the Gross fixed capital formation is compared year on year, it is evident that the percentage is down by 47 percent, whereas the Government final consumption expenditure stands at 16 year on year basis.

The estimates on the country's GDP has shown a very unwelcoming portrayal. Table 3 gives Ministry of Statistics Prime Points at a glance on GDP across sectors.

Table 3. Gross Domestic Product Across Sectors

Sector	GDP %
Communication, Hotel and Hospitality, Transportation	- 47
Construction	-50.3
Gas and Electricity	-17
Mining	-23.3
Agriculture	+3.4

Source: Ministry of Statistics Prime Points at a glance 2020

As per the projection made by the world Bank there is a 3.2 percentage contraction expected, whereas International Monetary Funds has hung the estimates to 4.5 percent, Asian Development Bank has indicated the figures in this regard as 4 percentage and Nomura and ICRA had recently indicated their contraction forecasts to -5.2 and 9.5 percentage respectively.

BACKGROUND

The IT industry in India has seen tremendous growth over the last couple of decades owing to increasing globalization of the world economy. India has emerged as one of the biggest exporters of software across the globe garnering in a major chunk of the forex revenues along with providing huge employment specifically to the millennials of India. The IT industry as a whole has traditionally been a human capital intensive sector and hence the availability of cheaper yet competent engineers across India has fuelled the growth in this sector. The role of the Human Resource Department is all the more imperative given the rapidly changing environment and industry demands in the IT sector. The HR department today is a key contributor towards solving organizational issues and achieving intended business outcomes. It addresses a whole host of functionalities that indirectly impact the balance sheet of an organization such as employee training and development, performance appraisal, manpower planning, employee welfare. The Indian IT sector is known for its successful growth and development in terms of volume and value of business both in India and worldwide. The growth has been gradual, consistent and in multiple phases. Every phase of growth has helped the Indian IT sector to acclaim global recognition and reputation. The sincere efforts of Indian companies' growth like Infosys, Wipro, HCL, GCI India, Atos TCS, Tech Mahindra and joint efforts of other Multinational IT Organizations like IBM, Dell and DXC, has enabled the Indian IT sector to scale great heights in terms of delivering quality products and required information support services to the clients across the globe. The prime reasons attributed for the growth of the Indian IT sector is the elite manpower with enormous technical and English vocabulary skills. The growing Infrastructure of the country in terms of Telecom networking, physical infrastructure developments like roads and buildings, India being considered as low cost destination for IT outsourcing, the support mechanism of the Government and local bodies have certainly made the IT sector to grow at a faster pace than other sectors.

Current Situation at IT Organizations Due to COVID-19

The IT Organizations have moved to virtual platform to perform its day to day functions like recruitment and selection processes, for example companies like Skilsoft has appreciated the HR's initiative of conducting the recruitment through virtual platforms. The company's HR has said the virtual recruitment ensure safety for both the candidates and the panels interviewing them, the added advantage is the candidates from across the country could participate easily and actively. The restrictions on the issue of visa for IT professionals intending to travel abroad have effected the IT industry adversely. In the normal course of time, in order to get business from oversea clients the sales team keeps traveling abroad frequently. They are experiencing a very tough time as not all the business transactions could be done virtually, specifically major project sales negotiations and terms of business agreements normally happens widely in person. The quantum of such business generates a whopping two –thirds of the revenue

for the Indian IT industry, and such businesses are derived specifically from countries like USA, UK, China and Europe.

The overseas travel restriction experienced during this situation has restricted the movement of Indian experts and eventually resulted in non-fulfilment of the onsite service delivery commitments. The IT companies are forced to hire local talents and experts in the foreign country to support their overseas clients. This interim practice is also adding exorbitant burden to the Indian IT companies in terms of soaring hiring costs of local talents which in the long run will drain the reserves of the company and certainly would affect the profit margins.

The IT Industry doesn't work on isolation and the projects the IT Industry generates from vivid sectors like Banking and Finance, FMCG, Health Care, Education, Hospitality, Oil and Gas, Telecom, Chemical and Pharma, Travel and Tourism and of course manufacturing and production sectors. So when all the above said sectors are experiencing a very bad patch of business times, the repercussions are transferred to the IT Industry in terms of not allotting any new projects and stalling the existing projects indefinitely. The major Indian IT companies like TCS, Infosys and Wipro who work for the banking, financial services and insurance (BFSI) sectors and earn almost 30% of their revenues from these sectors. The business for these IT giants are badly affected because the Banking sectors have been affected by global financial crunches, financial restrictions and rate cuts like the recent rate cuts made by the US Federal Reserves.

LITERATURE REVIEW

The research conducted by Madhani, (2010) on the HR strategy adoption during economic downtrend indicates that the HR takes very serious strategic decisions when it comes to salary and compensations. The HR strategies of cutting the salaries and freezing the increments are done balancing the risk of losing employees and the financial health of the organisation.

One of the most widely incorporated passive plans in addressing the COVID-19 crisis by firms is to increase the variable pay of the employees. In a research article published by The Economic Times, multiple experts claim that organisations are looking to restructure the fixed to variable pay ratio across various levels, in order to link performance more with the compensation to ensure higher employee commitment towards their jobs. According to a study by Deloitte, one of the big four consulting firms, companies are considering to alter the existing fixed to variable pay mix from 85:15 percent ratio to 50:75 percent.

The director of rewards and risk management advisory of Wills Towers Watson, the third-largest insurance broker in the world said that, the results conducted by their Organisation indicates that companies are evaluating to also include greater long term incentives in addition to the existing short term incentives especially for the mid and senior level category employees. This would also mean preserving cash for immediate business requirements to weather through the COVID crisis.

Further, another Principal-career of the HR consulting firm, Mercer, stated that the research results on after math of COVID indicates that while there may not be much change at the entry-level or junior levels, the change may be more significant for higher-level employees.

According to the Mint, which is one of the most popular business newspapers in India, India's most popular airline Indigo announced pay cuts of 25% for its senior management. Similar strategies were incorporated by their rivals such as Go Air and Spice Jet. Go Air also went on to introduce leave without pay for its employees. In the Service sector, the hospitality company Oyo and some of the IT organiza-

tions which has seen a reasonably good growth in its business recently has not only cut the salaries of its employees by 25% but also sent some of its employees on leave with limited benefits such as medical insurance and school fee reimbursement. However, the in-depth research indicates these organizations have ensured that the employees' compensation doesn't slide below Rs. 500,000 a year.

The research data indicates that cost cutting practices are extended in different forms along with significant layoffs in certain firms and without layoffs in certain firms. Cognizant, which is one the biggest IT services company operating in India planned to lay off 400 of its high ranked executives in its efforts to grapple with the impact of the COVID-19 pandemic. The company in its statement said that in a people-incentive business such as theirs, effectively managing workforce is key to their cost structure as per a research data reported in the Times of India.

In the case of firms reeling with a larger hit, layoffs have also been seen. As stated in a report of the Indian daily, The News Minute, firms operating in sectors such as hospitality, retail and other IT startups have majorly faced the brunt of this economic downturn. These small and medium Organisations have laid off thousands of employees each owing to huge drops in revenues. While some have laid off by paying out their employees' with and without three-month notice period salaries, other HRs chose to do so along with facilities such as health insurance and outplacement support.

Researches have shown that the human consequences of layoffs, pay cuts, retrenchments, deferring the increments and promotions are costly and cause significant mental trauma and devastation for the individuals and their families. (Macky, 2004) While in situations like economic downturns, layoffs cannot be avoided entirely, using this as a last resort managerial tool rather than a first resort is advisable. (Gandolfi, 2012) That said, a company needs to factor in the cost reductions appropriately as per the current business positions and environment. Ideally, it would be best if the company is in a position to determine the expected severity and downturn caused due to any crisis as accurately as possible.

Compensation is one of the most integral parts of Human Resource Management. According to Mathis & Jackson, (2000), the compensation system must adhere to the objectives and the business strategies of any organisation. It is therefore vital for the organisation to balance the costs of compensatory budgets of the employees and at the same time, ensure a competitive advantage in all aspects. Therefore, any compensation structure should ensure that three primary objectives are met adequately. 1. Compliance with the labour and compensation laws of the land, 2. Internal and external pay equity ensuring good employee morale, 3. Cost-effectiveness for the Organization.

In the midst of such measures, there were a few IT and other non-IT firms across industries which sought the ongoing crisis as an opportunity to stand with their employees and bolster their employee goodwill. According to the Economic Times, firms such as Johnson & Johnson, Hindustan Unilever, Asian Paints, Infosys, Tata consultancy Services and Persistent systems are among those companies that have chosen to hike salaries, make variable pay-outs and also promote their employees. Due to the ever-changing dynamics of the organisational requirements, there exists a need for companies to retain high potential and worthy candidates. (Maria-Madela, 2009)

The intersection of good Human Resource Management along with good employer branding goes a long way making a firm stand out and desirable for good talent. This, in turn, differentiates companies to create a competitive advantage. (Collins & Stevens, 2002) This trend, when observed, however, does highlight that such aggressive steps were taken largely in firms with very strong balance sheets

Research shows that it is best if steps such as these are taken in a stage-wise manner with increasing intensity. The stage refers to the time required by the organisation to reduce its operational expenses. (George, 2004) In reality, accurately forecasting an economic downturn is quite a difficult task as there is

a tendency for firms to react rather than anticipate the economic impact. According to the adaptation of previous works by (Gandolfi, 2008) the cost reduction strategy should include three stages. The first stage consists of preliminary short-range adjustments wherein it involves hiring freeze, mandatory vacation and cut in their overtime benefits. This stage should be ideally adopted if the expected economic downturn is expected to remain for up to 6 months. The second stage consists of medium-range adjustments such as salary reductions, exit incentives and employee lending. The third stage consists of extended or long-range changes if the expected economic downturn continues for greater than 12 months. In this stage, layoffs and other downsizing activities could be incorporated given that they ensure smooth layoff incorporating activities such as exit incentives, maintaining communication with the laid-off candidates, outplacement activities, rehiring talent when the economy is showing revival. Such steps ensure much greater morale of the laid-off employees and go a long way in the employer branding post such economic downturns. However, there should be an understanding that the ability to stick to such strategies is also dependent on the size of the organisation and its ability to absorb such economic downturns.

Thus, the research indicates that there have been various methodologies adopted by different firms owing to factors such as scale, industry, and HRM strategies. The research model suggested by Gandolfi explores the trends in the IT (Information Technology) and ITeS (Information Technology Enabled Services) sectors by analysing the companies that have incorporated each stage of cost reduction strategies in their attempts to fight the economic effects of COVID 19. The three most emerging strategies upon research incorporated by the firms from each stage have been 1. Hiring Freeze, 2. Salary Cuts and 3. Layoffs.

The future as per the research however shows mixed impact due to COVID especially in large scale companies. Infosys during its Q1 earnings of FY 2020 did post robust numbers growing at 11.5% YoY in net profit. As quoted by the management, this was due to the “Pre-emptive deployment of strategic cost levers along with tactical opportunities triggered by the COVID situation.” Wipro on the other hand posted flat to positive results with the net profit up 2.8% YoY for the Q1 of FY 2020 while TCS posted a 13.81% drop in its net profit for the same period. The growth in the demand and the subsequent profits in larger companies may be attributed to the increase in demand for cloud based and various other new age technologies to support the surge in demand for virtual infrastructure in all sectors which were earlier not as dependent on it. Companies like Amazon, Slack and Zoom made record breaking earnings for the Q1 of FY 2020. This increase, particularly for the Indian IT companies could also be attributed to the larger share of revenues coming through FOREX and the subsequent strengthening of the US dollar as against other currencies.

These numbers on the other hand were found to be fairly low for other smaller scaled IT companies which rely heavily on providing IT services and not products. The reason for revenue drop is the companies seeking the help of such services are themselves reeling with drop in demand in their respective sectors. Also, their ability to withstand such a crisis may be lesser due to a weaker balance sheet.

Hence, the research data indicates that the impact of COVID in the IT sector, though initially sought to be fairly negative has been mixed across the sectors based on the size, products and services offered. The Human Resource management strategies incorporated for firms given this situation should thoroughly consider all the parameters discussed earlier such as balance sheet strength, products and services offered, scale, new age technology adoption, employer branding and organizational culture to ensure the implementation of the most efficient HR measures while dealing with crisis.

ROLE OF HUMAN RESOURCE MANAGEMENT IN IT INDUSTRY

Unlike other service industries the IT industry experiences rapid and continuous change to cope up with the growing expectations of domestic and global customers. Therefore, there is a hard-pressed need to hire the right talent at the right time with flair for continuous career enhancement. Human Resource department of IT sector shoulders a very critical role of managing workforce and investing in preparing them through continuous learning and development so as to enable them to work in a challenging volatile technology industry.

Customary HR Functions in IT

- **Talent acquisition & retention:** Talent acquisition is the process of identifying and acquiring skilled workers and professionals to meet the needs of organisation. Retention refers to all the practices the IT organisation does to retain the employee.
- **Compensation and benefit management:** Mainly focuses on IT employee's compensation and other allied benefits.
- **Learning and development:** Is a subset of Human Resource department with an objective to develop individual and group performance imparting the required skills through professional training.
- **Performance appraisal:** The prime focus of this function is on performance review or evaluation of the IT employee on their work output, target accomplishments. Based on the appraisal making appropriate recommendation for the promotion and increments.
- **Employee relation & compliance management:** IT organisations effort to accomplish relations between employers and employees and ensuring compliances of the standards and norms of the organisations.

Changes are Inevitable in HR During COVID-19

The COVID-19 pandemic has had a significant impact on the world economy. The international monetary fund (IMF) predicted that the contraction in the world economy would be a mammoth 3% in the year 2020 as opposed to the approximate 2.3% growth in 2019 which is touted to be worse than the 2008-09 financial crisis. In this covid situation one of the main challenges for an HR manager would be to ensure minimal impact of such an economic downturn. The HR managers must decide on compensation strategies such as pay ratios, welfare benefits and travel allowance and also take decision on whether to cut salaries, lay off employees, or even increase hiring as per new demands in the market. The HR department is now also responsible to introduce and deal with other unconventional changing dynamics of the working capacities and capabilities such as the emphasis on mental health, infrastructure, improvised standards of cooperative communication and employee safety. The consequences of such strategies may have long term impacts on the IT companies in terms of attrition, employer branding as well as the overall sustainability of the company. Even though the wide umbrella of responsibilities in HR will remain the same, what HR will need to do is make major changes which are suitable for the IT Organizations during the pandemic situation.

Changes Required in HR Policies During COVID-19

- **Compensation and benefit:** In the current times HR policies need to be creative with the restructuring the compensation package and tying effectively with retention. A need for reduction in salary or entire package may arise. In some of the IT organisations the HR department has already deferred the promotion and increment cycle by a year to ensure that the company is able to survive and sustain in this situation.
- **Health plan or health insurance:** Most of the IT companies considered that the physical well-being of employees are important and not much emphasis was laid on the psychological and emotional health. COVID-19 epidemic is a health crisis which also distorts emotional health of employees. There is a need for extending Counselling and psychological advice to the employees of the IT Organizations, and this service needs to be added as a mandatory part of the welfare package provided by the IT company.
- **Group security policy:** To suit the new normal the HR of the IT organizations providing group safety and security policies need to rethink and revamp the existing group policies as most people have started working from home during COVID-19. Hence, the HR should make provisions for offering individual safety and security policies in terms of health and wellbeing.
- **Emphasis on output based productivity matrices:** Very few organisations adopted the policy of measuring output of employees. During this epidemic where employees are working form home, people have performed extremely well with minimum support and assistance. There is a need for the HR of the IT organisations to shift to output based matrix and make changes in the output based matrix across various designations and link it to the new performance appraisal norms.
- **Unifying culture amongst its employees:** Covid-19 has enforced the need for employees to work from home. Earlier most of the IT companies used to invest heavily on the brick and mortar offices. Todays reality is more and more people are working form remote locations and never meet their associates in person. There is need for the HR in IT organisations to start devising on how they can plan to impart culture training and sensitization while working with remote employees to bind them through unifying cultural setiments and feelings.
- **Buddy programs:** There is strong need for HR to introduce buddy programs for the IT employees to bond the relationship between the employees and create a sense of togetherness and oneness.

HR in IT organisations have to play a vital role in planning and implementing the new policies. There is also a need for communicating it effectively to the organisational employees. Employees will need to appreciate the organizational need at this point of crisis to survive and succeed. All this is possible only by the strong intervention of the HR who can be a bridge between the employee and the IT organisations.

HR POLICY INTERVENTIONS FOR IT ORGANIZATIONS DURING COVID

The HR department is now seen to be working on agile frameworks to adapt to the changing needs within the IT industry. With the ever changing dynamics with respect to client requirements as well as government policies, the HR department now needs to be up to date in its practices each day. There lies a huge emphasis on creating active emergency response teams, ensuring consistent communication,

care for staff and reconsideration of policies. Given such a situation, it is important to implement these practices taking into consideration the financial capabilities of the company.

This is where lies the importance of changing strategies that impact the balance sheets of the companies immediately such as reduction or retention of employees numbers, permanent or contractual employment, hiring new talents or working overtime, training and development to up skill the talent. Owing to the current crisis, almost all firms have resorted to tinkering atleast one of the above mentioned four strategies or all the strategies due to the COVID-19 pandemic.

The HR departments are making Policy interventions to balance pandemic protocols while restructuring IT Business.

It is not a new practice of working from remote location with the online technology support mechanism for the IT organizations. However, there are a lot of changes that are being formulated while developing the remote working operating procedures, polices to ensure the desired productivity and performance.

The HR department of IT organizations are considering the following points while formulating policies to balance pandemic protocols and the business goals, objectives, size, the turnover and profitability of the organization.

1. **Reduction or retention in the number of headcounts:** The policy of retention and reduction of the employees is taken on the basis of the level, the professional cadre, skilled or semi-skilled and nature of job. Cost implication of retaining the trained talent against cost of training a new talent for a considerable period of time is also an important point of consideration while making the policy. Impact of employee reduction leads to adding work pressure on the remaining employees.
2. **Permanent employment vs contractual employment:** The IT Organisations are contemplating to strike a balance between the contractual and permanent employees at this crisis situation to manage their business with a bare minimum permanent work force. The companies are actively formulating policies towards up-skilling and multi-skilling their permanent employees to reduce the dependency on the contractual talents during this pandemic situation as a cost cutting measure.
3. **Increasing the working hours against hiring new talents:** When it comes to making new recruitments, there has been a lot of debate happening in the HR department to weigh the pros and cons of infusing the new talents. Extensive check and control measures are being laid to keep the new recruitment in bay and enhance the working hours of the existing work force by paying additional over time compensations for their extra efforts and contributions made. The use of automation and enhanced technology are considered and preferred against making any new recruitments at this point of time. Unless and until there is any strong requirement for a specialized talent all other recruitments are kept in abeyance by the HR for the moment.
4. **Training and development to up skill the talent:** The Human Resource department is shouldering a major responsibility of ensuring that there is no compromise made by their workforce in terms of deliverables, work productivity and output while upholding the protocols pertaining to the pandemic. Though the work from home (WFH) options are become a normal scenario, the need and importance of enhancing this remote working skills, digital skills, collaborative and reporting skills are well understood by the HR department. Therefore, the HR departments of the IT sectors are consistently formulating and implementing more number and frequent real time trainings programme for enhancing the above mentioned novel skill during this pandemic to mutually benefit the workforce and organisation.

PRUDENT HR MEASURES BEING TAKEN IN IT ORGANIZATION

The IT sector is largely dependent on providing products and services to cater to the needs of companies operating in other sectors. Given the negative impact caused by the pandemic to majority of the sectors the IT sector is in no way exempted. The outlook has been seen to be quite bearish to the IT organisations at least during the initial phase of the impact due to COVID-19.

One can anticipate certain adverse effect and problems to happen while revamping the HR strategies in IT organisations. Alteration of strategy on layoffs may cause loss of morale and productivity for workers who are not laid off. It also impacts the perception of future prospective candidates joining the organization. Also, given the situation, layoffs may cause problems if a V-shaped recovery does occur later on and the demand for manpower surges. The modification of strategy on compensation cuts on the other hand may not be feasible for the employees to meet their economic obligations. It may also diminish the professional standing and impact the future business of the company. IT Organizations have to make agile decisions with respect to certain HR strategies which is discussed in the forthcoming points.

1. **Compensation revamping:** Compensation attributes to the fixed cost burden of the Organizations very strongly. Therefore, in order to exercise check and control measure, the IT organizations have started making major restructuring in the compensation pattern during the COVID-19 pandemic. The re-structuring is more in terms of reducing the fixed package and increasing the variable part of the compensation package of the employees. In this pattern, the variable part of the compensation is strongly linked with the parameters like productivity, quality output and performance of the employees. This pattern of compensation makes the employees to work hard to earn their pre COVID-19 salaries. Higher targets are set in terms of their performance and productivity and if the employee's achievements fall short of their set target the variable part of the compensation gets affected drastically resulting in drawing less salary for the month.
2. **Re-skilling and Re-deploying:** The HR departments in the IT organization have devised procedures to ensure that their human talent is distributed across geographical locations. The deployment of the human force after re-skilling is done based on the credentials and also depending on the potential demand that is likely to occur in future due to the COVID-19 pandemic. This may lead to employees getting transferred and dislocated to new geographical locations, and may have to move out of the family.
3. **Increments and Promotions deferment:** The financial year of the IT organization is normally between the April to March. The performance appraisal of the employee's is done in the first to the last week of the March every year, however some of the organisations have completed their appraisals and are yet to announce their verdicts on the increments and promotions. Most of the organizations have in fact deferred conducting the appraisals. Some of the IT organizations have stalled their process of promotions and increments for the financial year as the future looks very bleak in terms of the revenue and profit generation.
4. **Managing the Temporary and Contractual work force:** Whenever there is a recession of any kind the first cost cutting measure is to axe the contractual and temporary employees of the organisation and the same is being done in the IT industry due to the COVID-19 pandemic. There are certain IT companies who have done the other way round to first fire the employees with high package and have retained the mid and low packaged employees. Those employees who have been retained

are being made to do multiskilling across the job vertical and are made to work for more than the stipulated working hours even during the WHF format.

5. **Compensatory leave and Furlough leave:** The IT organisations both big and small have resorted to the Furlough leave policy of mandating the employees to go on leave, avail their accumulated leaves without pay. By this practice the company does not retrench the employees but makes them sit idle at home without pay, when the situation improves after the Pandemic they will be called back to work. This is a glorified version of retrenchment which the IT organisations are practising during this crisis to play safe. Some of the IT companies have envisaged that immediately after the pandemic situation eases, there will be a lot of scope for work to meet out with the lost opportunity. Therefore, keeping the futuristic situation in mind the companies have also offered advance compensatory off to their employees.
6. **Performance pay and Bonus deferment:** Most of the IT organisations have resorted to the freezing of the performance linked bonus payments to their employees during the pandemic situation. Few other IT companies have declared that the employees will not be paid the performance related pay and bonus for the current year, and decisions for the subsequent years will be made later reviewing the future developments after the organisation recovers from the crisis. Some of the IT organizations have paid the bonus and other performance based packages only as per the government mandate.
7. **Retrenchment and Termination:** The IT organizations normally segregates the group of non-performers aside after the yearly appraisals and issues notice of warning to improve their performance during normal times. Unfortunately, during this pandemic situation such concessions are not being extended to the non-performers and low performers, they have been straight away asked to leave the organizations. In certain IT organisations where the appraisals were conducted after the advent of the pandemic, the organizations have made their performance yardsticks very stringent and have literally raised their bar so that more number of employees can be categorised as non-performers. The companies instead of sending the employees out of jobs have made them leave the job voluntarily on their own so that organization's brand image is not tarnished in the job market. In addition to the individual retrenchments, some of the IT Organizations have initiated steps to close down their non performing divisions and branches, eventually the small and medium IT organizations have resorted to such means as a survival strategy.
8. **Career transition and Outplacement services:** During the course of downsizing the IT organisations have identified the employees with redundant skills and who cannot be retained in their organizations were not just left out un-cared. Some of the IT organisations have helped them in their career transition through career counselling. They were helped to fetch alternate jobs through placement agencies and employment consultants. The charges for these consultants were paid by the IT organization as a gesture of support for their former employees whom they have retrenched.
9. **Short Suspension and Temporary shutdown:** As like the big and small manufacturing and production units, the IT companies have also followed the same process of shutting their operation for a few months and reopening the same after the crisis. The advantage of doing such initiatives has been pointed out by the HR experts as a very good initiative to hold what they have in hand, means their name and stake is not in danger and will remain intact until the revival. This process is acclaimed by the HR personnel as more practical and state that it is good option for optimising the variable and manpower costs and bails out the small and medium IT organisation from getting into the trap of bankruptcy.

10. **HR Policy and procedures for Manual updating:** The IT organisations are proactive in terms of quickly making the changes in the policies and procedures of their business in general and HR practices in particular. Keeping in mind the well-being, safety of their organisation and their employees there is lot of positive amendments and changes that are being done re-looking the existing policies and procedures. One encouraging point in HR manual amendment is giving utmost importance to the Governmental rules and statutory conditions which are favourable for both employees and organisation's survival and growth.

Looking at the above initiatives taken by the HR department in the IT organisations, it is very evident that every steps they take are highly measured and conscious specifically keeping in mind three important dimensions. The first being refining the process of hiring, appraisals, compensation, and other HR functions. The next dimension is cost optimisation at all fronts of the business. The last and third important dimension is making changes in the HR policies and procedures without causing any distortion to the name and fame of employer branding and organisational progression.

COMPANY WISE SPECIFIC HR INITIATIVES DURING COVID-19

The HR department of the company has ensured that ninety-three percentages of their work force is made to work from home and has evidently put forth that the employees' health and safety as their first priority (Infosys 2020). The company provided upgraded virtual bandwidth service to the remotest place from where the employees are working. The employees were provided with the required gadgets including personal computers and laptops immediately.

The investments on the physical infrastructural space and high rentals have literally been proved meaningless during the pandemic situations. The companies like Nxtgen HR and Directors vehemently stressed that the focus of the HR during and after COVID should be to minimise the infrastructural cost and utilize the generated savings onto the employees well-being, paying higher salary in par or above the industry standards. The Company CEO expressed his feeling that investment on people and technology will give the company better results than investing in the brick and mortar infrastructural expenditure.

Metova a software development company indicated that 50% of its employees felt that work extracted while working from home is higher than that of office. This may be good for the organisation but definitely not a good situation for the employees.

The demand of AI is forecasted to have wider demand and application in the post pandemic business situation is the Rakuten India CEO's opinion. The HR should focus on imparting training as per the demand and requirement forecasted during this pandemic.

The companies like Hewlett Packard Enterprise (HPE), who have a very strong hold on the Government projects specifically the 35 and odd smart city projects and banking projects have expressed their views on the importance of the AI and the cost of training the AI experts. As there is a dearth of the qualified AI specialist, the HR of the Organizations are spending exorbitantly on the training of the existing talents pool to become AI experts.

The Infosys along with the corporate social responsibility wing has contributed funds to the tune of 100 Crores to the hospitals taking care of the COVID-19 patients. The funds were used to buy the ventilators for the patients, testing equipment, kits, masks, protection devices and gears for the medical and para-medical teams of the hospital.

The CEO and MD, of TCS, indicates the importance the company attaches to the well-being of their employees. The organization has very unique educational enhancing programmes such as the GoIT plus Ignite My Future to connect the educational fraternity of students, their parents and the teachers digitally to enable effective virtual teaching learning process. As a part of their Corporate social initiatives they helped in abundance in building the required health infrastructure facilities through fund donation to the Hospital combating COVID-19 pandemic (TCS 2020).

CHALLENGES FACED BY HR IN MAKING POLICY CHANGES

The biggest challenges faced by IT organisations in making any changes in the HR front is that the changes directly impact the employees creating a scope for an unpleasant environment within the organization. There has been increased understanding that there are a few after effects that organisations experience while implementing employee related HR policies (Gandolfi,2007). Researches have shown that the consequences of such strategies may cause significant mental trauma and devastation for the individuals and their families. It also impacts the employee morale and the employer branding of the companies. Hence, the right HR decisions are to be made after considering the long term after effect and carrying out an accurate analysis of the IT organisations which are underperforming.

Following are the challenges faced by HR policy makers specially during the crisis:

1. **Remote working and Work from home:** Though the mode of working has been changed to remote working and working from home formats, there are lot of challenges in ascertaining the output of the work in terms of productivity. Plus, no body at this moment can say how long this work from home format is going to be continued. Another allied challenge in this format of work from home is that the employees should be allowed to work remotely as well as ensure that the data they handle is kept confidential.
2. **Balancing and Compliances:** The HR will face challenges in terms of meeting and balancing the standards and norms related to welfare of the employees, safety of the employees, their protection in term of insurance coverages, and the compensation and wages.
3. **Employee engagement and Networking:** Under the current situation of working away from office, the HR has yet another challenge in terms to keeping the employees engaged both professionally and socially. Re-designing the employee engagement policies is again a big challenge.
4. **Appraisal of the employee:** Appraisals for the year is going to be the biggest challenge for the HR department if this format of work from home and remote working is continued or even discontinued. The Manager cannot exercise control on his subordinates too much and cannot micro manage the work of the subordinates either. The factor of trust on their subordinates also becomes very important in the format of working away from the office. Under this context HR department is likely to experience a bigger threat.
5. **Technology transformation and Increase in revenue:** The major challenge is the Technical team in the IT Organizations are capable of making transformations in the working models but the HR is responsible to ensure that the transformation translates into revenue and profit earning. Which means the HR has the challenge of ensuring the employees work more efficiently under the transformed working conditions to ensure profitability. The biggest challenge for the HR departments is exercising monitoring and controlling rightly.

6. **Layoffs and Retrenchments:** The IT organisations are highly employee intensive, though organisations are trying to hold their employees in roles presently. However, if the anticipated revenues and overseas projects are not forthcoming then the repercussions will be to exercise employee layoffs and retrenchments elaborately. This is a prime challenge for HR departments as the quantum of layoffs and retrenchments are expected to increase if the pandemic situation persists for some more months.
7. **Captive centre models:** The global companies like Walmart Labs and American retailers have nearly 1400 captive centres in India. As these operations are hampered by COVID-19 pandemic the captive centre model may get a big hit in terms of revenue generation and sustainability. The HR of these small and big companies should be ready to handle employees' reaction in case of any individual job loss or shut down of the complete operations.

The IT organizations in spite of all these challenges are striving to strike a balance of keeping their employees intake both mentally and physically on one side and ensuring the sustenance of the business operations on the other. The HR departments are taking these challenges as an opportunity to improve productivity and optimum manpower utilization.

COUNTERING THE CHALLENGES BY HR

Given that there exist no right answers in dealing with a situation like this, it is important to understand deeply the business outlook of the IT organisations. Taking the classic example of Interglobe Aviation (Indigo), the India's largest carrier had reported a net loss of Rs.2844.3 crore for the quarter ending June 30th, 2020 and thereby reporting a loss more than the profits earned by the company in the last three years. The net revenue fell by 92% year on year. Given such a situation, the company has resorted to pay cuts for the Indian pilots and laid off all foreign pilots and a major chunk of the ground staff. Given the significant decrease in the demand for the pilots, the company however chose not to lay off its pilots in spite of uncertainties to use this situation as an opportunity to build a long term employer brand image.

This strategy however may not be ideal in all firms since not all companies have the cash reserves that the largest and the most profitable airline company, Indigo, possesses. Hence, measures to counter such challenges should be tailor made based on the sector, organization and the operation strategy. The challenges are countered as follows by IT organisations:

- **Safe harbouring:** This is the kind of role the HR in the IT Organisations will have to play during the crisis. The HR can come out of this crisis successfully if they are able to take the employees together with them. With their policies HR should be keeping them engaged rightly, infuse confidence in the minds specifically about their job safety and current plus their future well-being.
- **Motivation while being away from office:** High level of motivation and support from the HR department to the employees while they are working from home will be a captive and potential force. This will help to avoid any HR and IR related problem likely to occur immediately and in future. Creating and nurturing a positive work environment will help the HR to nib out the problem of the employees in its early stage.
- **Information and data confidentiality:** The data security and privacy is another important aspect which has to be handled very carefully when the employees are made to work from home and

remote places. However, the HR department can overcome this challenge if they keep track of the employees and exercise adequate check and control measure. Frequent and constant orientation and education to the employees on the importance of data privacy needs to be imparted by HR department which would help them overcome this challenge.

- **Active communication with the employees:** Any difficulties and problems of the employees which occur during these crises could be solved if there is an effective communication mechanism in place between HR department and the employees. The HR should communicate on the concern the organisation has for its employees in a very clear and transparent manner. This will establish a very strong bonding relationship between the organisation and employees without any misunderstandings.

ROLE OF HR IN POST – PANDEMIC WORK PLACE RESTRUCTUE

The occurrence of the pandemic across the world and the responses by the various governments worldwide has vitally reformed the way people work and live. The effect endures to be breath taking, with roughly half of the world's population who are still in the pandemic or are emerging out of it. As various countries start to revive their economies the new normal will totally be different. Social distancing norms, amplified contamination control and cleaning regimes, diminished occupancy, shifts and more extenuation measures may stay for months. Which means enormous workforce will still need to WHF on a rotation basis, or will report at different times as organisations will reopen. There will be a need for the HR department to plan for the unknown future. The following trends may influence their thinking.

- **Reinforcing agile execution:** Going forward innumerable practices of intermittent lockdowns or some plans for returning to workplace will be required. IT organisations will need to instil and emphasize swift execution, enhanced flexibility in workplace related options.
- **Empathy, authenticity and transparency:** Motivation and values of people are shifting towards protection of self, family, communities are becoming the top priority rather than customer and organisation. These shifts in values could create permanent behavioural change in the employee's mind. Therefore, IT organisations will have to prepare themselves for a workforce who will look for more empathy, authenticity and transparency from their organisations.
- **Greater degrees of remote and flexible work:** One optimistic aftermath from mandatory remote working is that flexibility need not come at the expense of productivity. Working out what is preferable, from what is now recognised as possible, will no doubt influence corporate HR policy and spending decisions of organisations on employees post crisis.
- **Investment in digital HR infrastructure:** HR professionals can also expect to see further more changes and shift in how they recruit, hire, and retain employees. To improve speed and efficiency many process have already been digitised. In the future HR will be operating virtually throughout lifecycle of IT employees.
- **Digital labour markets:** Until now the governments labour legislation were amended to suit the changes related to the digital age. In the process of amendment, the conceptual framework was not altered. The further changes anticipated in the legislation related to employees will profoundly align to future work thinking.

RECOMMENDATIONS

Human beings are resilient, and will slowly make their way back up to the cliff. Business organisations have swiftly implemented innovative methods and innovative ways of functioning in the fluctuating world. This include acclimatizing to new technology, communicate, involve, and track performance tenuously. The kind of technical, digital, and human revolution that we all envisioned for workplaces in the next 5-7 years is happening within a short span of six months now. The future of work is here, and it has endorsed that employees are the most valued resource of a business. The epidemic has shown us how to be more compassionate, trust and empower employees to work with marginal supervision

FUTURE AREAS OF RESEARCH

The pandemic resets key work trends, HR leaders need to reconsideration workforce and employee planning, management, performance and experience strategies 32% of IT organizations are replacing full-time employees with contingent workers as a cost-saving measure. Following will be some of the future area of focus and research for HR in IT

- Increase in remote working
- Expanded data collection Contingent worker expansion
- Expanded employer role as social safety net
- Separation of critical skills and roles
- (De-)Humanization of employees
- Emergence of new top-tier employers
- Transition from designing for efficiency to designing for resilience
- Increase in organization complexity

CONCLUSION

IT firms which are now reeling with the current covid situation need to alter their current processes significantly to meet the existing requirements and demands. As an organization, in addition to keeping the priority on employee welfare and all other basic functional requirements of the organization which impact the employee productivity in check, organizations must have a close look on the cost levers and additional expenditures more keenly that they have ever so seen. Organizations must also take a futuristic view of the situation and try to be ahead of the curve in deploying their workforce in the right direction. Companies must look at offering core software products that drive intrinsic value as opposed to services which are reliant on other badly hit sectors. Companies must also restructure their teams to accommodate for projects that specifically address the covid situation and seek opportunities for tie-ups therein. Long term incentives and employee stock ownership plan (ESOPs) can also replace other short term incentives to decrease additional expenditure and make the employees an integral part of the post covid restructuring and revamping plans of the IT organisation. Top consulting help should be sought in the process of further restructuring and revamping organisational structures, ideas, HR policies and procedures of the IT organisations, as it is not an end truly speaking it a beginning for a new change.

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KEY TERMS AND DEFINITIONS

Corporate Social Responsibility: All the initiatives taken by the company which leads to the enhancement of society, stakeholders, and environment in a positive manner.

Gross Value Added: The value of goods and services produced in a particular geographical location, from a particular industry, from a particular sector of business contributing to the GDP of the country.

Hiring Freeze: The temporary suspension of hiring of employees is done as a part of cost cutting effort by the organisations during the period of economic recessions of any other unexpected crisis.

Layoff: This refers to the process of terminating the employee from his current employment on a permanent or temporary basis.

Repo Rate: In order to control inflation, the Reserve Bank of India(RBI) offers monetary support to the commercial bank by way of lending money to overcome the funds shortfall.


Retrenchment: Is an act of removal of an employee by the employer from the present employment in view of business implications of increasing the profit or controlling the loss.

Work From Home: Under the work from home options the tasks and jobs related to the professional pursuits are performed not from office but from the employee's place of residence.

Chapter 11

Innovation of SMEs and Effect on Productivity in Jalisco

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ABSTRACT

Small and medium enterprises (SMEs) in Jalisco represent one of the main entities of economic activity that supports the bulk of the population living in the state; using statistics as a fundamental tool for conducting studies in the economic, natural, health sciences, among others, allows proactive foundations for decision making within companies by senior executives and in the field public by officials responsible for promoting the growth of the industry in the State of Jalisco. This research tries to represent, under a statistical scheme, the use and disposition of information and communication technologies (ICTs) as a tool to increase average productivity levels within companies and under the Cobb production function. Douglas determines the ICT impact.

INTRODUCTION

In Mexico as in the State of Jalisco, the economic effects of the economic crisis suffered in 2008, as a result of excessive spending by Americans due to low interest rates, triggering an imbalance in the mortgage sector, is identified as the main cause of this crisis. For the country of Mexico as well as the State of Jalisco, the effects were evidenced in the real economy when our exports and remittances from the United States contracted, together with the reduction of confidence in the Mexican economy by entities that promoted the increase in R & D (Research and Development).

From these consequences the economy seems to have consolidated its stagnation in different areas of the economic activity, such as: mining, electricity, construction, manufacturing, commerce, services, transportation and communications. The strategic sectors are determined by the National Institute of the

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Entrepreneur (INADEM), for the state of Jalisco on 12, and are grouped in the key and futures. The key sectors are the products for construction, agro industrial (Gourmet), electronic (Electronics and communications), travel services, and chemical products. The futures are the logistic services, medical services (medical tourism), information technology, green and alternative technologies, research and technological development services, wood products (Furniture and decoration), textile and clothing (Paz, 2020).

Electronic (Electronics and communications): Activities derived from the aluminum, iron and steel industry, manufacture of wire and springs, manufacture of cables for conducting electrical energy, plugs, contacts and fuses, rigid plastic laminates, industrial glass articles, manufacture of signal transmission and reception equipment, radio and wireless communication, manufacture of computers and peripheral equipment, measuring instruments, control, navigation, and electronic medical equipment, manufacture of audio and video equipment, Manufacture of other machinery and equipment for trade and services (Paz, 2020).

These activities represent the sectors that mostly absorb the Economically Active Population (PEA: Population aged 15 and over) through small and medium enterprises (SMEs). In Jalisco, micro, small, and medium-sized enterprises (MSMEs) are of great importance in public policies, and the State Government makes an important effort to promote them with training, advice, and financing (IIEG, 2018). The medium-sized companies represent 1% of the total of the companies of the state and support 22% of the Aggregate value. 77% of medium-sized companies are registered in the Central Area of the State, mainly in the municipalities of Guadalajara, Zapopan, Tlaquepaque and Tlajomulco de Zúñiga (Paz, 2020).

Compared with national performance, the percentage of medium-sized companies in Jalisco with access to financing is greater than that of the national economy. The medium-sized company faces a problem of access to financial financing that is very different from the Micro and Small company. The company mediated access to formal or institutional financing sources such as the Commercial Bank (its main financing source), suppliers and partner contributions (Paz, 2020). The market financing is practically null. Only 0.2% of the medium-sized companies of the medium-sized companies of Jalisco have access to this type of financing, in the national plan only 0.4% of the financing.

As for the financing of the Median companies of Jalisco, we can appreciate that these are in a better position than the national media. Companies mediate access to different sources of financing such as the suppliers and the own contribution of the partners. They have enough profit margin to self-finance their growth, a situation that could affect its market competitiveness at any time with new competitors (Paz, 2020). However, this situation varies according to each strategic sector of the state. The industry has access to financial support, followed by trade and finally services. Recently, the Jalisco government announced last Friday an Emergent Economic Support Plan with a 1,000-million-peso bag for micro, small and medium-sized enterprises (MSMEs), corn producers and self-employed people who are affected by the social isolation measures adopted in the state to deal with the Covid-19 pandemic (Romo, 2020).

With regard to the income from oil exports for December 2015, these prices are down, due to pressure from the member countries of the Organization of Petroleum Exporting Countries (OPEC) to promote the supply of crude oil. If this trend continues for the fourth quarter of 2016, an oil surplus is expected (The Economist, 2015). All these factors that limit the dynamism of the Mexican economy cause the deepening of the weakening of economic activities, negatively impacting the activities carried out by SMEs of Jalisco in the quest to absorb as much of the EAP as possible. Table 1 shows the concentration areas of MSMEs in México.

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Table 1 shows that Jalisco concentrates the 3% of MSMEs of the national total.

Table 1. Concentration areas of MSMEs in México

Zone	Percentage	Concentration	Percentage
North	48%	Nuevo León	20%
Center	42%	Cd. De México y Estado de México	11%
South	10%	Jalisco	3%

Source: <https://www.creditoreal.com.mx/contenidos/pymes-2/importancia-de-las-pymes-en-la-economiamexicana/>

One of the challenges for companies of Jalisco is to be at the forefront of current technological systems. Mexico as a developing economy is subject to the imitation of technologies from central countries such as the United States, Germany, Japan, France and the United Kingdom (G5). As Myro points out in 2010: in economies with a low level of development, [...], technical progress should be more based on imitation than on one's own technological effort, so that cases such as Mexico's and Jalisco's policies on technological innovation should focus on imitation to achieve the technical progress sought by SMEs in the State of Jalisco.

This is how Jalisco bases its innovative activity through reactive strategies that follow and imitate organizations. Pioneer nations such as Germany, Japan, the United States, among other developed nations, follow reactive strategies, since they are pioneers in technological innovations. Among the main results that Mexico in general and Jalisco in specific, have in terms of Science, Technology and Industry in a study that was carried out by the Organization for Economic Cooperation and Development (OECD) in 2013, are summarized those:

- A. Mexico, including Jalisco suffers the consequences of a weak innovation environment, and investment in science and technology remains at a low level by OECD standards.
- B. Among the main obstacles are: patterns of industrial specialization, high prevalence of micro-enterprises, skill gaps and an ICT infrastructure insufficiently developed and high cost.
- C. Linkages between the research base and the underdeveloped economy, which translates into few scientific publications (OECD, 2013).

These characteristics, which currently prevail in conjunction with the low quality of educational services, make it difficult to build a solid technological base in the much sought-after technical progress, even though imitation. In this same report, it is mentioned that Mexico, including the state of Jalisco, also faces a series of challenges due to the weaknesses of its ICT infrastructure, which include low penetration of broadband (both fixed and wireless), low average speeds of broadband connection and high prices (OECD, 2013).

Information and Communication Technologies (ICTs) play in business logistics a fundamental role in the praxis of economic subjects. Because of the importance that these tools have among the relations of the global economies, keeping them up to date is fundamental for the capitalist system. It can be appreciated that there is a large difference between the access to the information technologies between the medium-sized companies and the micro-companies. According to the antiquity of the company, the

companies between 3 and 5 years (Young) are the ones with the greatest access to information technologies, up to 30%. The main one that gives the company the information technologies are the search for information. In the measure that the company is larger, the use of the Internet is intensified, this is many marked in the banking and financial operations (Paz, 2020).

The following pages of the document describe the general aspects of the methodology used, the statistical design in which the basic statistics are calculated, at first about the stratification carried out by INEGI, followed by the segmentation proposed in this research. At the end of the methodology section establishes the relevance of using the average productivity and the Cobb-Douglas production model.

In the results section, the general statistics for the stratification of INEGI and the proposal formed by small, large and medium-sized companies are presented, the description of the type of activity they perform, the distribution of their income, the items to the that allocate their investment. This section also describes the use of traditional communication media, as well as the impacts of ICTs. In this same section we present the impacts of ICTs such as email, the Internet, social networks and the website in aspects of competitiveness. The results of the two regression models are also presented. Finally, in the last section, the conclusions and a series of recommendations are presented.

BACKGROUND

In the reconfiguration of productive paradigms, SMEs use sciences and techniques for the reconstruction of new technologies. The term innovation is used as a driver and enabler for SMEs seeking to sustain their profiles to sustain growth (Hungund & Kiran,2015). SMEs holding personnel with knowledge, skills, abilities and creativity, have a tool for the generation of technological innovations to achieve competitive advantages (Sivam, Dieguez, Ferreira and Silva, 2019). Technology is understood as the sum of knowledge about the means and methods of production of goods and services (Luter, 1998), this same technology plays an important role in economic theory. The adoption of new technological tools, both to make their processes more efficient and to grow their markets, has allowed micro, small and medium-sized companies (MSMEs) in Jalisco not only to subsist, but to develop and conquer even international markets (Romo, 2019).

Innovation is the implementation of a new or improved product, good or service, process, marketing method, or organizational approach in business practices, workplace organization or external relations (Manual, 2005). To define innovation, it is necessary to differentiate between invention and innovation (Galindo, 2012 pp.53). Invention is the discovery and creation and innovation is the introduction on the market of new products, processes or systems (Marques, 2014). Invention as the idea of a person about a product or process and innovation as the first attempt to put it into practice. Galindo (2012) also considers that for an invention to become an innovation, the company must combine different elements, such as: knowledge, skills, abilities and resources.

In neoclassical economic theory, innovations are understood as exogenous phenomena in the equation that seeks the equilibrium between supply and demand while the current of the positive school that interprets the economy as a dynamic system considers innovation as a variable endogenous (Hernández, 2009). The positive theory makes reference that although the human being could not create the matter, if it can create his utility, to increase it or to diminish it, in this it consists precisely the innovation. With this, it assumes the importance of the reasoning of the human being, the capacity to invent and to create new forms from subjects.

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Schumpeter being one of the modern authors, distinguishes the innovations themselves and technical innovations in the studies on growth and economic development. Hernández, (2009) distinguishes these two types of innovations, the first referring to the systemic search for general explanations of a phenomenon and technical innovation as an original solution resulting from the synthesis of information about needs or desires, and information about the technical means by which they can be satisfied (Utterback, 1971, p.77 in Hernández, 2009). This appreciation previously noted, where the human being seeks welfare through the least effort, the invention of the wheel, the steam engine and the innumerable instruments we use in our lives reflect the technical progress we have made to meet “n” human needs. Innovation is therefore an economic phenomenon that serves to create wealth and satisfy needs.

In this context, Hernández (2009) states that the variables that explain innovation are: entrepreneurial profits or the reduction of production costs, intentional research and development efforts, accumulation of human capital, exploitation of new inventions or in the application of mature technologies or new uses. For the company innovation is an important factor from any point in which it is considered, since it frees the market pressure in the creation or improvement of new products.

However, regulatory and fiscal barriers, or lack of revenue and business planning, remain factors that dictate failure in local and national companies. In Mexico, 75 to 80 percent of startups fail and die within two years. Of those that survive that barrier, 10 percent die each year, over a period of three to eight years *The Informer* (25 de Septiembre de 2017). According to estimates from Nacional Financiera, eight out of 10 SMEs in the country fail before the age of five due to business management problems (Romo, 2019).

Many companies that integrate markets base their innovations on scientific knowledge and technological developments measuring the innovation in number of patents for a certain period. Hernández, 2009 indicates that independent variables have to do with intensity or investment in research and development (Mansfield, 1963, Koeller, 1995, Gatti, 1998); with the provision of human capital according to the proportion of scientists and engineers in relation to company personnel, as well as the number of workers with the ability to execute changes or learn new skills (Koeller, 1995, Gatti, 1998, Afuah, 2002).

Companies being the primary entities of economic activities, innovation is a competitive advantage that allows them to extend their life in the market. Small and medium-sized companies (SMEs) born or located in Jalisco, have an average life of eight years, which places the state in seventh place in this category, above the national average of 7.8 years, according to data from the National Institute of Statistics, Geography and Informatics (INEGI). *The Informer* (25 de Septiembre de 2017). Innovation and technological change serve each other so that the company that produces them obtains better returns. Cantú, 2006 classifies the innovations according to the magnitude of the change they imply, mentioning the following typology (Cantú, 2006 in Dussage, Hart and Ramanantsoa, 1992, p.14-15):

- A. Incremental: the articulation between concepts and components or architecture of the product is not changed, only some of its components or concepts are reinforced or improved.
- B. Radical: both the architecture and the components are altered, in fact it is a new product.
- C. Modular: the modular components of a product are radically changed but its architecture remains unchanged; the change from analogue to digital telephones is an example of this type of technological innovation. Jalisco does not escape the behavior of the other states of the country where the adoption of technological solutions and the concept of digital transformation “is going to start speed up” (Romo, 2019).

- D. Architectural: modifies the way in which the components and concepts of the product are articulated but the components and concepts only reinforce or remain without change, examples of these changes occur in personal computers and are not easily identifiable by consumers because they are at the system level.

In this way, innovations are transformations made by the human being of the goods provided by nature with the purpose of facilitating the activities carried out and obtaining some benefits when exchanging them with other individuals, not limited to exclusively technological concepts, but rather to find also innovations in the economic, social, organizational, strategic areas of the companies.

The SMEs are the economic units by excellence that train the individuals, that when realizing a physical activity exchange this effort for an economic remuneration, this in order to solve their physical needs and those of their dependents. Since small and medium-sized companies are responsible for absorbing this population stratum, it is necessary to analyze the use of ICTs as an alternative to growth. That is why one of the main problems faced by SMEs is the lag in technological equipment that causes competitive asymmetries and disadvantages compared to foreign companies established in the State of Jalisco.

The process of equipping companies in their different dimensions when settling in defined geographical areas causes economic growth in the region. The study of this process is necessary to determine the effects it has on human capital, both in the average productivity, and the effect of ICTs on production levels in the company.

This investigation seeks to analyze this process and the influence on the living conditions of the State of Jalisco. Companies in Jalisco represent a great source of employment that encourage economic growth and social welfare. Jalisco contributes 7.4% to employed personnel at companies at the national level (Paz, 2020). Despite the fact that micro, small and medium-sized companies represent 99.8% of Jalisco's economic units and generate between 50 and 60% of employment, they barely contribute a third of the state's productivity (IEEG, 2018). Thus, statistics supports the operational alternatives in the decision making of the company in order to promote growth and with it the living conditions of workers.

To solve the changes that our global environment demands of different societies is through knowledge, the different economic, political and social facts rethink the solution of problems through new and sustainable techniques. The promotion and development that governments make regarding managing knowledge is directly linked to the work of enterprises, to increase profitability, generate regional growth, improve living conditions and other promoting environmental care.

In this quest for knowledge management, companies create new and better products, improve their production systems, utopian looking solving major social and economic problems such as health, education, poverty, quality of life, etc., claiming that these new improvements do not compromise environmental conditions. In this way, companies, universities and the government are responsible for responding with solutions, using different strategies, mechanisms and policies that contribute to the improvement of current conditions. The conception of economy, the knowledge that is currently developed and involved in the tasks of companies to achieve higher returns, has to do with analyzing the situation, setting the objectives and finally optimizing knowledge.

Theoretical Approach

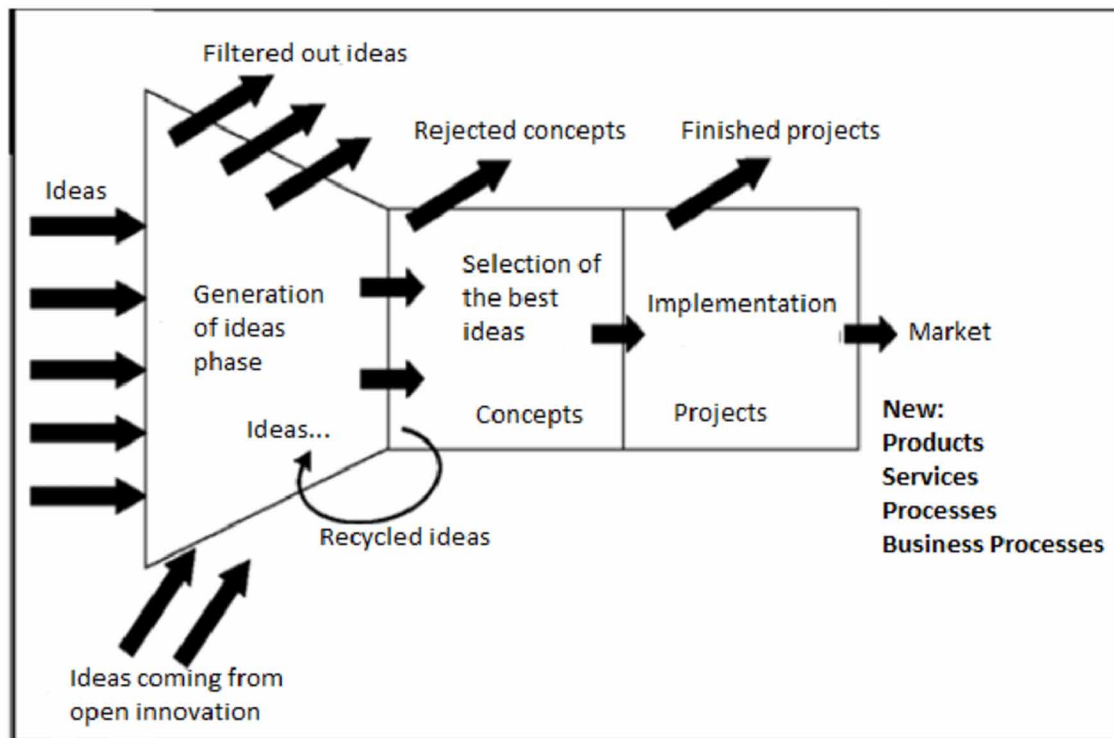
Among the main features of this global knowledge economy, as stated by ECLAC, in its report "Innovating to grow", it must be:

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- A. Greater codification of knowledge.
- B. A Closer relationship between technology and science, with higher innovation rates and shorter product life cycles.
- C. A Growing importance of innovation in GDP growth, as well as education and continuous learning.
- D. Greater investment in intangible elements (research and development, education, software, among others) than in fixed capital, and
- E. Substantial changes in the demand for qualifications in the labor market (Figuroa, 2015)

These characteristics that foster the emergence of technological innovations imply a process to reach a final product or technological improvement. The process to follow can be clearly understood through the following funnel as shown in figure 1 (Figuroa, 2015).

Figure 1.



In this funnel, all ideas are filtered by ideas that are feasibly applied and that respond to a market need, so its implementation results in new products, services, processes and business processes. The importance of working under this scheme is reflected in the decrease in costs of the companies. Finally, to ensure the success of any technological innovation as Figuroa (2015) mentions, a social need, social resources and a receptive social concept have to be combined.

Review of the Empirical Literature

In an investigation on the technological innovation of the network of suppliers of the electronic industry of Jalisco, mainly maquiladoras located in the Metropolitan Zone of Guadalajara, Castillo and Ortega, (2006) reported the development of a pattern of peculiar behavior in the formation of supplier networks in the horizontal articulation of productive processes. Dutrénit (2009) found that depending of the nature of innovation activities, the type of linkages and the organizational capabilities of SMEs located in the area of Guadalajara, as factors supporting the levels of absorptive capacities of SMEs, when these are higher, it is more likely that they benefit from spillovers. A theoretical methodological proposal is formulated by Arce Rodríguez (2009) to assess the competitiveness factors of internationalized SMEs in Jalisco.

In a study carried out by Robles Estrada, (2009) the factors that lead to competitiveness are detected and analyzed and a theoretical methodological model is designed to assess the degree of competitiveness of internationalized SMEs in the State of Jalisco. Among the variables analyzed, the internal characteristics of the company and the relationships with its environment that generate greater competitiveness are considered. A study conducted in small enterprises in Jalisco by Ramirez Ruiz (2013), identified that the lack of capacities in human capital is one of the main inhibitors of innovation.

In another work by Amado Sánchez and Pico González (2013) the elements of innovation, collaborative processes and business networks that have driven the innovation of rubber and plastic manufacturing SMEs in the States of Jalisco, Estado de México and Nuevo León. The authors present empirical evidence of innovation variables, business networks and collaborative processes.

The main deficiencies of the constituent elements of the Regional Innovation System are identified by Ortiz-Cantú and Pedroza-Zapata (2013), who also point out that the logic of basic scientific research predominates. In the technological environment, they emphasize its importance to facilitate productive companies support in their innovation processes and its purpose is to boost the technological innovation of companies. In the productive environment, the industrial chambers carry out the tasks of raising awareness of business innovation. The effects of agglomeration and tax incentives for innovation have not been exploited, so the regional innovation system is characterized as incipient.

In the financial environment, the main one, the main funder of innovation is still the Ministry of Economy and Innovation for economic development, COECYTJAL, CONACYT and SEPROE. Ortiz-Cantú and Pedroza-Zapata (2013) conclude that the financial resources destined to foster innovation are meager. The persistence of institutional logic prevents the impulse to the creation of innovation capacities. These limitations make inescapable the strengthening of the institutions whose function is the promotion of business innovation in Jalisco. Among other recommendations, the authors ask for a support policy to boost innovation in clusters, integrate innovation in science and technology, as well as develop a business culture that supports the generation of innovation.

Camacho Sotelo, Hernández Cotón, Mayorga Salamanca, (2014) made a diagnosis of innovation and its interrelation with the competitiveness of manufacturing companies in the Guadalajara Metropolitan Area (ZMG) and demonstrated that there is a positive correlation between these two variables. Some of the areas that offer opportunities for improvement for competitiveness are financial issues and the use of technology. With regard to innovation, the use of information on the needs and recommendations of those is required to radically improve their products and services.

Vázquez Ávila, Núñez Moreno, Sánchez Gutiérrez, and Mejía Trejo (2015) confirm the correlation between the knowledge management and innovation variables using structural equations to determine the direct influence that these variables have with the competitiveness of the manufacturing companies

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in the Metropolitan Area of Guadalajara. The innovation factors analyzed are innovation barriers and changes implementation. They conclude that innovation activities that in addition to research and development include production and distribution activities, organization and marketing methods, knowledge and capital acquisition, among others.

In a paper published by Calle Medrano and Vargas Hernández, (2015) an index is determined and analyzed to measure the innovation capacity of companies in the Jalisco software industry, based on a survey of the companies that make up the Center for State software. In addition, the influence that the capacity of innovation has on its competitiveness is evaluated, looking for the empirical evidence that allows to answer the question asked.

Vázquez Ávila, Núñez Moreno, Sánchez Gutiérrez, and Mejía Trejo (2015) confirm the correlation between the knowledge management and innovation variables using structural equations to determine the direct influence that these variables have with the competitiveness of the manufacturing companies in the Metropolitan Area of Guadalajara. The innovation factors analyzed are innovation barriers and changes implementation. They conclude that innovation activities that in addition to research and development include production and distribution activities, organization and marketing methods, knowledge and capital acquisition, among others.

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The research carried out by Calle Medrano and Vargas Hernández (2015) is based on the hypothesis that the ability to innovate is a factor that positively affects the performance of companies in the software industry, which is reflected in the competitiveness of the sector. The methods used in this research are three: innovation capacity index (ICI), linear regression model with ordinary least squares and soft computing with application of evolutionary algorithms: Fuzzy Cesar; The latter is something very new that puts us on the frontier of knowledge in terms of methods.

The analysis of Pedroza-Zapata and Ortiz-Cantú (2015) describes the structure of the Jalisco State Innovation System, its governance, actors, programs and performance to assess the innovation capabilities of the State, which they consider are meager despite their growth because it is a decisive factor in the promotion of the State's R+D+I. The analysis identifies the minimum existence of constituent elements and the weakness of innovation capacities in characteristic productive environments with a low culture of competitiveness for innovation coupled with the lack of clarity of an industrial development policy.

A diagnosis of the organizational culture of 40 health SMEs located in Guadalajara, Jalisco, Mexico, carried out by Moyano Martínez (2016), and based on the instrument designed by Cameron and Quinn (2006), it was found that the type of organizational culture called clan is the one that promotes innovation and internationalization of these SMEs. The analysis and proposal of ergonomic innovations that promote the competitiveness and permanence of SMEs in the food sector in the downtown area of the city of Guadalajara, is the objective of the case study of Vázquez Ávila, Sánchez Gutiérrez and Núñez Moreno (2017). The case study focuses on food trucks located in the northern zone of Zapopan, Jalisco and concludes that small businesses have ambition and show a proactive attitude in their management.

The authors Arellano - Rodríguez, Sánchez Gutiérrez and Mejía - Trejo (2018) propose the administration of knowledge for the generation of innovation under the focus of the dynamic capacities of SMEs seeking better positions in the global value chain. They are based on empirical evidence based

on studies of innovation in software companies in the city of Guadalajara (Mejía-Trejo et al. 2014). The analysis of the diagnosis and organizational intervention in MIPYMO's del Sur de Jalisco conducted by Ramírez Lira, Rivera Espinoza, Azpeitia Torres, Amezcua Luján and Barajas Pérez (2018) consider that for organizations to have a culture of competitiveness, leadership must be articulated of managers among the owners, the leader and the workers.

RESEARCH METHODS

General Aspects

The use of Information and Communication Technologies (ICTs) by companies in the State of Jalisco has seen considerable growth in recent years. The use of computers, landlines, mobile phones, internet, among other technological resources, has become essential for the operation of any company.

There are many tools to evaluate innovation processes in SME's. A good example is the survey based on innovation scoring system (ISS) and developed by The Agency for SME and Innovation (IAPMEI) and the Business Association for Innovation (COTEC), both Portuguese, was conducted to researchers at the Institute for Systems and Computer Engineering, Technology and Science (INESC TEC), who are considered to be promoters of open innovation in SME's. The ISS diagnoses and measures the dimensions of conditions, resources, processes and results. Using this system, the participants are able to diagnose and measure the potential innovation performance of SME's, which may become more aware of competitiveness and opportunities in a knowledge based-economy (Sivam, Dieguez, Ferreira, and Silva 2019).

The following pages analyze the situation for 2013 of the use of ICTs by companies with a staff of more than 10 people. These companies are carrying out activities such as: mining, electricity, construction, manufacturing, commerce, services, transportation and communications, according to the classification made by the North American Industrial Classification System 2007 (SCIAN2007). This analysis is done taking the Survey on Information Technologies and Communications 2013 (ENTIC, 2013) conducted by the National Institute of Statistics and Geography (INEGI).

In Jalisco, there has been a growth in the adoption of information technologies and the myth that these tools were accessible only to large transnational companies has been banished (Romo, 2019). Among the companies from Jalisco that have adopted information technologies, the dairy group Sello Rojo (Lechera Guadalajara) that adopted the s4 Hana platform and they are close to implementing what distribution to the final customer is with SAP solutions.

Another of the success stories that the IT solutions company highlights is the Jalisco company Cloe, which through SAP Business One, has managed to emerge as an international company with 5,000 different fashion products and, according to its managers, every 30 seconds markets one of their items. Business One is the star SAP solution for the General Business segment that groups small and medium-sized companies and that in 2016 reported 10,000 clients in Latin America ... Therefore, cases like Cloe's that strengthens its business thanks to digitization, show that Growing companies can improve their performance and face the obstacles to reverse the statistics (Romo, 2019).

The survey was designed under a probabilistic scheme so that the results obtained can be generalized for the total population. The population of companies that integrate with 10 workers and more gives

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a total of 157, 611 and the total sample selected is 6, 941 companies. The available results are those presented for 42 companies.

It is worth mentioning that in this descriptive research, it had a limited sample of the results of the ENTIC, 2013 published by INEGI within its website, which is a mere approximation as an exercise that it intends to do as a research work at the international level. mastery with the complete survey. This is a cross-sectional study since the survey deals with the use of ICTs in 2013.

Statistical Design

The design used to carry out this research was an observational study, in which the ENTIC, 2013 is taken with the 42 companies that make up the database published by INEGI on its website. When carrying out this research it was decided to take all the companies as it was a limited database, so the results represent an exercise for the calculation of the final results that is proposed as thesis for the master's level. The purpose of the Survey on Information and Communication Technologies (ENTIC 2013) is to obtain information on the availability and use of information and communication technologies in companies during 2012, to generate statistical information on this matter and provide a panorama that contributed to decision-making regarding public policies for the development of the productive sector related to these technologies; likewise, offer elements of analysis to carry out national and international studies, as well as for the general public interested in this matter.

The Survey on Information and Communication Technologies aims to obtain information related to the human, financial and infrastructure resources that private sector companies allocate in the use of information technologies, which allows generating statistics and indicators that support the design of public policies for the development of the productive sector related to these technologies. To determine the sample size, a total of 6,941 companies were considered: 4,353 for the OECD branch and 6,440 for the NAICS subsector.

The new stratification was carried out according to the size of the number of employees working in the company, so 3 groups were consolidated consisting of small companies that have a number of workers ranging from 1 to 50 employees, the medians of 51 to 250 employees and large companies that have more than 250 people employed.

Statistical Analysis

In the statistical analysis are the basic statistics of the original stratification presented by the INEGI according to the employed personnel, which includes data on the investment in fixed assets of the companies that allow identifying the items with greater influence on average productivity, the availability of the media in which the behavior of companies is identified with the media to position their products and services. These same basic statistics were also determined for the impacts of the use of ICTs in the productivity of companies. This as an alternative to promote competitive advantages over larger national companies as well as foreign companies established in the State of Jalisco that represent a potential competition.

In the proposal that is made to restructure the sample in 3 new groups, the structure of their income, the disposition of the means of communication, the use of computer equipment and the impact of ICTs, are finally proposed. 2 regression models to determine the average productivity and a modification to the production model using the Cobb-Douglas model using the Minitab statistical program.

ANALYSIS OF RESULTS

INEGI performs a stratification according to the employed or employed personnel, classifying the companies based on this criterion. See table 2 below

Table 2. Classification of companies

Strata of personnel employed	Sample of companies
Total	42
1. More than 751	10
2. 251 a 750	6
3. 51 a 250	14
4. 21 a 50	5
5. 10 a 20	5
6. 1 a 9	2

Source: Own elaboration

The results presented by INEGI, stratum 3 absorbs 33% of companies, followed by Stratum 1 with 24%, this stratum being large companies in terms of personnel, with more than 751 employed persons. The turn of the activities carried out by these companies are: television monitors, electric power commercialization, clothing retail trade, personnel transport service, crude oil, to name a few, this explains in some way the amount of personnel they require to develop their activities. See figure 2.

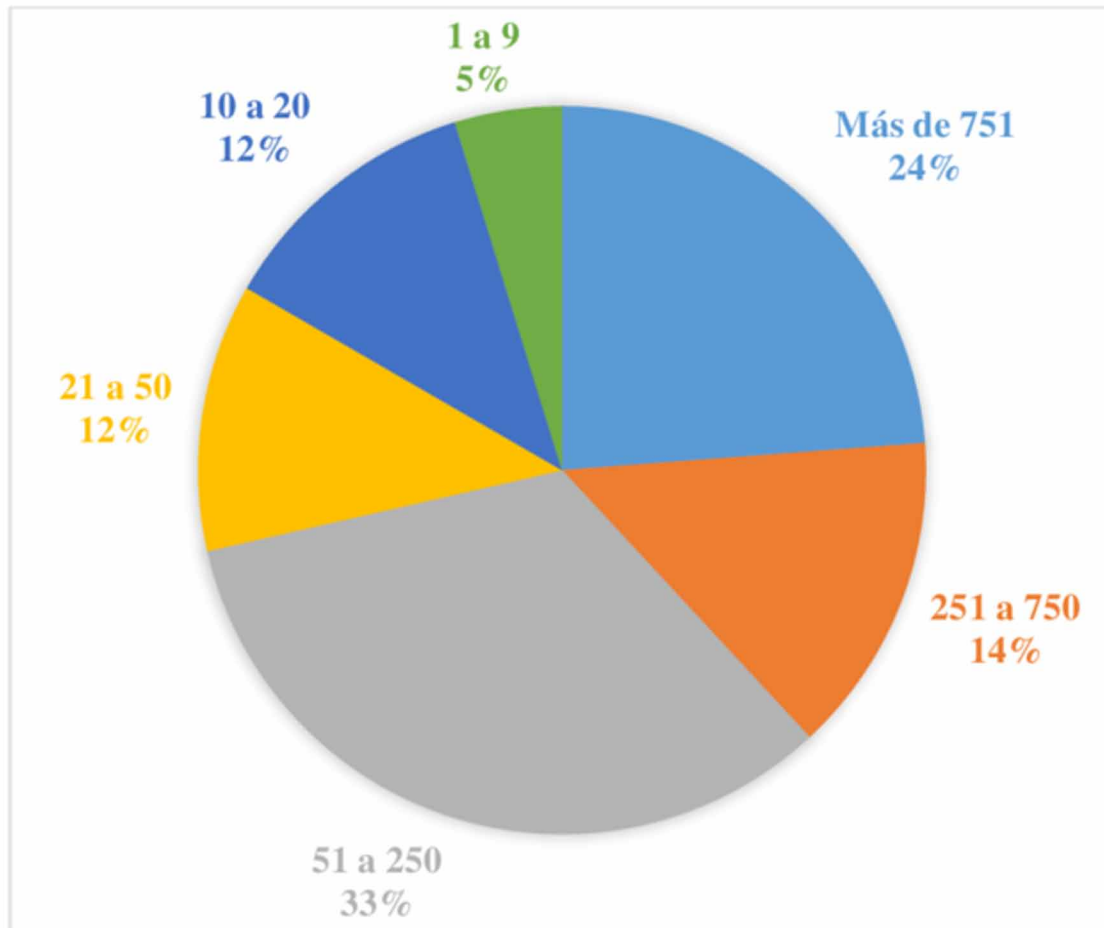
The business of the companies is presented in table 3. this classification is carried out by the OECD, with a total of 23 branches. The shift that predominates in the results presented by INEGI are the wholesale and retail sales and the complements of the service.

Investment and Equity Participation of Companies

Throughout economic history, talk about investment involves the injection of current assets to promote and reactivate some economic activity in order to grow this type of asset through yields. Within companies and any organization investments are made through direct injections of capital, for example the payment of wages and salaries, purchases of different inputs to make labor productive as the same production process, ICT equipment, among others. In the case of the study companies, it can be observed the distribution that is made of this investment being the items in machinery and equipment and the investment in computer equipment and peripherals that concentrate the largest amount of capital invested. See figure 3 below.

The information presented about the amounts of investment in fixed assets that companies make results with a large variance. In this way, through ranges it can be have a clearer vision. It can be seen that 54.76% of companies invest less than \$ 999.00 pesos. This investment ratio is a function of the size of the companies that for this research has been stratified in terms of the staff they have occupied. Please see table 4 below.

Figure 2.



Continuing with the formation of the participation of the social capital of these companies, of the 42, 78.57% is 100% national capital, then we have 19.05% with participation of foreign capital and a public company. Within companies with foreign capital participation (8 companies), 3 have 99% of foreign capital and 2 companies have 100% of this same type of capital.

ICTs in Companies: Investment, Uses and Impact

The technological advances that society is currently suffering correspond to the satisfaction of the new needs that this has. Within the market composed of large, medium and small companies, the relationships between them have become closer. They link such simple matters as the purchase and sale of articles of daily commercial use, to the movement of large capitals that would, in short, impact the living conditions of the residents of any place or country where these movements occur.

Table 3. Distribution of the companies by branch of activity

Branch of activity OCDE	Description OCDE	Companies
2	Mining	2
8	Textile	1
9	Clothing and leather	1
13	Pulp, paper and paper products	1
14	Publications, printers and reproduction of recording media	1
19	Chemical (pharmaceutical)	1
20	Rubber and plastic products	1
23	Ferrous basic metals	1
25	Products made of metal	2
28	Office, accounting and computer machinery	1
32	TV, radio and communications equipment	1
34	Motor vehicles	1
37	Aircraft	1
40	Furniture	1
41	Other manufactures not specified elsewhere	1
43	Electricity	1
46	Wholesales	5
48	Transportation and storage	3
53	Real estate, income and business activities	1
59	Community, social and personal services	3
SER	Complement services	4
46b	Retail sales	7
MEC	MEC Complement mining - construction	1
Total		42

Source: Own elaboration.

In this way the use of ICTs is a tool within companies to make large and small movements of capital, to perform the administrative and operational tasks of the company, understood here the operability from inputs - outputs of goods until its commercialization and arrival to the final consumer.

The situation that predominates in the companies analyzed through the following graph, show that the companies which responded through a dichotomous variable (yes, no) about the resources with which they had at their disposal in the year immediately prior to the publication of the survey, the results are presented in figure 4.

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Figure 3.

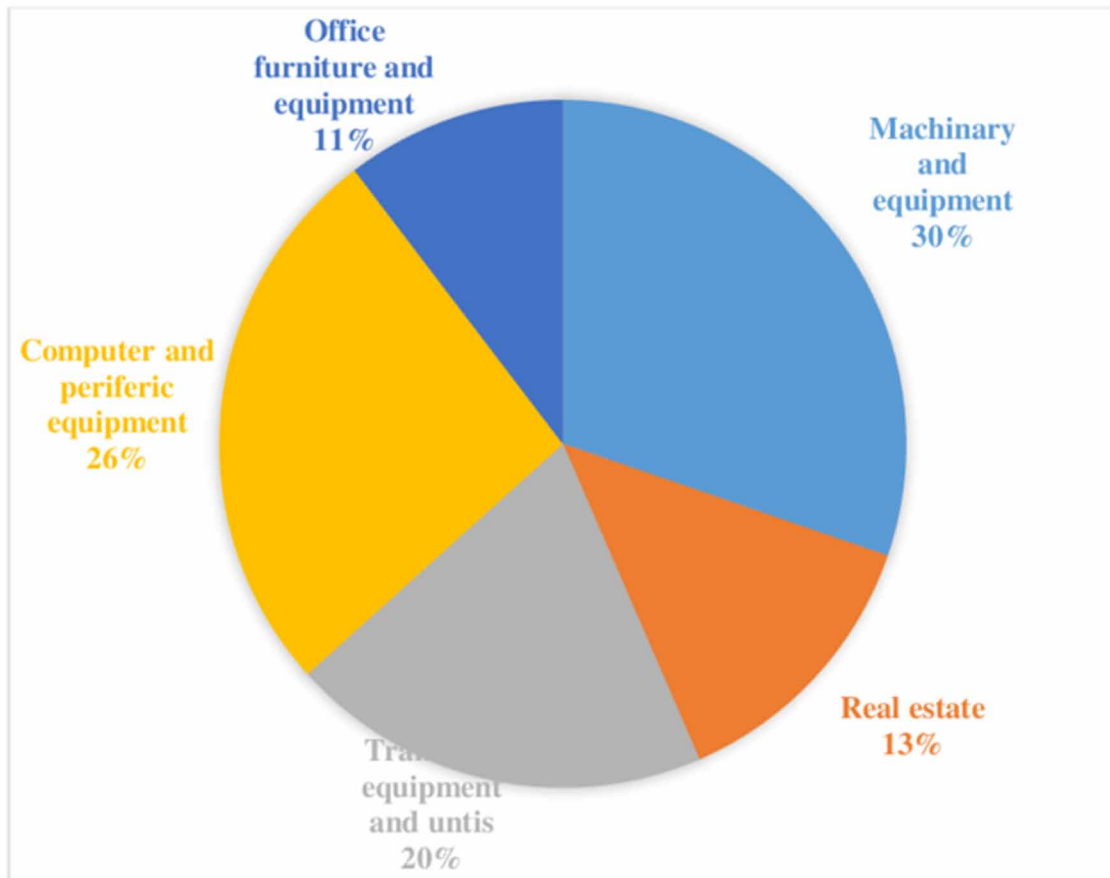


Table 4. Investment amounts of companies

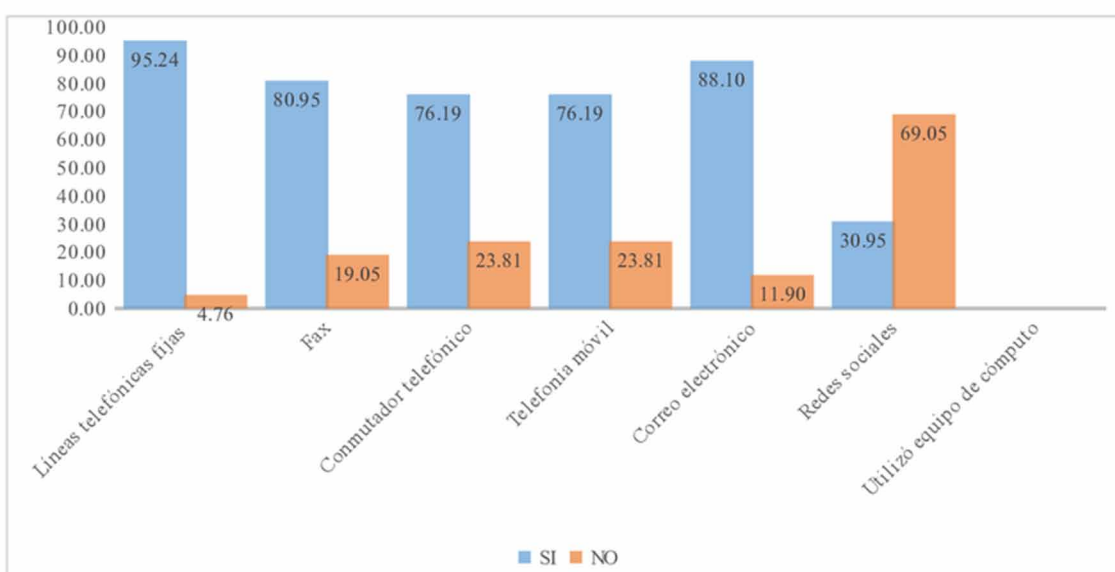
Rank	Investment	Total companies	% of investment rank
1	De \$0 a 99	13	30.95
2	De \$100 a 999	10	23.81
3	De \$1,000 a 9,999	10	23.81
4	De \$10,000 a 99,999	5	11.90
5	More than \$100,000	4	9.52
Total		42	100.00

Source: Own elaboration

The provision of means of communication such as telephone lines, fax, switch, mobile, email and social networks by companies involves multiple internal and external tasks. The companies, as shown in figure 4, represent the use of the traditional means of communication par excellence, such as fixed

telephones, a strong percentage, 80.95 and 76.19% in fax and commutator, respectively. The provision of mobile telephony is on par with the same percentage of a traditional means of communication such as fax (76.19%). The email with 88.10% of the companies, proves to be only below the traditional landline phone the importance that has for the companies to have this ICT tool in the operation of their activities. On the other hand, it is seen that only 30.95% of these companies have social networks. Denote here the importance of the rise of social networks in recent years as they currently represent a niche of opportunity for the positioning and sales of companies.

Figure 4.



The investments made by companies in the ICT category, are in the acquisition of computer equipment that includes: desktop computers (PC), mobile phones or laptops (laptop, notebook, netbook, tablet), workstations, servers, minicomputers, mainframes, supercomputers. In the results that INEGI presents, it is identified that on average each person employed within these companies has .35 computation equipment as media to perform the assigned activities.

Within the use of these equipment 92.85% that declare percentages in stock, it is noted that 63.67% of that 92.85%, is older than two years and only 17.62% of this equipment is less than one year. Taken into account the speed at which they depreciate (30% each year) this represents for companies a signal to be updated with new products that allow them to increase their productivity.

Another important aspect to highlight in the use, management and acquisition of computer equipment by companies of Jalisco are the support that the Mexican and State governments have to productive economic activities of companies. One of these programs is the PROSOFT 3.0 that supports companies with low levels of development for the adoption and development of new ICTs. Even within their calls, the innovations of companies are encouraged, all with the objective of increasing productivity levels in the strategic sectors of the economy (SE, 2016).

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For the results presented by the ENTIC (2013), 93% of the companies did not receive any government support for these purposes. In the theoretical framework on the advances in the use of information technologies by companies, this use would imply significant advantages in the progress of the activities they carry out. When analyzing the situation of these 42 companies, it can be observed in the year of study, that the use of internet and email have impacts on the reduction of time of the processes of the companies.

The information collected by INEGI when applying its questionnaire on the impact of ICTs in the increase of sales and customers, reduction of time and costs, quality of services and market expansion is proposed based on the opinion of the person in charge of responding the survey, so it is a yes and no answer.

Although we do not count on the percentages of these increases or decreases to make specific estimates, this information helps to later consider the probabilities that these items have in decreasing or increasing productivity and production by making use of the internet, website, email or social networks. The most used instruments to increase sales were email and the Internet, which predominated in most of the categories: cost reduction, quality of services and customer growth.

Regarding the use of the website, it only impacts more or less significantly on the increase of customers. The issue of social networks turns out to be the one with less weight in these categories, having its greatest impact with 20.51% of companies that have social networks in the geographic expansion of their market.

In broad terms, these results represent the delay of companies in the use of ICTs to increase their productivity, since they are the tools we have in this century and mean the possibility of promoting competitiveness and growth in each of them. Stopping to observe the impact that the electronic mail is having within the operations of the companies in the period of surveying, it is noted that on average companies have .97 units of computer equipment to use with Internet access. Because the Internet network conditions the use of electronic mail, the people who used computer equipment with Internet access reach an average of 1.45 email accounts.

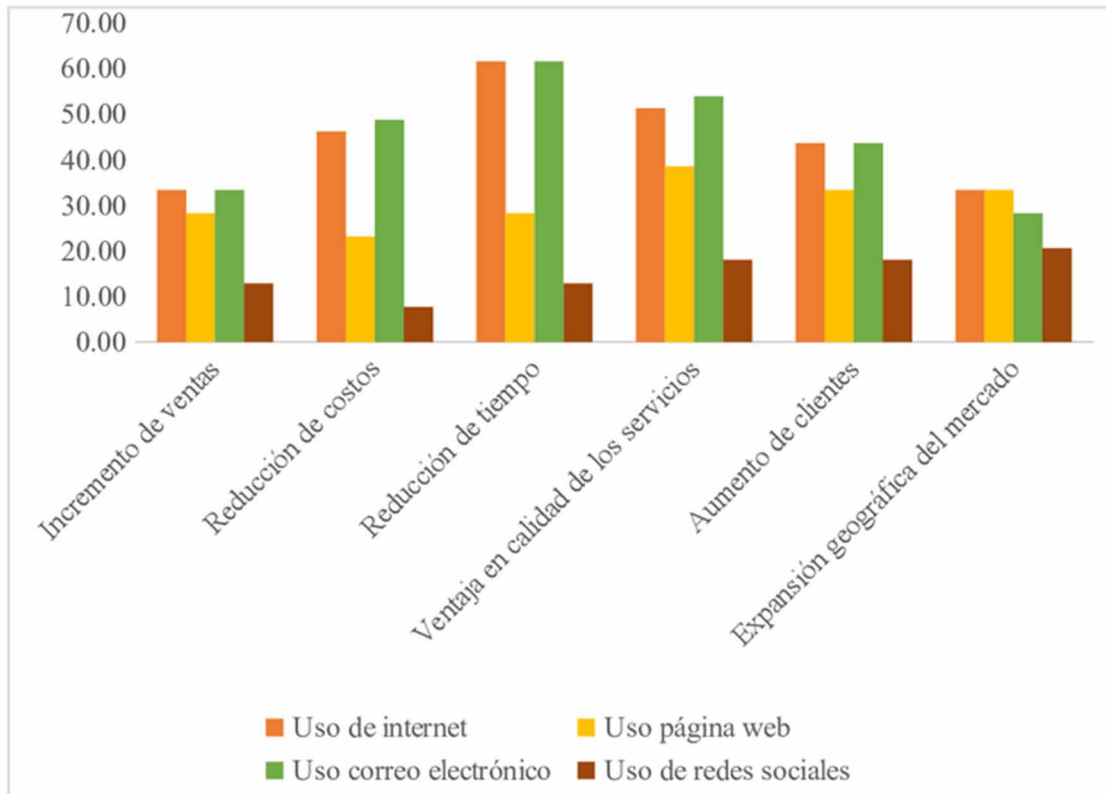
Electronic and digital technologies have already gone from the part of standardizing processes to how to win the market, how to incorporate technology to satisfy customers. In terms of solutions is the area called customer experience that help generate income for customers not only in e-commerce but also marketing, automation of sales, and experience management (Romo, 2019).

The average of email accounts combined with computer equipment with Internet access introduce, among other variables, the electronic commerce of goods and services offered by companies, which it will be analyzed later. Electronic commerce (digital economy) is not highly accepted by companies (Paz, 2020). In figure 5 we can observe these behaviors.

The increase due to the intensive use of ICTs would be a key factor together with the increase in productivity in the increase of yields, although as previously indicated, yields may increase due to the increase in prices, without this meaning an increase in the productivity of the company. These market forces are not very controllable by SMEs.

One aspect in which SMEs can have interference is in the training of their workers when using ICTs, since by keeping them trained they can update their knowledge of the factors that affect their market. Of the results presented by INEGI, only seven companies trained personnel taking between 2 to 100 courses in this period, a figure that shows information asymmetry due to the size of the company according to its personnel.

Figure 5.



Structure of the Market of Companies

The outputs direction of companies made up of goods and services that they produce in the form of manufacturing, mining, energy and services in the construction and sales branches, among others, determine the capacity of companies to determine the final consumer.

In this way, large companies, due to the magnitude they represent, are external to the national market, while small and medium-sized companies have a more or less local scope, with the exception of one company for each group, who export part of their products to the market. Externally, these sales contribute very little to their total income.

It is also the case of companies that do not sell either inside or outside the local market. So, it is about companies that obtain their income from other sources, their field therefore are the communal, social and personal services. In the following graphs it can be observed how the sales in the national market and the sales abroad (exports) as well as other sources of income, contribute to the total income of the companies. Please see figures 6, 7 and 8 for more details.

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Figure 6.

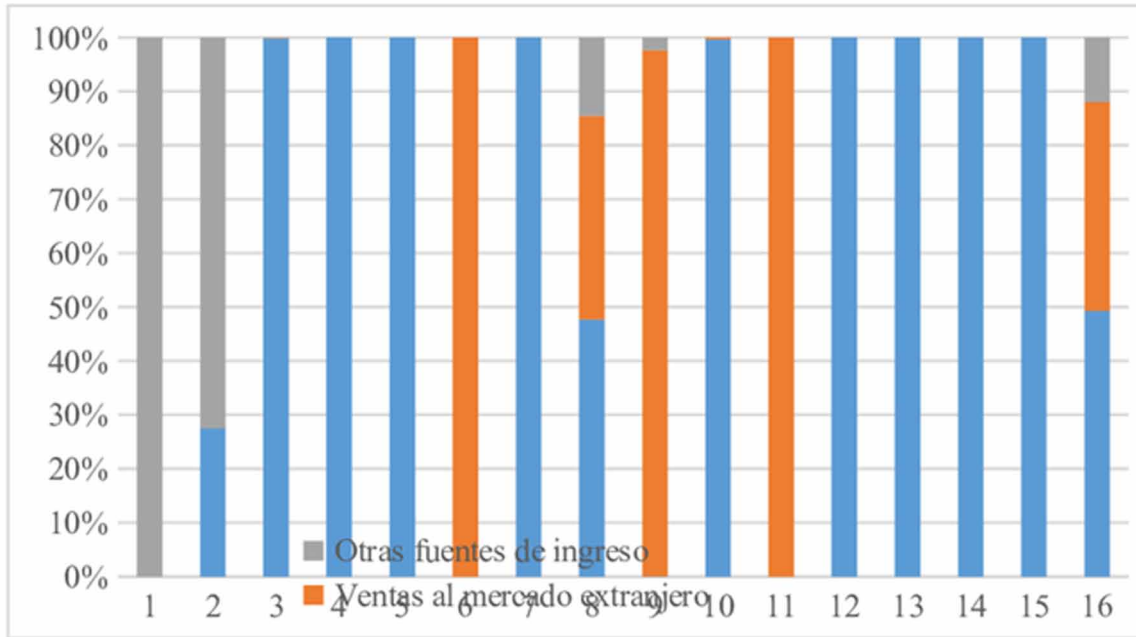


Figure 7.

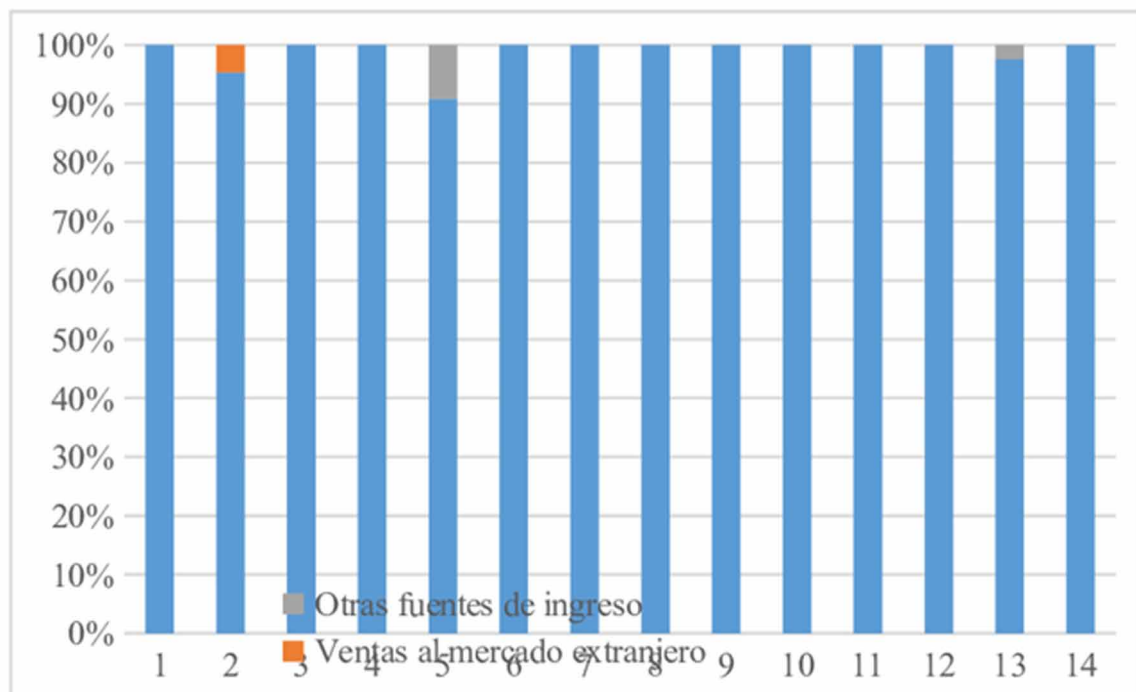
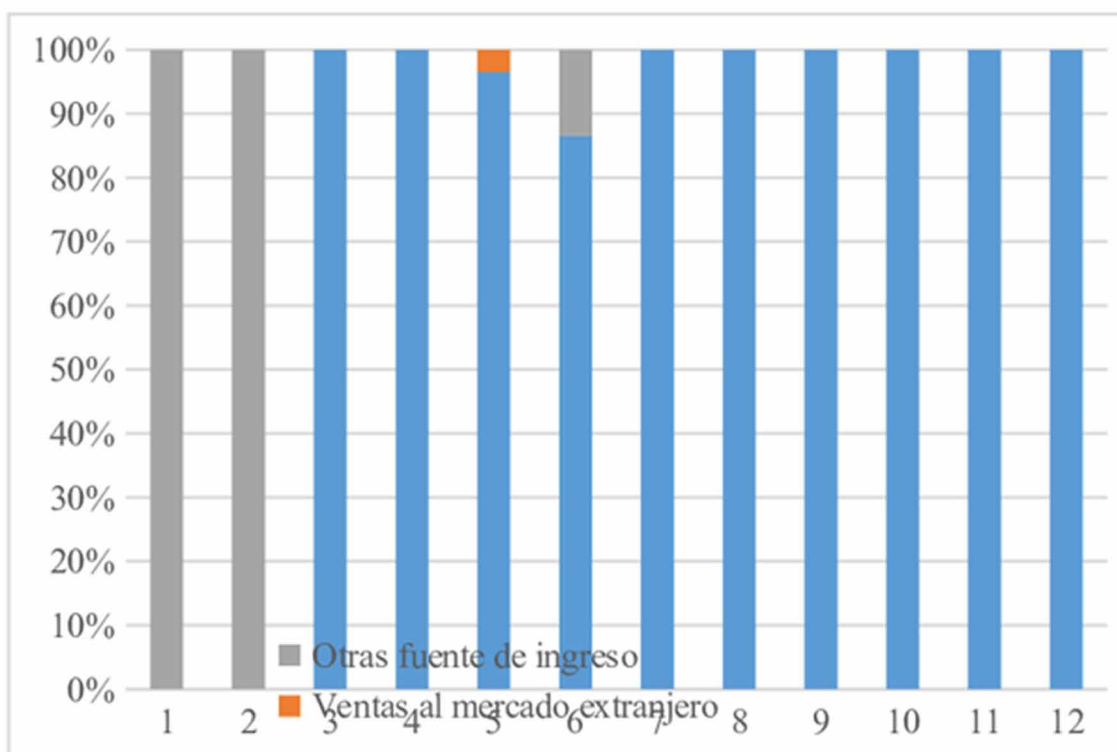


Figure 8.



When classifying the companies in these 3 groups according to the size as mentioned above, it is a function of the total number of personnel employed. It is analyzed the disposition of the means of communication. It can be seen that the results are similar between medium and large companies. The large companies to be hypothetically consolidated within the market, their technological equipment is also, a situation that shares with medium-sized companies. Companies classified as large achieve in this way 100% provision in fixed telephone lines and email and only 31.25% of the total of companies in social networks, percentage below the medians that report a 35.71% of the total of companies.

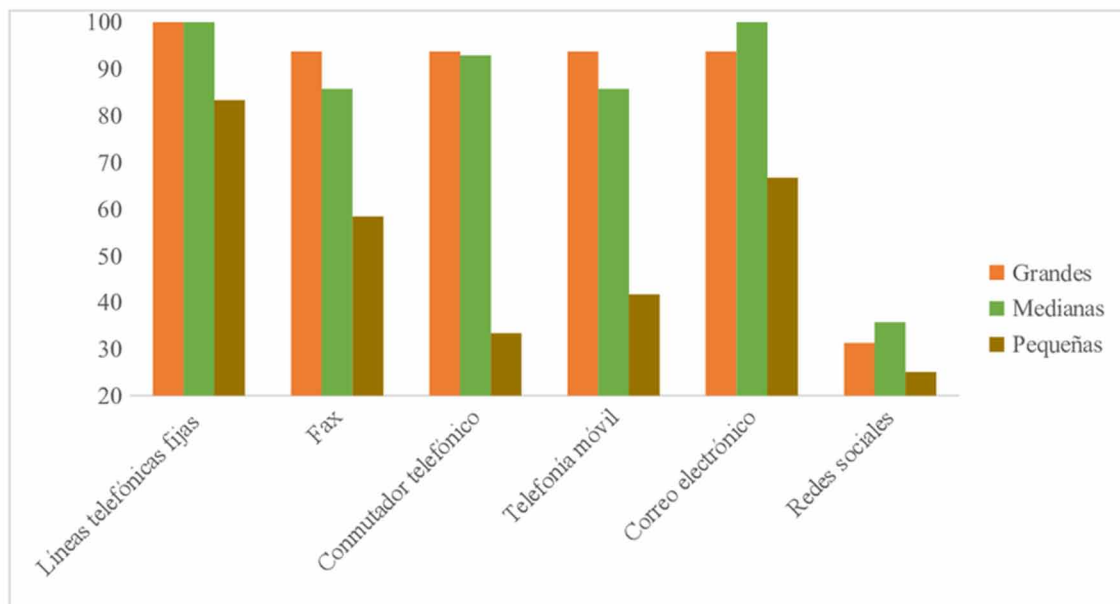
On the other hand, there is a considerable gap between small companies with these two groups (medium and large), although they share a low use of social networks and a high percentage in telephone lines. Being the group of small companies which represents 84.18% of the total population, according to the methodological document presented by INEGI for the ENTIC (2013) represents a central issue to guide policies for the use of ICTs by the bodies of competent governments. The following graph details the use of the media by companies in the classified groups as shown in figure 9:

Differentiating the size of the companies to perform the analysis allows to identify the technical and technological advantages of medium and large companies in terms of cutting edge and acquisition of computer equipment. In terms of equipment per worker, medium-sized companies have 0.38 computer equipment greater that the average 0.35 of the whole. Large companies are in the middle and small businesses, as expected, are below the average half. The high percentage of obsolescence of the computer equipment of small companies is evident, which results in a disadvantage when competing with medium

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and large companies. Because of this, small businesses have a market to gain and equipping can be a powerful measure to achieve this goal. Table 5 summarizes this information.

Figure 9.



Regarding the use of ICTs to create competitive advantages within the market, it is found a more or less uniform behavior among the groups of companies. On the one hand, 50% of small businesses saw their sales favored with the use of the internet and 60% of these same companies increased their customer base. This speaks of a significant use of the internet. In the case of medium-sized companies, their time of processes and administrative activities was reduced with the significant use of the internet with 64.29% of the companies that declare using these ICTs for their operations.

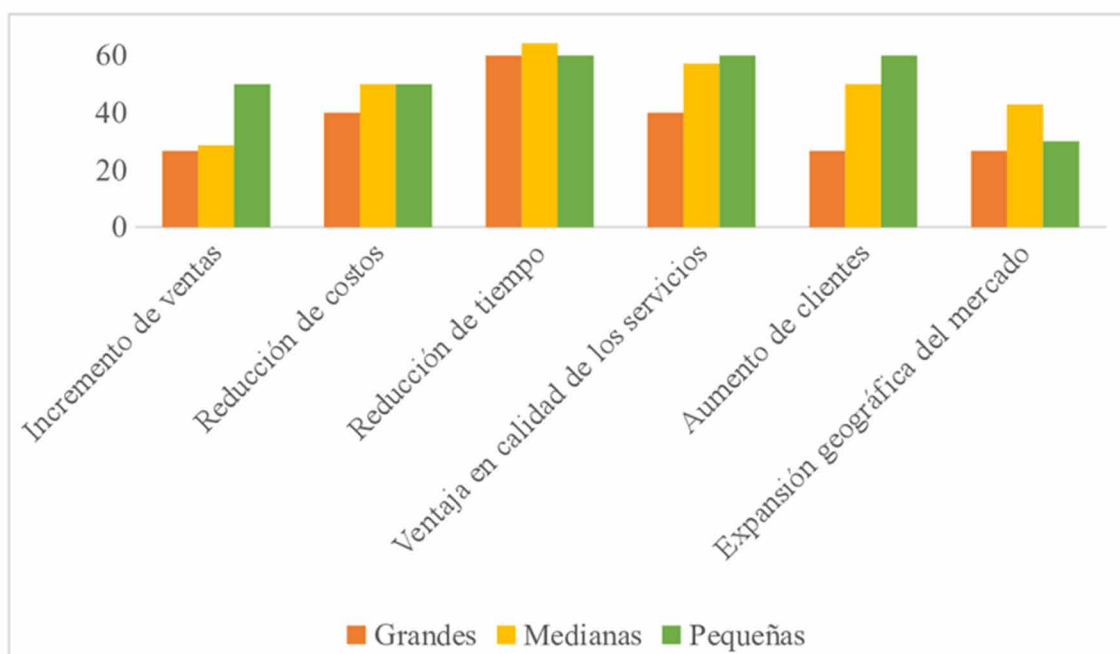
With this indicator, it can be spoken at a first moment that medium-sized companies are more productive with respect to small and large companies. The results of the large companies are mainly due to the field of their activities highlighting manufacturing as predominant, in the medium-sized manufactures and services and small businesses services. This is shown in figure 10.

Table 5. Obsolescence and per capita equipment of companies according to their size

Type of company	Computer equipment per capita	Age of computer equipment %		
		Under 1 year	1 to 2 years	More than 2 years
Large	0.35	29.33	23.07	47.60
Medium	0.38	13	24	63
Small	0.31	6.5	4.3	89.2

Source: Own elaboration

Figure 10.



The advantages provided by having an official website for each of the companies would represent an image positioning. The results presented for the web pages of the companies highlight the little use by small companies, having the biggest impacts for medium-sized companies, which is a more effective use to increase sales, offer quality services and a geographical expansion of the market. Large companies again fall short of the effects that medians could have, with web pages being a website where the characteristics are captured and the magnitude of these companies would expect these results. This can be seen in figure 11.

E-mail is another tool of ICT for the realization of the activities of companies and in view of its impact on promoting the skills seen in its prevalence for medium-sized companies in the points on the increase in sales, cost reduction, improvements in the quality of their products as well as increases in the client portfolio.

For medium-sized companies, it is a tool for brand expansion and positioning. The benefits that the medium companies declare in the ENTIC (2013) because they have emails with considerable percentages in these items show the importance of the adoption of this ICT.

On this point large companies were favored by the use of mail in a slightly longer time reduction on medium-sized companies with 73.33% over 71.43%, while 40% of these same companies saw their market expanded geographically. In relation to small businesses, the percentages in terms of the impact of the use of electronic mail do not indicate a significantly beneficial trend, as shown in figure 12.

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Figure 11.

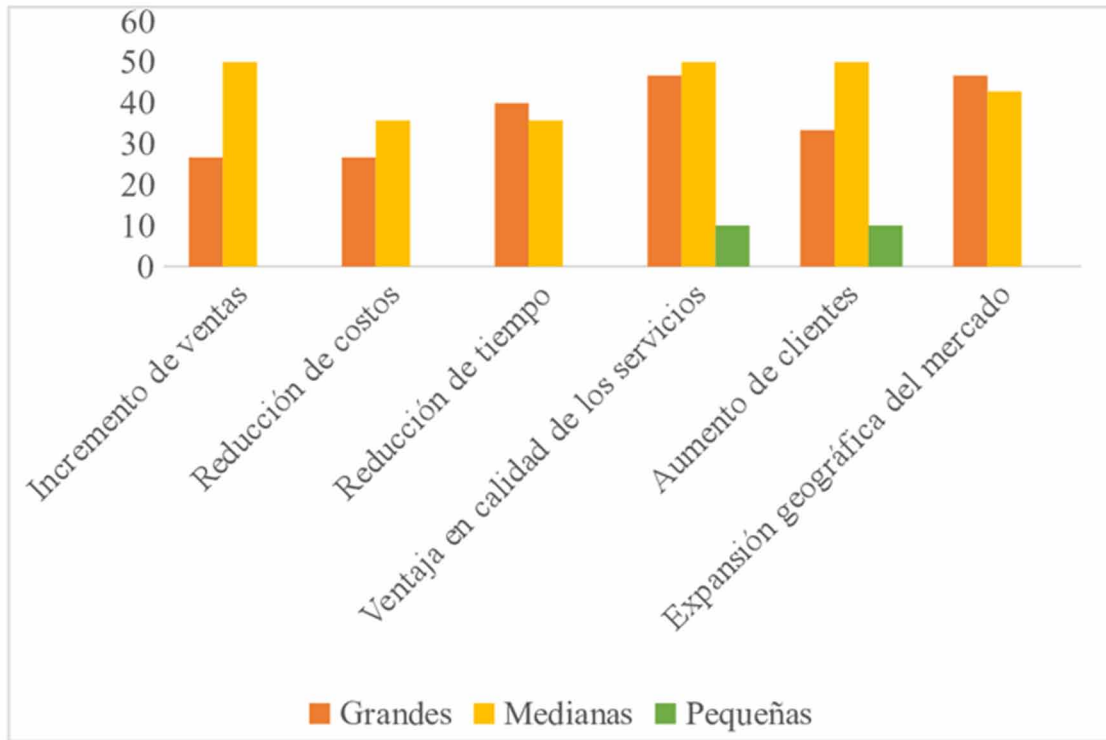
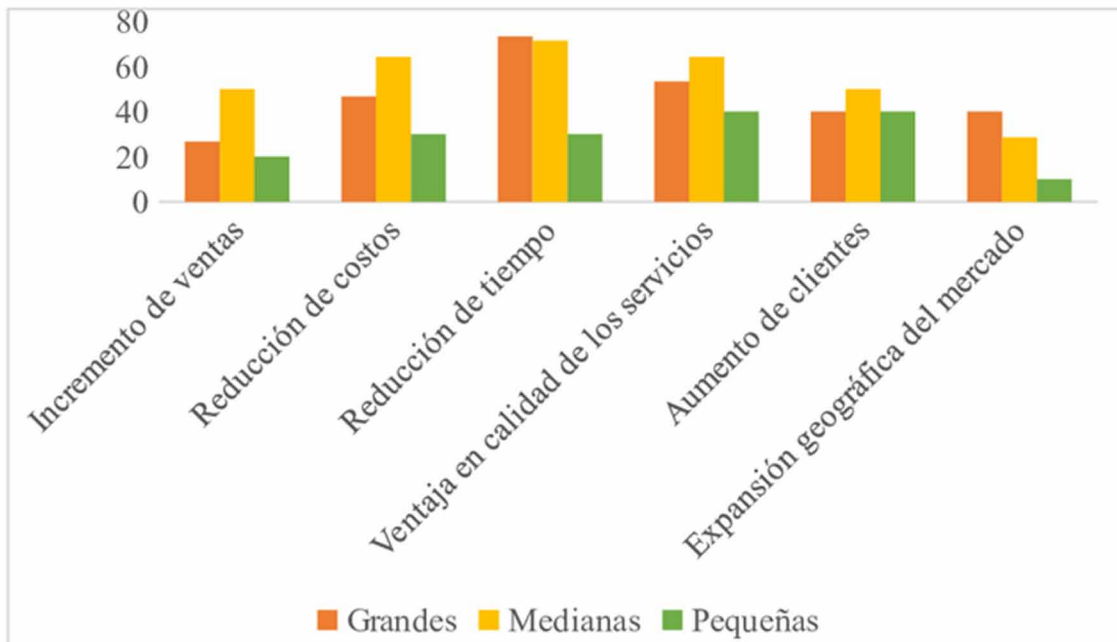


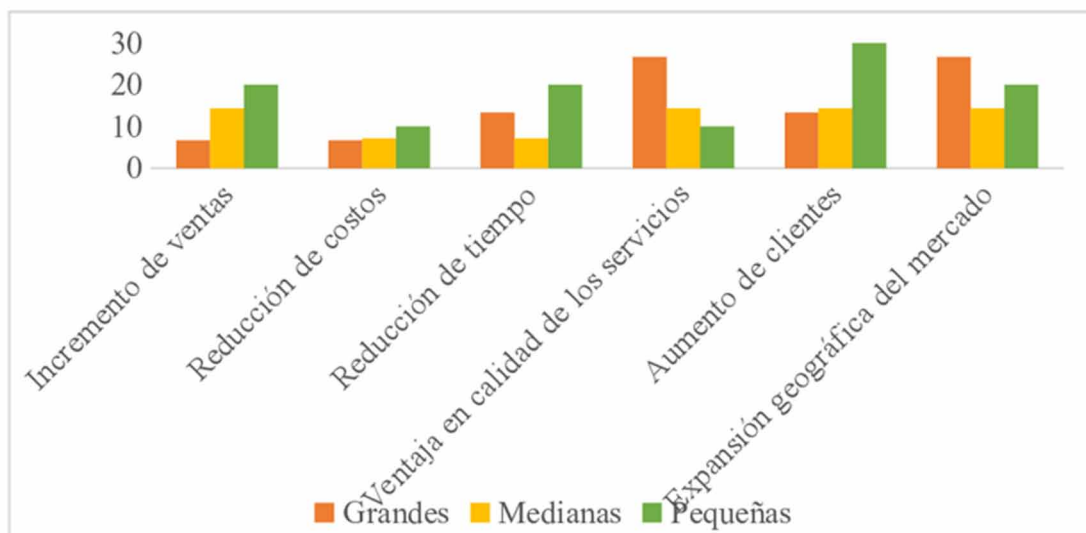
Figure 12.



Finally, there are social networks as an ICT in which most of the companies have insignificant impacts as seen jointly and strengthen this thesis according to size. There seems to be a complementarity between large and small companies on the benefits of this ICT. The limited exploitation of ICTs by companies limits them to take advantage of benefits that would allow them to increase their sales through the positioning of their product, increase their customers and through these networks can be made known and achieve greater expansion of its national market and on a smaller state or regional scale.

Summarizing small companies are those who obtain advantages over social networks to increase their sales and increase the number of customers, although this tool is not the most remarkable of the analysis, this behavior can be reviewed in the following graph inserted in figure 13.

Figure 13.



In this general outline, it can be identified that the use of ICTs to create competitive advantages, according to the size of the companies, the medians are those that are favored most, followed by small and large companies. What can be said about the low level of updating and investment that large companies have to operate through the use of ICTs.

Efforts in the adoption of ICT should be and is, as shown by this detailed analysis, by small and medium enterprises, since they are the entities that are obligated to invest in order to grow. In the case of large companies, the effort turns out to be less since they have reached a degree of maturity and consolidation within their market, they already have a client portfolio and their market is national and foreign.

The undoubted importance of technical and technological equipment for the disposition and use of ICTs by companies in any of its dimensions accompanied by users of these technologies: human capital converges in higher or lower revenues for companies.

For the analysis it is taken the total income of companies, presented previously and made up of sales to the domestic market, sales abroad and other types of income as an indicator of productivity that depends on the level of ICT equipment in this case is the investment in computer equipment and labor factor as

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the number of total personnel employed. The model to make the approximation to the productivity of the company would be represented by the following expression:

Average productivity model

$$\ln P_{MEi} = \alpha + \beta \ln I_{TICi} + \gamma \ln I_{NOTICi} + \delta Tam + \varepsilon_i$$

Where:

α = intercept

$\ln P_{MEi}$ = ln Productivity average per worker of the company i

βI_{TICi} = ln Investment in ICT per company worker i

$\gamma \ln I_{NOTICi}$ = ln Investment in NOTIC equipment per company worker i

δTam = Dummy of the size of the company

ε_i = random error

Certain characteristics acquired by companies according to capital, personnel, type of activities they develop, size, administrative and production processes, among others, make them adopt working mechanisms, decision making about the distribution of functions, tools to be used. Thus, in the search for increasing returns, technical and technological tools are provided with which the times of the processes can be minimized and generally optimizing the company's human and material resources.

Through the general linear model of double logarithm to determine the average productivity of the workers through elasticities that show the increases that have the increase in 1% plus the ICT equipment or the non-ICT. The results of the model by stratum show a significance of 24.53% (R).

The constants by strata, 6.58 for the large ones, 5.83 for the medium ones and 5.25 for the small companies shows the level of equipment that each group has. These results are to be expected since large companies by size would have to have a fixed capital greater than medium and small companies.

In the coefficients of the general model, it is identified that the investment in ICTs increased by 1% through computer equipment, the average productivity per worker increases by 0.18%, while by doing so in non-ICT investments (investment in furniture and equipment) the average productivity of workers grows by 0.25%. These significant differences correspond to a low intensive use of ICTs by small companies of Jalisco that, as indicated before, represent 84.18% of the total population of the ENTIC, 2013.

By strata of companies, it is observed that for large companies the average productivity is 0.64% higher than the average productivity of small and medium enterprises. Being a linear regression statistical model it is referred to the characteristics of the data to validate the assumptions, so we find that the data come from a normal distribution, as shown in figure 14.

Production Model

Starting from the function of production mostly used and exposed by Cobb and Douglas in 1948, it is determined the relationship between the product with labor and the capital in which technology remains constant (Sánchez, 2016), in this way we will have:

$$Q = AL^\alpha K^\beta$$

Figure 14.

General Regression Analysis: LN de la pro versus LN I TIC x t, LN I en Mob , ..

Regression Equation

NVO ESTRATO

1	LN de la productividad media	=	6.58481 + 0.183428 LN I TIC x trabajador + 0.259564 LN I en Mob y Equipo x trabajad
2	LN de la productividad media	=	5.83628 + 0.183428 LN I TIC x trabajador + 0.259564 LN I en Mob y Equipo x trabajad
3	LN de la productividad media	=	5.25229 + 0.183428 LN I TIC x trabajador + 0.259564 LN I en Mob y Equipo x trabajad

Coefficients

Term	Coef	SE Coef	T	P
Constant	5.89113	0.286289	20.5776	0.000
LN I TIC x trabajador	0.18343	0.298885	0.6137	0.543
LN I en Mob y Equipo x trabajad	0.25956	0.120802	2.1487	0.038
NVO ESTRATO				
1	0.69368	0.374024	1.8546	0.072
2	-0.05485	0.358887	-0.1528	0.879

Summary of Model

S = 1.57328 R-Sq = 24.53% R-Sq(adj) = 16.37%
 PRESS = 114.072 R-Sq(pred) = 6.00%

Where:

$Q = Product$

$L = Labor (Employed personnel)$

$K = Stock of Capital$

$\alpha = Work participation in the generation of added value or product$

$\beta = Share of capital in the generation of added value or product$

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Figure 15.

Regression Analysis: LN Ing Tot versus LN Total perso, NVO ESTRATO, ...

The regression equation is

$$\text{LN Ing Tot} = 4.40 + 1.11 \text{ LN Total perso} + 0.03 \text{ NVO ESTRATO} + 0.787 \text{ LN Stock}$$

Predictor	Coef	SE Coef	T	P
Constant	4.401	1.920	2.29	0.028
LN Total perso	1.1058	0.2628	4.21	0.000
NVO ESTRATO	0.031	1.147	0.03	0.979
LN Stock	0.7871	0.3432	2.29	0.027

S = 1.55822 R-Sq = 76.9% R-Sq(adj) = 75.1%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	307.96	102.65	42.28	0.000
Residual Error	38	92.27	2.43		
Total	41	400.22			

Source	DF	Seq SS
LN Total perso	1	295.02
NVO ESTRATO	1	0.17
LN Stock	1	12.78

A = Factor scale or efficiency parameter, which reflects the level of technology

Finally introducing the double logarithm, we will have:

$$\ln IN_i = \ln A_i + \alpha \ln L_i + \beta \ln K_i$$

Under this model scheme it is obtained the elasticities of the product of labor and capital. In this sense we take Q as the total income of the company, a referring to a scale factor or parameter of technological efficiency and supported by the regression analysis where we calculate average productivity, where large companies are intensive in ICTs use, medium-sized companies to a lesser degree and finally to small ones such as those that make the best use of ICT. It will be used this same classification or parameters, where 1 uses the most technology, 2 uses medium technology and 3 uses less technology.

For L we will take the total of employed personnel and for K that represents the stock of capital, we take the total variable of investment in fixed assets 2012. In the first stage where we calculate the relations that have the product taken as the income of the companies of the sample with the explanatory variables, in this case of the total staff, the stock of capital and the level of technology, where stratum 1 is intensive companies, 2 medium-intensity companies and 3 those that use less technology, we have as a result that this model is adjusted by 76.9%.

By increasing the 1% employed personnel, the product increases by 1.10% as the most relevant variable, followed by stock of capital that increases by 0.78% in the same percentage. In the case of the strata

that represent the intensity of the use of technology as a parameter, increasing one stratum to another results in a weight of 0.031%, remembering that this is a classification variable, which is the result of moving from one stratum to another.

In the following figure, we can find the results of the regression, the normality graphs are presented to fulfill the assumptions of distribution of the data of the sample as shown in figure 15.

CONCLUSION AND RECOMMENDATIONS

The delay that companies of Jalisco present in their technological equipment allows them to be placed at a disadvantage compared to multinational companies established in the State. The companies collected for this analysis place most of their sales in the national market, so it is of significant importance the decision making by the top managers to rethink investment efforts aimed at Information and Communication Technologies.

These results are preliminary and represent an exercise so it is recommended to conduct future studies thoroughly and with the entire sample. The efforts made by companies in their investments are based on the purchase of machinery and equipment (30%), followed by computer equipment and peripherals (26%), which means the importance in the operation of the companies the use of TIC's.

The companies studied continue to use traditional means of communication such as fixed telephone lines, fax and commutator. On the other hand, by making use of e-mail and the Internet, companies benefited from reducing their costs, increasing the quality of their services and increasing their client base.

In the results of the regression model in the coefficients identified that the increase in 1% investment in TIC's through computer equipment average productivity per worker increases by 0.18%, while doing so in non-ICT investments (investment in furniture and equipment) the average productivity of workers grows by 0.25%.

It should also be noted that by increasing the 1% employed personnel, the product increases by 1.10% as the most relevant variable, followed by stock of capital that increases by 0.78% in the same percentage, in the case of the strata that represent the intensity of the use of technology as a parameter, increasing one stratum to another results in a weight of 0.031%, remembering that this is a classification variable, which is the result of moving from one stratum to another.

The positioning of the companies in the Mexican market does not turn out to be simultaneous, but it raises a series of actions that guide the companies in the growth and permanence, within the actions that these companies carry out, the product of the realization of this research is a low investment with less than \$ 999.00.

The companies under study, mainly national capital (78%) have to increase the training of their staff to make use of ICTs, programs such as PROSOFT 3.0 created to promote innovation and for the adoption and development of new ICT's must be exploited since 93% of companies do not receive support of this type.

Another point that should be noted is the necessary update of the computer equipment used by companies, since 63.67% of companies have equipment greater than two years old and taking into account depreciation per year (30%) is relevant to take measures for replacement.

The medium and large companies to have consolidated their market their efforts do not have to be comparable to those that have to do small businesses, so it is necessary to formulate strategies through subsidy ways of taxes, strengthening of government programs for the small business, so that this gap

is shortened. This obsolescence in small businesses represents a significant obstacle since they have a market to win.

It is important to mention that the low equipment in computer equipment (.35 per capita of the total of the companies) responds to a circumstance of disadvantage. The employed personnel are limited to the development of their activities through these technologies that would allow them to limit their efforts and minimize times and costs.

Finally, electronic commerce should be encouraged among companies, since this way marks the future of a new virtual generation that is friendly to the environment, which would allow cost reduction and meet human needs simultaneously.

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KEY TERMS AND DEFINITIONS

ENTIC: Survey on Information Technologies and Communications.

ICTs (Information and Communication Technologies): Information and Communication Technologies, also known as ICT, are the set of technologies developed to manage information and send it from one place to another.

Innovation: Innovation is a change action that is a novelty.

Productivity: Productivity is an economic measure that calculates how many goods and services have been produced for each factor used (worker, capital, time, costs, etc.) during a given period.

R&D: R&D is an abbreviation for Research and Development and refers to the research and development work or department within a large company or organization.

SMEs: Small or medium-sized company in terms of volume of income, value of assets and number and workers.

Chapter 12

Key Enablers Assessment to Implement Industry 4.0 Technologies in the Future for the Turkish Manufacturing Sector

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ABSTRACT

Industry 4.0 (I4.0), which reshapes traditional production and operation methods and causes companies to be under digital transformation, is currently an evolving research topic. Although advanced technologies can be easily adopted by large companies. In particular, there are still challenges in the adoption and implementation of I4.0 technologies in small and medium-sized enterprises (SMEs). This study examines the readiness of companies in the machinery manufacturing industry to implement I4.0 technologies in the context of SMEs. To achieve this goal, a multi-criteria decision-making (MCDM) approach including the pythagorean Fuzzy Analytic Hierarchy Process (PFAHP) and fuzzy VIKOR (FVIKOR) is proposed. First, existing readiness models linked to the implementation of I4.0 technologies have been studied to specify key enablers. Then, the PFAHP method is used to obtain weights of enablers on I4.0 technologies. Finally, FVIKOR is applied to obtain ranking for five companies. A case study is conducted to measure the level of readiness of five manufacturing companies in Konya.

INTRODUCTION

SMEs have to make extra efforts to find ways to cope with growing pressures in today's intense competitive environment. As a result of this situation, need for new applications is getting higher day by day (Mittal, Khan, Romero, & Wuest, 2018). At this point, smart manufacturing systems that can create the necessary flexibility in adapting to changing conditions are the need of the day. By the smart

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manufacturing systems, simple and routine jobs as well as complex and highly skilled and competent jobs are digitized increasingly under the name of Industry 4.0 (I4.0). I4.0 refers to interactive systems supported people, machines, equipment and data exchange that are connected to each other over the network because of developing technologies such as the Internet of Things (IoT), big data, cloud computing, artificial intelligence, cyber physical systems, 3D printers, robots, and automation (Kamble, Gunasekaran, & Sharma, 2018).

Not only technological developments but also economic crises and diseases have affected the operations of SMEs. The coronavirus disease (COVID-19), which emerged at the end of 2019, has quickly become a global pandemic and has caused great damage to the economies of several countries. According to the World Economic Outlook Update (2020) the global economy is expected to contract sharply by 4.9 percent in 2020. Compared with large companies, SMEs are vulnerable to the impact of crises such as the COVID-19 pandemic due to resource constraints, which could be human based, financial and technical (Martin, Romero, & Wegner, 2019). (Business for Goals Platform (B4G), 2020) stated that 62% of enterprises substantially impacted by the coronavirus pandemic. Although, SMEs are more intense to sudden crises more than large companies, they have some advantages: Much more flexibility due to their small structure and uncomplicated managerial characteristics makes their response mechanism to crises better than larger companies (Juergensen, Guimón, & Narula, 2020). In the smaller companies, the decision-makers get close to their stakeholders and can obtain important market information while responding to crises (Eggers, 2020). So, as a part of crises management for the SMEs is to imply new technologies quickly during COVID-19.

Companies that effectively implement I4.0 enablers can improve their competitive advantage, market potential with the formation of new product models, manufacturing processes and operational processes (Maresova et al., 2018). Companies and even countries have to prepare themselves for number of changes to survive in this new and technological world (Lee, Kao, & Yang, 2014). The manufacturing industry is the backbone of some large economies, such as the USA, Europe, China or Japan (Prause, 2019). however, they have recently created local programs to improve the development and adoption of I4.0 technologies (Dalenogare, Benitez, Ayala, & Frank, 2018). Even at this countries, SMEs generally do not have the financing and information resources to invest the transition to high level technology (Bär, Herbert-Hansen, & Khalid, 2018; Brunswicker & Vanhaverbeke, 2015). It pushes them to be more careful while they are planning their investments to I4.0.

Turkey is an upper-middle-income economy and is the world's 18th largest economy in terms of nominal gross domestic product (GDP) (Dünya Bankası ve Türkiye, n.d.). SMEs play a significant role in Turkey's economy. According to Eleven Development Plan (*Decision of The Grand National Assembly of Turkey Decision on the Approval of the Eleventh Development Plan (2019-2023)*, 2019) "As of 2017, there are approximately 3.09 million SMEs in Turkey and 99.8 percent of total enterprises, 74.2 percent of employment, 54.1 percent of value added, 56.2 percent of exports, 19.6 percent of R&D expenditures are composed of SMEs."

Industry and Technology Ministry of Turkey has established a new department in charge of the digital transformation of the industry. Under the General Directorate of R&D Incentives, the 4th Industrial Revolution Department works specifically to improve the digital skills of SMEs (SME Policy Index: Western Balkans and Turkey 2019 Assessing The Implementation of The Small Business Act For Europe, n.d.). Therefore, the development of new policies for SMEs and implementation of them is critical for Turkey. In this context, SMEs in Turkey should be evaluated based on various I4.0 applications to provide strategy and roadmap for companies.

Key Enablers Assessment to Implement Industry 4.0 Technologies in the Future

In order to meet this need, various maturity and/or readiness evaluation models regarding the use of smart technologies by enterprises have been published (Pacchini, Lucato, Facchini, & Mummolo, 2019). The maturity level is the evolutionary process improvement plateau that the business performs regarding the task as a result of the implementation of a task (Carneiro, 2013). In this study, not only the maturity level, but also the readiness of a company to a task will be examined.

This study proposes the integrated Pythagorean Fuzzy Analytic Hierarchy Process (PFAHP) and Fuzzy VlseKriterijuska Optimizacija I Komoromisno Resenje (FVIKOR) methodology for the level of readiness in applying I4.0 technologies in the machine building industry. The recommended methodology for the level of readiness is carried out in three stages. First, I4.0 enablers are identified through literature review and interviews with experts. In the second stage, enablers' weights are obtained using the PFAHP method. Finally, according to importance level of enablers, the level of readiness of five companies from the machinery manufacturing industry is determined using the FVIKOR method. Although there is level of readiness studies in the literature, a little attention has been paid to the PFAHP-FVIKOR methodology. Level of readiness of companies includes both uncertainty and the behavioral character of decision makers, and many criteria are affected by uncertainty. Pythagorean Fuzzy Sets (PFSs) give decision makers an advantage in order to overcome this problem and express uncertainty easily.

In the next section, we present a review of recent studies. In Section 3 presents basic concepts of our methodology. Section 4 discusses our case study. Finally, Section 5 explains conclusions, implications, and discussion.

BACKGROUND

Readiness to Implement Industry 4.0 Technologies

The I4.0 approach, which provides interaction between information and communication technologies and operation systems, has been the subject of many studies in the literature. In research, it is generally possible to find maturity models rather than level of readiness. (Facchini et al. (2019) assessed the logistics 4.0 maturity model of two companies in Poland with a survey, Bibby & Dehe (2018) investigated the maturity assessment of the company, which is the world leader in the UK-based defence industry by meeting with experts and scoring between one and five, Caiado et al. (2021) analysed I4.0 maturity based on a fuzzy probabilistic expert system to overcome its uncertainty. Many different models have been proposed regarding the maturity model (Akdil, Ustundag, & Cevikcan, 2018; Asdecker & Felch, 2018; De Carolis, Macchi, Kulvatunyou, Brundage, & Terzi, 2017; Gökalp, Şener, & Eren, 2017; Schumacher, Erol, & Sihm, 2016).

As mentioned earlier, the level of readiness model is proposed in this study. Lucato et al. (2019) analyzed the strategic actions that could be taken to improve the readiness of company managers for I4.0 by associating the prerequisites in I4 technologies with points 0-3. (Castelo-Branco et al. (2019) investigated the degree of readiness of I4.0 in manufacturing firms in EU countries by factor and cluster analysis using the information published by Eurostat. Stentoft et al. (2020) identified the driving factors and barriers for the readiness and implementation of I4.0 among Danish SMEs with a survey among 190 manufacturers. Vrchota & Pech (2019) defined I4.0 level of readiness of companies using survey and exploratory factor analysis on the in 276 companies from the manufacturing industry. Pacchini et al. (2019) evaluated the level of readiness of a multinational diesel engine manufacturer for the imple-

mentation of I4.0 with a conceptual framework in Brazil. Lin et al. (2020) investigated the maturity level of Taiwanese manufacturing companies with a K-means cluster analysis based on the Singapore smart industry readiness index.

The existing literature has discussed the impact of the COVID-19 pandemic on SMEs. Guo, Yang, Huang, & Guo (2020) showed that their degree of digitization, adoption of digital technologies, and digitization efforts can help respond to public crises with a survey of 518 SMEs in China. Yüksel (2020) investigated the level of I4.0 applications in industrial companies in Turkey via a survey and found that the technological level of the products directly affects the application level. Eggers (2020) reviewed 69 manuscripts and conducted a literature study covering how SMEs dealt with previous crises and disasters. Papadopoulos, Baltas, & Balta (2020) examined the effects of the use of digital technologies by SMEs to ensure business continuity and stated that SMEs should establish policies for the collection, sharing and data analysis in order to overcome the user and data privacy challenge. Khanzode, Sarma, Mangla, &

Yuan (2021) developed a model for the barriers to implementing I4.0 in Indian micro, small and medium sized enterprises and investigating the causal relationships among the identified barriers with DEMATEL method. According to the results technology up gradation, lack of policy frameworks, 'lack of understanding importance of I4.0 at top management levels and cyber security found as the most important criteria. Sahoo & Ashwani (2020) conducted an assessment of COVID-19 for micro, small and medium businesses on the Indian economy and found the sectors most affected were mining, manufacturing and construction. Juergensen et al. (2020) examined how different manufacturing SMEs in Europe were affected by the COVID-19 crisis. Lu, Wu, Peng, & Lu (2020) discussed the perception of the Covid-19 epidemic on Chinese SMEs with an online survey.

PFAHP and FVIKOR Method

A brief literature summary of the PFAHP and FVIKOR methods is presented in Table 1.

Literature research on the readiness level of I4.0 shows that fuzzy set theory and its extensions are rarely considered and used tools to deal with uncertainty. In studies on the readiness level of I4.0, it has been observed that pointing (e. g. 1-5 scale) and survey methods are generally preferred according to and decision-makers' judgments. However, PFSs have the ability to overcome the subjective opinions of decision makers and uncertainty better than other fuzzy sets approaches in the decision-making process (Seker & Aydin, 2020), and PFSs have been used less, especially in I4.0 studies. Therefore, this study aims to propose a new model for the readiness level of I4 based on the PHAHP-FIVOR method.

MATERIALS AND METHODS

Preliminaries

In this section, basic concepts and definitions of PFSs are presented. PFSs are firstly proposed by Yager (2014) as the generalization to the intuitionistic fuzzy sets. Therefore, PFSs more powerful and flexible for solving problems involving uncertainty (Gul, 2018; Gul & Ak, 2018; Ilbahar et al., 2018; Karasan, Ilbahar, Cebi, & Kahraman, 2018). In PFSs, unlike the intuitionistic fuzzy sets, the sum of membership and non-membership degrees may exceed 1, but the sum of squares may not (Karasan et al., 2018; Zeng, Chen, & Li, 2016; Zhang & Xu, 2014). This situation is given below in Definition (1).

Key Enablers Assessment to Implement Industry 4.0 Technologies in the Future

Table 1. A brief summary of the related literature

Author(s)	Objective	Application	Method(s)
Ibahar et al. (2018)	Risk assessment	Hazards in a construction yard	Fine Kinney, PFAHP and fuzzy inference system
Ak & Gul (2019)	Risk analysis	A company in the corrugated cardboard industry of Turkey	PFAHP and PFTOPSIS
Yucesan & Kahraman (2019)	Risk assessment	In a hydroelectric power plant	PFAHP
Büyükoğuzkan & Göçer (2019)	Partner selection	A freight company	PFAHP and PFCOPRAS
Karasan et al. (2019)	Landfill site selection	The city of Istanbul	PFAHP
Yucesan & Gul (2020)	Hospital service quality evaluation	Public and private hospitals in Turkey	PFAHP and PFTOPSIS
Ozdemir & Gul (2019)	Measuring development levels of NUTS-2 regions in Turkey	NUTS-2 regions in Turkey	PFAHP and TODIM
Shete et al. (2020)	Sustainable supply chain innovation	A manufacturing industry	PFAHP
Çalık (2020a)	Green supplier selection in I4.0	A case study in agricultural tools and machinery company	PFAHP
Tian et al. (2018)	Failure mode and effects analysis	A grinding wheel system	Fuzzy best-worst method and FVIKOR
Emeç & Akkaya (2018)	Warehouse location problem	A supermarket	Stochastic AHP and FVIKOR
Kiani et al. (2019)	Prioritization of outsourceable activities	An Iranian university	FAHP, fuzzy SAW, fuzzy TOPSIS and FVIKOR
Malviya & Kant (2018)	Green supply chain management barriers	An Indian gear manufacturing organisation	FAHP and FVIKOR
Shiu et al. (2019)	Selection of property management company	Condominium in Taipei City	Fuzzy TOPSIS and FVIKOR
Ikram et al. (2020)	Integrated management systems	An illustrative example	AHP and FVIKOR
T. Rahman et al. (2020)	Barriers to implementing green supply chain management	The plastic industry	FVIKOR
Solangi et al. (2019)	Solar power project site selection	A study in Pakistan	AHP and FVIKOR
Taylan et al. (2020)	Assessment of energy systems	An illustrative example	FAHP, FVIKOR and TOPSIS
Çalık (2020b)	Evaluation of social media platforms	A travel agency in Turkey	BWM and FVIKOR
T. Rahman et al. (2020)	Assessing significant barriers to implementing green supply chain management	Four plastic manufacturing companies in Bangladesh	FVIKOR
Ikram et al. (2020)	Developing integrated management systems	An illustrative example	AHP and FVIKOR
Öztürk, Tozan, & Vayvay (2020)	Health technology assessment	Health technology assessment study group of the Turkish Ministry of Health	AHP, fuzzy TOPSIS, FVIKOR and goal programming

Definition 1: Let a set X be a universe of discourse. A Pythagorean fuzzy set P is an object having the form (Zhang & Xu, 2014):

$$P = \left\{ \left\langle x, P\left(\mu_p(x), v(x)\right) \right\rangle \mid x \in X \right\} \quad (1)$$

where $\mu_p(x) : X \mapsto [0, 1]$ defines the degree of membership and $v_p(x) : X \mapsto [0, 1]$ defines the degree of non-membership of the element $x \in X$ to P , respectively, and, for every $x \in X$, it holds:

$$0 \leq \mu_p(x)^2 + v_p(x)^2 \leq 1 \quad (2)$$

For any PFS P and $x \in X$, $\pi_p(x) = \sqrt{1 - \mu_p^2(x) - v_p^2(x)}$ is called the degree of indeterminacy of x to P .

Definition 2: Let $\beta_1 = P(\mu_{\beta_1}, v_{\beta_1})$ and $\beta_2 = P(\mu_{\beta_2}, v_{\beta_2})$ be two Pythagorean fuzzy numbers, and $\lambda > 0$, then the operations on these two Pythagorean fuzzy numbers are defined as follows (Zeng et al., 2016; Zhang & Xu, 2014):

$$\beta_1 \oplus \beta_2 = P\left(\sqrt{\mu_{\beta_1}^2 + \mu_{\beta_2}^2 - \mu_{\beta_1}^2 \mu_{\beta_2}^2}, v_{\beta_1} v_{\beta_2}\right) \quad (3)$$

$$\beta_1 \otimes \beta_2 = P\left(\mu_{\beta_1} \mu_{\beta_2}, \sqrt{v_{\beta_1}^2 + v_{\beta_2}^2 - v_{\beta_1}^2 v_{\beta_2}^2}\right) \quad (4)$$

$$\lambda \beta_1 = P\left(\sqrt{1 - (1 - \mu_{\beta_1}^2)^\lambda}, (v_{\beta_1})^\lambda\right), \lambda > 0 \quad (5)$$

$$\beta_1^\lambda = P\left((\mu_{\beta_1})^\lambda, \sqrt{1 - (1 - v_{\beta_1}^2)^\lambda}\right), \lambda > 0 \quad (6)$$

Definition 3: Let $\beta_1 = P(\mu_{\beta_1}, v_{\beta_1})$ and $\beta_2 = P(\mu_{\beta_2}, v_{\beta_2})$. be two Pythagorean fuzzy numbers, a nature quasi-ordering on the Pythagorean fuzzy numbers is defined as follows (Zhang & Xu, 2014):

$$\beta_1 \geq \beta_2 \text{ if and only if } \mu_{\beta_1} \geq \mu_{\beta_2} \text{ and } v_{\beta_1} \leq v_{\beta_2}$$

To compare magnitude of two Pythagorean fuzzy numbers, a score function is developed by (Zhang & Xu, 2014) as follows:

$$s(\beta_1) = (\mu_{\beta_1})^2 - (v_{\beta_1})^2 \quad (7)$$

Definition 4: Based on the score functions proposed above, the following laws are defined to compare two Pythagorean fuzzy numbers (Zhang & Xu, 2014):

If $s(\beta_1) < s(\beta_2)$, then $\beta_1 < \beta_2$,

$s(\beta_1) > s(\beta_2)$, then $\beta_1 > \beta_2$,

If $s(\beta_1) = s(\beta_2)$, then $\beta_1 \sim \beta_2$.

Definition 5: Interval Valued Pythagorean Fuzzy (IVPF) weighted geometric (IVPFWG) operator: Let Ψ be the set of all IVPF numbers, let $\tilde{\alpha}_j = \left(\left[\mu_{\alpha_j}^L, \mu_{\alpha_j}^U \right], \left[v_{\alpha_j}^L, v_{\alpha_j}^U \right] \right), (j = 1, 2, \dots, n)$ be a collection of IVPF numbers and $w_j = (w_1, w_2, \dots, w_n)^T$ be the weight vector of $\tilde{\alpha}_j$ with $\sum_{j=1}^n w_j = 1$, then IVPFWG: $\tilde{\alpha}_1, \tilde{\alpha}_2, \dots, \tilde{\alpha}_n \rightarrow \tilde{\alpha}$ can be further calculated as follows (K. Rahman, Abdullah, Shakeel, Ali Khan, & Ullah, 2017):

$$IVPFWG_w(\tilde{\alpha}_1, \tilde{\alpha}_2, \dots, \tilde{\alpha}_n) = \left(\left[\prod_{j=1}^n \left[\mu_{\alpha_j}^L \right]^{w_j}, \prod_{j=1}^n \left[\mu_{\alpha_j}^U \right]^{w_j} \right], \left[\sqrt{1 - \prod_{j=1}^n \left(1 - \left(v_{\alpha_j}^L \right)^2 \right)^{w_j}}, \sqrt{1 - \prod_{j=1}^n \left(1 - \left(v_{\alpha_j}^U \right)^2 \right)^{w_j}} \right] \right).$$

Pythagorean Fuzzy Analytic Hierarchy Process

The steps of interval-valued PFAHP are presented as follows.

Step 1: The pair wise comparison matrix $A = (a_{ik})_{m \times m}$ is constructed based on the linguistic evaluation of experts. The linguistic terms that are given (Ilbahar et al., 2018) are presented in Table 2.

Step 2: In the case of more than one expert, the individual assessments of the decision-makers, namely pairwise comparison matrices are collected using the IVPF weighted geometric operator (IVPFWG) as given in Equation (8).

Step 3: The difference matrices $D = (d_{ik})_{m \times m}$ between the lower and upper values of the membership and non-membership functions are calculated using Eqs. (9) and (10):

$$d_{ik_L} = \mu_{ik_L}^2 - v_{ik_U}^2, \tag{9}$$

$$d_{ik_U} = \mu_{ik_U}^2 - v_{ik_L}^2. \tag{10}$$

Step 4: Interval multiplicative matrix $S = (s_{ik})_{m \times m}$ is computed using Eqs. (11) and (12):

Table 2. Linguistic terms for importance weights of criteria

Linguistic variables	Pythagorean fuzzy numbers			
	μ_L	μ_U	ν_L	ν_U
Certainly Low Importance - CLI	0.00	0.00	0.90	1.00
Very Low Importance - VLI	0.10	0.20	0.80	0.90
Low Importance - LI	0.20	0.35	0.65	0.80
Below Average Importance - BAI	0.35	0.45	0.55	0.65
Average Importance - AI	0.45	0.55	0.45	0.55
Above Average Importance - AAI	0.55	0.65	0.35	0.45
High Importance - HI	0.65	0.80	0.20	0.35
Very High Importance - VHI	0.80	0.90	0.10	0.20
Certainly High Importance - CHI	0.90	1.00	0.00	0.00
Exactly Equal - EE	0.1965	0.1965	0.1965	0.1965

$$s_{ik_L} = \sqrt{1000^{d_{ik_L}}}, \quad (11)$$

$$s_{ik_U} = \sqrt{1000^{d_{ik_U}}}. \quad (12)$$

Step 5: The determinacy value $\tau = (\tau_{ik})_{m \times m}$ is calculated using Eq. (13):

$$\tau_{ik} = 1 - \left(\mu_{ik_U}^2 - \mu_{ik_L}^2 \right) - \left(\nu_{ik_U}^2 - \nu_{ik_L}^2 \right). \quad (13)$$

Step 6: The determinacy degrees are multiplied with $S = (s_{ik})_{m \times m}$ matrix for obtaining the matrix of weights, $T = (t_{ik})_{m \times m}$ before normalization using Eq. (14).

$$t_{ik} = \left(\frac{s_{ik_L} + s_{ik_U}}{2} \right) \tau_{ik}. \quad (14)$$

Step 7: The priority weights w_i of criteria are normalized by using Eq. (15):

$$w_i = \frac{\sum_{k=1}^m t_{ik}}{\sum_{i=1}^m \sum_{k=1}^m t_{ik}}. \quad (15)$$

FVIKOR

The steps of FVIKOR methodology are discussed below:

Step 1: Let us consider a set of m alternatives, a set of n criteria and a set of k decision maker. Fuzzy decision matrix $\tilde{D} = [\tilde{x}_{ij}]$ is constructed as follows:

$$\tilde{D} = \begin{matrix} & C_1 & C_2 & \dots & C_n \\ \begin{matrix} A_1 \\ A_2 \\ \vdots \\ A_m \end{matrix} & \begin{bmatrix} \tilde{x}_{11} & \tilde{x}_{12} & \dots & \tilde{x}_{1n} \\ \tilde{x}_{21} & \tilde{x}_{22} & \dots & \tilde{x}_{2n} \\ \vdots & \vdots & \dots & \vdots \\ \tilde{x}_{m1} & \tilde{x}_{m2} & \dots & \tilde{x}_{mn} \end{bmatrix} & \begin{matrix} i = 1, 2, \dots, m \\ j = 1, 2, \dots, n \end{matrix} \end{matrix} \quad \tilde{W}_j = [\tilde{w}_1, \tilde{w}_2, \dots, \tilde{w}_n] \quad (16)$$

$$\tilde{x}_{ij}^k = (l_{ij}^k, m_{ij}^k, u_{ij}^k), \quad \tilde{W}_j = (\tilde{w}_1, \tilde{w}_2, \dots, \tilde{w}_n).$$

\tilde{x}_{ij}^k represents the performance rating of alternative A_i with respect to criterion C_j evaluated by k^{th} expert. The aggregated fuzzy ratings (\tilde{x}_{ij}) of alternatives with respect to each criteria is obtained by employing the below equation:

$$(17)$$

Step 2: The fuzzy decision matrix is defuzzified to crisp values. This calculation is done using the following equation:

$$a = \frac{l + 4m + u}{6} \quad (18)$$

Step 3: Determine the best f_j^* and the worst f_j^- values of all criterion functions $j = 1, 2, \dots, n$. If the criterion j is a benefit:

$$f_j^* = \max_i x_{ij}, \quad f_j^- = \min_i x_{ij} \quad (19)$$

Step 4: Compute S_i and R_i values, $i = 1, 2, \dots, m$ by the relations.

$$S_i = \sum_{j=1}^n w_j (f_j^* - x_{ij}) / (f_j^* - f_j^-) \quad (20)$$

$$R_i = \max_j \left[w_j (f_j^* - x_{ij}) / (f_j^* - f_j^-) \right] \quad (21)$$

Step 5: Compute Q_i values by the relation,

$$Q_i = q \frac{(S_i - S^*)}{S^- - S^*} + (1 - q) \frac{(R_i - R^*)}{R^- - R^*} \quad (22)$$

where $S^* = \min_i S_i, S^- = \max_i S_i, R^* = \min_i R_i, R^- = \max_i R_i$ ve q is introduced as a weight for the strategy of maximum group utility, whereas, $(1 - q)$ is the weight of the individual regret.

Step 6: Rank the alternatives, sorting by the values S , R and Q in ascending order.

Step 7: Propose as a compromise solution the alternative ($A^{(1)}$) which is the best ranked by the measure Q (minimum) if the two conditions are satisfied (Perçin, 2018).

Case Study

The use of I4.0 technologies and components emerges as long-term and strategic decisions to increase the competitiveness of businesses in both local and international markets. The case study has been developed by taking consideration the machinery sector in Konya, which holds a major position at the city's' and also the country's economy, to show how the proposed readiness assessment model.

The agricultural tools and machines are important actors for the machinery manufacturing industry in Konya, also is the main sector that produces investment goods. In this sector, tractors and agricultural equipment manufacturing is 65% of the market in Turkey. Also, the export of the same goods is 45% of the country's total export. 446 companies are operating at the machinery and equipment industry in Konya which is the third among the active sectors with the highest employment (KONYA ABİGEM, 2017).

In this study, we evaluate the level of readiness of companies by considering 10 I4.0 enablers, as shown in Table 3. In other words, the readiness assessment model is based on 10 indicators. The enablers determined as a result of the literature review and narrowed down as a result of the interviews of experts from the chamber of commerce, company managers and academicians. After the preliminary examination, five companies from the machinery sector (M1, M2, M3, M4, M5) are included in the further evaluation phase.

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Table 3. Primary I4.0 enablers used in the study

Technology	Brief description	Author
Big data analytics (E1)	Companies that acquire more data using complex production processes and technologies need special technologies with new analytical methods and tools to transform big volumes of data into information.	(Addo-Tenkorang & Helo, 2016; Bibby & Dehe, 2018; Tao, Qi, Liu, & Kusiak, 2018)
Additive Manufacturing - 3D printing (E2)	Complex parts are created from scratch with a virtual 3D CAD model	(Chan, Lu, & Wang, 2018)
Cyber-physical system (E3)	Usage of CPSs, machines will be able to communicate with each other and with other materials via the internet.	(Bauer, Hämmerle, Schlund, & Vocke, 2015; Lasi, Fettke, Kemper, Feld, & Hoffmann, 2014)
Internet of things (E4)	It describes the connection of physical “things” that perceive and communicate with each other over the Internet.	(Bai, Dallasega, Orzes, & Sarkis, 2020; Chan et al., 2018; Mittal et al., 2018)
Autonomous robots (E5)	Robots are used to perform tasks without external factors in manufacturing processes.	(Bai et al., 2020)
RFID (E6)	It includes the use of sensors and especially radio frequency in manufacturing processes.	(Lasi et al., 2014)
Augmented reality (E7)	It transforms the physical environment in the real world into an artificial (virtual) environment through the computers.	(Erol, Jäger, Hold, Ott, & Sihm, 2016)
Artificial intelligence (E8)	An intelligent system autonomously takes tasks that require human intelligence and executes the tasks accordingly.	(Qin, Liu, & Grosvenor, 2016)
Simulation (E19)	It refers to technologies used to simulate a real world process or system.	(Bai et al., 2020)
Cloud computing (E6)	It refers to the storability of big data on the internet and the accessibility of this data over the internet.	(Javaid et al., 2020)

Results and Discussion

After determining the primary enablers to reveal the level of readiness of the I4.0 companies (Table 3), the PFAHP method was applied by following the steps outlined in section 3.2, and the weights of each of the enablers were obtained. At this stage, a decision-making team consisting of four experts was formed to evaluate the importance of selection criteria. The experts consist of a specialist from the machinery industry, two senior executives and an academic.

Experts evaluated 10 enablers using the IVPF linguistic scale given in Table 2. The linguistic assessments of the experts are shown in Table 4. Linguistic evaluations were transformed into the corresponding IVPFNs and pairwise comparison matrices were collected using Equation (8). The aggregated decision matrix is shown in Table 5. The weight for each enabler was calculated by following the PFAHP procedure steps (using Equations 9-15) presented in Section 3.2, and these weight values are given in Table 6.

For the I4.0 level of readiness, after determining the importance level of the enablers with the PFAHP method, the prioritization of five firms using the fuzzy VIKOR approach is discussed. Experts evaluate the companies using the linguistic variables given in Table 7 and assessment of their judgments are presented in Table 8. Then, linguistic variables are transformed into corresponding triangular fuzzy numbers. Thus, a fuzzy decision matrix like Equation (16) was created by evaluating the companies

Table 4. Pairwise comparison matrices for enablers

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
E1	EE, EE, EE, EE	VLI, AAI, AAI, AI	LI, AAI, HI, BAI	BAI, AI, VHI, BAI	BAI, VHI, HI, HI	BAI, AI, HI, AAI	BAI, AAI, VHI, HI	BAI, HI, HI, AAI	BAI, HI, HI, AAI	VLI, AAI, CHI, HI
E2	VHI, BAI, BAI, AI	EE, EE, EE, EE	AAI, AI, BAI, BAI	HI, AAI, BAI, BAI	HI, VHI, AAI, VHI	AAI, HI, BAI, AAI	AAI, AAI, AAI, VHI	VHI, HI, BAI, AAI	CHI, VHI, AI, AAI	LI, AAI, AAI, HI
E3	HI, BAI, LI, AAI	BAI, AI, AAI, AAI	EE, EE, EE, EE	AAI, AI, AI, AI	AAI, VHI, AAI, HI	AAI, AI, AAI, AAI	AAI, AAI, AAI, HI	BAI, VHI, AI, HI	HI, VHI, HI, HI	BAI, HI, HI, HI
E4	AAI, AI, VLI, AAI	LI, BAI, AAI, AAI	BAI, AI, AI, AI	EE, EE, EE, EE	AI, CHI, AAI, AAI	BAI, AI, AAI, AAI	BAI, AAI, HI, HI	BAI, HI, HI, HI	AAI, HI, AAI, HI	LI, AAI, VHI, HI
E5	AAI, VLI, LI, LI	LI, VLI, BAI, VLI	BAI, VLI, BAI, LI	AI, CLI, BAI, BAI	EE, EE, EE, EE	AI, CLI, AAI, BAI	AI, VLI, AAI, HI	BAI, VLI, BAI, AI	AAI, VLI, AAI, AAI	VLI, LI, AAI, HI
E6	AAI, AI, LI, BAI	BAI, LI, AAI, BAI	BAI, AI, BAI, BAI	AAI, AI, BAI, BAI	AI, CHI, BAI, AAI	EE, EE, EE, EE	BAI, AI, AAI, HI	AI, HI, AI, AAI	AAI, HI, AAI, AAI	VLI, AAI, AAI, HI
E7	AAI, BAI, VLI, LI	BAI, BAI, BAI, VLI	BAI, BAI, BAI, LI	AAI, BAI, LI, LI	AI, VHI, BAI, LI	AAI, AI, BAI, LI	EE, EE, EE, EE	AAI, HI, LI, LI	AAI, HI, AI, BAI	LI, AI, AI, AI
E8	AAI, LI, LI, BAI	VLI, LI, AAI, BAI	AAI, VLI, AI, LI	AAI, LI, LI, LI	AAI, VHI, AAI, AI	AI, LI, AI, BAI	BAI, LI, HI, HI	EE, EE, EE, EE	AAI, AI, AAI, AAI	LI, BAI, HI, HI
E9	AAI, LI, LI, BAI	CLI, VLI, AI, BAI	LI, VLI, LI, LI	BAI, LI, BAI, LI	BAI, VHI, BAI, BAI	BAI, LI, BAI, BAI	BAI, LI, AI, AAI	BAI, AI, BAI, BAI	EE, EE, EE, EE	CLI, LI, AAI, HI
E10	VHI, BAI, CLI, LI	HI, BAI, BAI, LI	AAI, LI, LI, LI	HI, BAI, VLI, LI	VHI, HI, BAI, LI	VHI, BAI, BAI, LI	HI, AI, AI, AI	HI, AAI, LI, LI	CHI, HI, BAI, LI	EE, EE, EE, EE

according to the criteria. The fuzzy decision matrix was transformed into crisp numbers by using Equation (17) and S , R and Q values were calculated by applying the procedure steps (using Equations (18) - (22)) explained in section 3.3 and presented in Table 9. Finally, the priority rank of five firms was obtained as shown in Table 10. According to Table 10, the ranking of the companies is prioritized as $M3 > M5 > M2 > M1 > M4$. It's found that $M3$ is that the best various, followed by $M5$. However, the worst alternative is obtained as $M4$.

CONCLUSION AND IMPLICATIONS

In this study, a new approach involving PFAHP and FVIKOR is proposed to measure the level of readiness of the companies in the machinery sector in Konya, Turkey. The main difference of the proposed approach from traditional MCDMs, is the combination of two methods involving different fuzzy sets in order to overcome uncertainty in the decision-making process. In the proposed approach, the comparison of I4.0 enablers is considered using Pythagorean linguistic terms including Pythagorean fuzzy numbers. Then, the weights of the enablers are obtained by applying the PFAHP method. In order to rank the companies according to the I4.0 readiness level, linguistic terms containing type-1 fuzzy numbers are used and finally their rankings are obtained using the FVIKOR method.

According to the results, “E3: Cyber-physical system” was determined as the most important enabler. The second and third important enablers are “E2: Additive Manufacturing - 3D printing” and designated “E4: Internet of things”. As shown in Table 6, the “E6: Autonomous robots” and “E10: Simulation” enablers are identified as the least important ones, respectively. The consistency rates of the pairwise comparison matrix of each expert revealed that the evaluations made were consistent. According to the results of the companies, “M3” has been determined as the firm that is ready for the level of readiness for

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Table 5. Aggregated pair wise comparison matrices

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
E1	(([0.197, 0.197], [0.197, 0.197]))	(([0.314, 0.438], [0.587, 0.706]))	(([0.379, 0.521], [0.501, 0.637]))	(([0.458, 0.563], [0.463, 0.561]))	(([0.560, 0.688], [0.351, 0.462]))	(([0.485, 0.597], [0.418, 0.524]))	(([0.554, 0.669], [0.367, 0.470]))	(([0.518, 0.639], [0.384, 0.494]))	(([0.518, 0.639], [0.384, 0.494]))	(([0.393, 0.540], [0.537, 0.661]))
E2	(([0.478, 0.583], [0.446, 0.543]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.419, 0.521], [0.484, 0.585]))	(([0.457, 0.571], [0.447, 0.553]))	(([0.679, 0.796], [0.225, 0.333]))	(([0.502, 0.611], [0.402, 0.506]))	(([0.604, 0.705], [0.309, 0.406]))	(([0.561, 0.674], [0.362, 0.462]))	(([0.646, 0.750], [0.302, 0.389]))	(([0.423, 0.569], [0.457, 0.597]))
E3	(([0.406, 0.548], [0.477, 0.613]))	(([0.463, 0.565], [0.441, 0.542]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.478, 0.578], [0.423, 0.523]))	(([0.613, 0.726], [0.288, 0.394]))	(([0.530, 0.631], [0.371, 0.471]))	(([0.573, 0.685], [0.320, 0.428]))	(([0.507, 0.621], [0.407, 0.511]))	(([0.675, 0.817], [0.186, 0.329]))	(([0.540, 0.673], [0.357, 0.475]))
E4	(([0.335, 0.459], [0.567, 0.687]))	(([0.374, 0.505], [0.507, 0.638]))	(([0.417, 0.518], [0.484, 0.584]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.566, 0.668], [0.356, 0.451]))	(([0.463, 0.565], [0.441, 0.542]))	(([0.524, 0.648], [0.376, 0.489]))	(([0.540, 0.673], [0.357, 0.475]))	(([0.591, 0.711], [0.297, 0.411]))	(([0.468, 0.621], [0.429, 0.569]))
E5	(([0.239, 0.381], [0.631, 0.770]))	(([0.173, 0.294], [0.710, 0.830]))	(([0.243, 0.365], [0.640, 0.762]))	(([0.000, 0.000], [0.652, 1000]))	(([0.197, 0.197], [0.197, 1000]))	(([0.000, 0.000], [0.623, 1000]))	(([0.397, 0.527], [0.507, 0.628]))	(([0.297, 0.409], [0.600, 0.710]))	(([0.405, 0.526], [0.503, 0.620]))	(([0.287, 0.430], [0.602, 0.735]))
E6	(([0.361, 0.487], [0.522, 0.649]))	(([0.358, 0.475], [0.532, 0.649]))	(([0.366, 0.467], [0.534, 0.634]))	(([0.419, 0.521], [0.484, 0.585]))	(([0.501, 0.605], [0.424, 0.520]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.483, 0.595], [0.420, 0.526]))	(([0.506, 0.613], [0.394, 0.498]))	(([0.567, 0.675], [0.329, 0.434]))	(([0.344, 0.481], [0.560, 0.685]))
E7	(([0.248, 0.379], [0.635, 0.762]))	(([0.256, 0.367], [0.639, 0.750]))	(([0.304, 0.423], [0.578, 0.698]))	(([0.300, 0.441], [0.568, 0.709]))	(([0.381, 0.508], [0.512, 0.636]))	(([0.365, 0.489], [0.519, 0.644]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.335, 0.489], [0.532, 0.681]))	(([0.480, 0.588], [0.424, 0.527]))	(([0.353, 0.480], [0.525, 0.654]))
E8	(([0.312, 0.449], [0.560, 0.697]))	(([0.246, 0.372], [0.642, 0.765]))	(([0.298, 0.431], [0.586, 0.716]))	(([0.271, 0.421], [0.588, 0.737]))	(([0.560, 0.661], [0.353, 0.450]))	(([0.365, 0.482], [0.522, 0.640]))	(([0.437, 0.580], [0.452, 0.584]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.530, 0.631], [0.371, 0.471]))	(([0.408, 0.563], [0.471, 0.614]))
E9	(([0.312, 0.449], [0.560, 0.697]))	(([0.000, 0.000], [0.752, 1000]))	(([0.177, 0.316], [0.685, 0.824]))	(([0.275, 0.404], [0.597, 0.727]))	(([0.406, 0.510], [0.507, 0.606]))	(([0.316, 0.430], [0.571, 0.685]))	(([0.379, 0.498], [0.510, 0.628]))	(([0.366, 0.467], [0.534, 0.634]))	(([0.197, 0.197], [0.197, 0.197]))	(([0.000, 0.000], [0.689, 1000]))
E10	(([0.000, 0.000], [0.693, 1000]))	(([0.366, 0.502], [0.517, 0.647]))	(([0.271, 0.421], [0.588, 0.737]))	(([0.261, 0.403], [0.622, 0.754]))	(([0.436, 0.577], [0.466, 0.596]))	(([0.390, 0.520], [0.511, 0.634]))	(([0.502, 0.615], [0.396, 0.503]))	(([0.342, 0.501], [0.524, 0.676]))	(([0.452, 0.596], [0.464, 0.591]))	(([0.197, 0.197], [0.197, 0.197]))

I4.0. This result shows that how much or more of the prerequisites are present in the company. Therefore, M3 company shows that it owns the majority of enablers.

Changing production systems with I4.0 has a complex technology system and will become a challenge for businesses seeking long-term survival. Especially it is a very difficult decision for SMEs to invest in this new technological system, and it is still a matter of research to find out whether the enterprises are adopting or not. In this context, by developing a new evaluation approach for SMEs, the results of the study are presented for managers that can benefit from in the decision-making process. The following results can be reached reveal some industry-specific implications that companies can use:

Table 6. The weights of enablers

Enablers	Weights
E1	0.116
E2	0.187
E3	0.189
E4	0.129
E5	0.038
E6	0.098
E7	0.055
E8	0.081
E9	0.042
E10	0.064

Table 7. Linguistic ratings for comparison of firms

Linguistic variable	Corresponding triangular fuzzy number
Very Poor (VP)	(1, 1, 3)
Poor (P)	(1, 3, 5)
Fair (F)	(3, 5, 7)
Good (G)	(5, 7, 9)
Very good (VG)	(7, 9, 9)

- Cyber-physical system (E6), Additive Manufacturing - 3D printing, Internet of things (E3) have emerged as the most important enablers as a result of companies evaluating I4.0 enablers. Cyber-physical systems, which provide integration and communication between mechanical and electronic components, increase efficiency and productivity in production processes by reducing labour and material costs and processing times (Jeschke, Brecher, Meisen, Özdemir, & Eschert, 2017).
- Guo et al. (2020) noted that digitization is positively correlated with the public crisis response strategies and performance of SMEs, meaning that SMEs with a higher level of digitalization are more likely to adopt effective public crisis response strategies and cope with COVID-19. Thus, I4.0 enablers have the capability to effectively respond to adverse changes by SMEs.
- Manufacturers applying IoT solutions to manufacturing technologies optimize not only people, but also the connectivity of machines and devices (Shaev, 2014). Thus, a new approach is brought to the monitoring, analysis and management of manufacturing processes.
- Additive manufacturing-3D printing can shorten the time to market of new products through integration between production and supply chain processes (Dalenogare et al., 2018), it can also support sustainable production, as it requires a single process that generates less waste than conventional production (Frank, Dalenogare, & Ayala, 2019).

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Table 8. Linguistic assessment for the five firms

		DM1	DM2	DM3	DM4			DM1	DM2	DM3	DM4
E1	M1	G	F	P	F	E6	A1	P	VP	G	G
	M2	G	G	F	VG		A2	P	P	VP	VG
	M3	VG	VG	G	G		A3	G	F	VG	F
	M4	G	F	P	G		A4	P	P	VP	F
	M5	P	F	VP	F		A5	G	G	G	F
E2	M1	VG	F	G	F	E7	M1	F	P	G	G
	M2	G	G	P	F		M2	P	F	P	G
	M3	VG	G	VG	F		M3	F	VG	VG	VG
	M4	VP	VP	P	P		M4	F	F	F	G
	M5	G	G	F	VG		M5	G	F	P	P
E3	M1	G	P	F	P	E8	M1	F	VG	VP	F
	M2	G	P	G	VP		M2	F	G	G	VG
	M3	G	G	VG	VG		M3	F	VG	P	VP
	M4	P	F	VP	VP		M4	VG	G	VG	VG
	M5	VG	G	VG	VP		M5	P	G	F	P
E4	M1	F	G	P	G	E9	M1	G	G	VG	F
	M2	P	F	VP	VG		M2	VP	P	P	VG
	M3	G	F	F	G		M3	F	G	F	G
	M4	P	VP	VG	VP		M4	G	P	G	VP
	M5	VP	P	F	G		M5	F	G	VG	F
E5	M1	F	F	G	P	E10	M1	P	VG	P	VG
	M2	P	P	VP	G		M2	P	G	P	G
	M3	G	F	VG	F		M3	G	G	G	F
	M4	F	P	VP	P		M4	F	P	F	P
	M5	P	F	P	VP		M5	G	F	G	G

- According to our results, although the readiness level of the companies is achieved, especially small SMEs are not ready to implement Industry 4.0 enablers due to various risks (Matt, Modrák, & Zsifkovits, 2020). Developing countries have significant problems with financial resources, management and workforce skills that prevent SMEs from investing in Industry 4.0 technologies (Yüksel, 2020).
- Lu et al. (2020) found that it is necessary to alleviate cash flow difficulties by reducing ongoing costs and gaining access to external finance for reducing the pressure on SMEs.
- ‘Lack of policy frameworks (govt policy)’ and ‘lack of understanding importance of I4.0 at top management levels are the most influential barriers for Indian micro, small and medium sized enterprises for sustainable production (Khanzode et al., 2021).
- Although COVID-19 is considered a crisis, it can be considered a momentum for transition to digitization and the sustainability (Juergensen et al., 2020).

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Table 9. Aggregate fuzzy decision matrix for the five firms

E1	M1	(12, 20, 26)	E6	M1	(12, 18, 24)
	M2	(20, 28, 34)		M2	(10, 16, 22)
	M3	(24, 32, 36)		M3	(18, 26, 30)
	M4	(14, 22, 28)		M4	(6, 12, 20)
	M5	(8, 14, 24)		M5	(18, 26, 34)
E2	M1	(18, 26, 30)	E7	M1	(14, 22, 28)
	M2	(14, 22, 30)		M2	(10, 18, 28)
	M3	(22, 30, 34)		M3	(24, 32, 36)
	M4	(4, 8, 16)		M4	(14, 22, 30)
	M5	(20, 28, 34)		M5	(10, 18, 24)
E3	M1	(10, 18, 22)	E8	M1	(14, 20, 28)
	M2	(12, 18, 22)		M2	(20, 28, 36)
	M3	(24, 32, 36)		M3	(12, 18, 26)
	M4	(6, 10, 20)		M4	(26, 34, 36)
	M5	(20, 26, 30)		M5	(10, 18, 30)
E4	M1	(14, 22, 32)	E9	M1	(20, 28, 34)
	M2	(12, 18, 26)		M2	(10, 16, 24)
	M3	(16, 24, 30)		M3	(16, 24, 34)
	M4	(10, 14, 18)		M4	(12, 18, 22)
	M5	(10, 16, 26)		M5	(18, 26, 34)
E5	M1	(12, 20, 28)	E10	M1	(16, 24, 32)
	M2	(8, 14, 22)		M2	(12, 20, 32)
	M3	(18, 26, 30)		M3	(18, 26, 34)
	M4	(6, 12, 18)		M4	(8, 16, 22)
	M5	(6, 12, 22)		M5	(18, 26, 32)

Table 10. Ranking for the five firms

Alternatives	<i>Q</i>		<i>S</i>		<i>R</i>	
	Value	Rank	Value	Rank	Value	Rank
M1	0.515	4	0.490	3	0.135	4
M2	0.497	3	0.556	4	0.121	3
M3	0.000	1	0.093	1	0.081	1
M4	1.000	5	0.840	5	0.189	5
M5	0.423	2	0.481	2	0.116	2

Key Enablers Assessment to Implement Industry 4.0 Technologies in the Future

- Among the I4.0 enablers in the machinery manufacturing industry, the enablers that provide flexibility in production, increase customer-based production, increase production speed, and provide better quality and efficient production stand out.
- The PFAHP and FVIKOR approach can be integrated not only for the I4.0 level of preparation, but also to the decision-making processes of companies, helping to optimize decision-making processes.

The main limitation of this study is that companies from only one sector are included in the research. Future research also needs to analyse the state of readiness among different sectors and firms. Future research is needed to compare I4.0 readiness across sectors. Also, future research can be carried out by considering different I4.0 technologies or even sub-technologies.

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KEY TERMS AND DEFINITIONS

COVID-19: A novel coronavirus disease (COVID-19) caused by the SARS-CoV-2 virus and is short for Coronavirus Disease 2019.

Industry 4.0: Industry 4.0 (I4.0) refers to a new industrial phase of manufacturing systems that adds value to the entire product lifecycle by integrating new digital technologies.

Readiness: The state in which an organization is ready to accomplish a task.

Chapter 13

Non-Financial Reporting for SMEs and the Crisis 2019–nCoV

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ABSTRACT

This chapter seeks to examine, above all, the need to create a model for non-financial reporting of small and medium-sized enterprises during an externally triggered pandemic crisis. The study attempts to defend the need for another philosophy of non-financial reporting of small and medium-sized enterprises – that of creating information that serves the state and local authorities to support them effectively. This is because then these small and medium enterprises are able to prepare without unbearable workload and costs and which will support the anti-crisis management of small and medium enterprises themselves. With this, the authors aim to create a link between the state and company anti-crisis management of small and medium-sized enterprises in a pandemic crisis.

INTRODUCTION

At the end of 2019, humanity was surprisingly struck by a global pandemic caused by the corona virus 2019-nCoV named Covid. Such a pandemic was characteristic of the late Middle Ages, in the absence of systematic research, medical and pharmaceutical aid and facilities, lack of access to clean water and lack of sanitation.

Modern science, despite its entire development and success in all its fields, could not, for a long time, do more for the limiting of the pandemic than give the same recommendations given to people in the Middle Ages in such situations - to wash their hands and isolate themselves.

The 2019-nCoV crisis is not a simple economic “recession” or “depression”. It is a real general crisis caused by an uneconomic, external to the economy, epidemic shock, usually called in Fernan Braudel’s words “crisis of the old order”. (Braudel, 1999).

The global crisis caused by the emergence and spread of the new species of coronavirus has exacerbated economic and non-economic - social and environmental problems in countries around the world.

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However, scientific thought and management practice already had in their arsenals the important tools for informing companies and governments not only about the financial but also the non-financial aspects of the behavior of companies and communities and their results. We collectively call these tools “extended” or “non-financial accounting and reporting”, including environmental, social, corporate social responsibility and sustainability accounting and reporting. These instruments were created for the needs of the ecological crisis in which the industrial economy had fallen and the social contradictions of the widening inequality between the vertical of society and the geography of well being. However, the environmental crisis and the crisis of inequalities, to which conventional methods could be applied, were not the external shock of force majeure in which the world was placed with the pandemic that began in late 2019.

Crises 2019-nCoV posed new challenges and new challenges to the sustainability of companies. For now, the only source of information for decision-making in order to overcome them, along with financial accounting and reporting, remains non-financial accounting and reporting. The changed situation requires new information resources for making adequate management decisions, corresponding to the force majeure situation.

A key segment of the economy and most affected by the Covid crisis are small and medium-sized enterprises. These are the result of the entrepreneurial spirit; the quintessence of the self-creating market economy, which underlies modern economy. Alongside the traditional problems of their creation, development and existence, the Covid crisis put new challenges before these enterprises - difficulties in financing, vertical integration of large corporations that entrusted a portion of their production to them, health problems of the staff which is severely limited in number and difficult to replace in practice, or irreplaceable on the whole, new transaction costs for time, which reduce their productivity and, accordingly, worsen their economic performance.

BACKGROUND

The problem of non-financial accountability of SMEs is a topical and not completely solved problem, both in the theory and in the practice of companies and regulators. At the same time, the pressure on SMEs from other companies is increasing to provide non-financial information about their situation to other, large companies in order to be or in cases when they are their suppliers or subcontractors. Pressure from financial institutions on SMEs to provide non-financial information as a funding requirement is also increasing. (European Commission, 2020a, p. 22).

The Covid 19 crisis allows this issue to be addressed in favor of achieving SMEs sustainability. In this crisis, support programs have been set up for SMEs. The state’s assistance for SMEs is a temporary measure, which in many specific cases turned out to be inadequate. This is understandable due to the lack of experience on the part of modern governments with a crisis of this kind. At the same time, pre-crisis programs and regulations, which have not been changed in view of the Covid crisis, for the transition to a sustainable economy continued to operate.

In this chapter, we focus on the non-financial reporting regulations on corporations and the chance to create non-financial reporting applicable to SMEs in a Covid 19 crisis in order to support their sustainability, not temporary and partial measures in their support.

The basis of the model built in this chapter are the main and fundamental in the achievements of large expert teams in the development of the principles, methods, techniques and metrics of non-financial reporting, published in the many standards, recommendations and manuals for non-financial reporting.

In this chapter, we develop a hypothetical model of non-financial reporting of SMEs, tailored to the need to create conditions for the resilience of SMEs in a crisis of the Covid 19 type. This model does not need to regulate and comply with requirements, but needs to create conditions for the sustainability of SMEs.

The main focus of the study is on the difficulties, the need and the possibility to apply the extended (non-financial accounting and reporting) in small and medium enterprises. The article tries to answer the question “Is it necessary for entrepreneurial endeavors that materialize in small and medium-sized enterprises in the conditions of the crisis of the old order in modern times, and how?” This chapter also proposes a conditional model for non-financial reporting of SMEs in times of crisis.

Issues, Controversies, Problems

Manifestations of corporate social responsibility of small and medium enterprises are the subject of extensive literature. The most controversial issue is that specific non-financial accountability for small and medium-sized enterprises has not been developed so far. Individual small and medium-sized enterprises prepare non-financial reports on corporate social responsibility on the basis of standards that are not intended for their specifics and scale, but for large companies. (Baldarelli, Baldo, & Nesheva-Kiosseva, 2017, pp. pp. 277-307,363-385) They apply, of course, the requirements given in these standards in part, often without consistency and without the possibility of comparability with other undertakings of the same kind. In our opinion, those SMEs that do such expanded reporting see it more as a means of attracting customers by demonstrating their will than for the needs of their management. The problem with the Covid crisis is that non-financial accounting could help not the advertising but the internal sustainability factors of SMEs. It is the problem of how non-financial reporting, as an existing paradigm without consistent practice so far for SMEs, could become an instrument of their sustainability.

NON-FINANCIAL REPORTING: A PURPOSE FOR CORPORATIONS

The huge efforts for the creation and application of the Non-financial accounting and reporting are directed to the corporations, to the big enterprises of public interest. It is largely voluntary; its compilation is the result of management decisions in the companies themselves. The emergence of stock market ratings influencing investor decisions has expanded the application of non-financial reporting to a growing number of corporations. Dow Jones Sustainable Indices, Financial Times Stock Exchange 4 Good, ESG ratings (Environment, Social, Governance), ISO and GRI Standards and others played a big role in this regard. A significant number of standards for reporting sustainability, accountability, corporate social responsibility have also been developed; environmental and social reporting have become a practice of a number of corporations.

Non-financial accounting is still concentrated on corporations, while for micro, small and medium-sized enterprises it is not only not recommended by regulators, but no standards have been developed for its implementation. Of course, there are a limited number of enterprises in the group of SMEs, rather exceptions, which are high-tech companies with high profits and profitability, which are able to conduct such.

The reasons for this, in our opinion, are rooted in the negative balance of transaction costs - visible and hidden by the conduct of extended accounting and reporting for SMEs, compared to corporations, in conducting such expanded reporting, as well as the perception that SMEs, due to the small scale of their operations are not able to harm the “public interest” as large corporations.

Mainly for these reasons, sustainability-reporting standards, in the concept of which we include corporate social responsibility standards, have been developed for corporations.

These standards, with the development of practice and competition between corporations, have reached an enviable number. The most influential among them are: United Nations, Sustainable Development Goals; The Organization for Economic Co-operation and Development Guidelines for Multinational Enterprises; United Nations Environmental Program; United Nations Principles for Responsible Investment focusing capital on the long-term (A Blueprint for Responsible Investment), International Integrated Reporting Council, <Integrated Reporting> Framework; European Union Non-financial Reporting Directive 2014; Climate-Disclosure Standards Board, Sustainability Accounting Standard Board (SASB); Task-force for Climate-related Financial Disclosure (TCFD), World Business Council for Sustainable Development, Natural Capital Protocol (Natural Capital Coalition) and Social & Human Capital Protocol (S&HC Coalition); International Standards Organization (ISO) - Standards from families 14007 and 14008 for the environment; CDP - Carbon Disclosure Project; World Benchmarking Alliance, Global Reporting Initiative, Accountability 1000; Global Value Alliance; Integrated Profit and Loss Reporting or <IP&L> and others. (Stroehle, Soonawalla, & Metzner, 2019, p. 61).

All these and many other not only supranational but also national standards, recommendations, manuals, models are really too complex and continue to multiply and complicate. It has been assumed that their application is not in the capacity of SMEs to compile them, and the costs for outsourcing will be high for them.

For example, the General Reporting Initiative (GRI), which is the most popular (its highest option is GRI 5, parts of which are under discussion) consists of Universal Standards: Reporting Principle and Standard Disclosures of 97 pages (GRI 102-103), Economic Standards of 270 pages (GRI 201-207), Environmental Standards (GRI 301-305) is 136 pages, Sector disclosures, which is developed for 11 sectors is 100 pages. Social Standards (GRI 401-419). (Global Reporting Initiative, 2016–2020)

ISO 26000 is 118 pages. (ECOLOGIA, 2011), but there is a version for SMEs - Global Guidance Standard on Social Responsibility, Designed by ECOLOGIA for Small and Medium Sized Businesses, Version Two, May, is 35 pages. It's Core subjects are: Organizational governance, Human rights, Labor practices, Environment, Fair operating practices, Consumer issues, Community involvement and development. (ECOLOGIA, 2011, p. 5)

The interest in regulating the CSR of corporations in the development of non-financial reporting is understandable. Corporations create basic goods and income, as well as have the financial and intellectual capital to develop research and create new technologies.

Overall, large multinational corporations accounted for about 50% of global industrial production in 2016, and this share is still increasing. TNCs carry out more than 70% of world trade, and 40% of this trade is carried out within TNCs, not at market prices, but at transfer prices, which are not market-based, but are formed by the parent corporation. Large MNCs typically operate in oligopolistic markets. Oligopolies are inefficient from an economic or social perspective. (Roach, 2007, p. 19).

Many large TNCs - MNCs have budgets that exceed the budgets of some countries. Of the world's 100 largest economies, 52 are transnational corporations, the rest are state-owned. They have a great influence in the regions, as they have large financial resources, the media and political lobbyists. TNCs

hold more than 80% of registered patents and also account for about 80% of R&D funding. (Адельбаева (Adelbaeva), 2016).

According to Anderson and Cavanagh (Anderson & Cavanagh, 2000), the value of total sales of the Top 200 corporations is greater than the economies of all countries minus the largest 9; that is, they outperform the economies of the 182 countries surveyed. However, more than half of the sales of the Top 200 corporations are in only 5 economic sectors and the corporate concentration in these sectors is high. The top 200 are job destroyers in recent years. Their total global employment is only 18,8 million jobs, which is less than a third of a hundredth of a percent of the world's population.

Unemployment is a major macroeconomic indicator in a consumer society. Moreover, in 1999 more than half of the Top 200 sales were in only 4 economic sectors: financial services (14.5%), motor vehicles and parts (12.7%), insurance (12.4%) and retail trade / wholesale trade (11.3%). (Anderson & Cavanagh, 2000).

Therefore, this indicator is important to consider in the context of clarifying the general picture of pandemic shock and the place of corporations, their regulation in the name of sustainability and climate change. Not only do the world's largest corporations lay off workers, their CEOs often benefit financially from job cuts by reducing fixed wage costs and thus increasing profits, which results in high bonuses for a job well done. (Anderson & Cavanagh, (2000).

Unemployment is projected to reach close to 10% in OECD countries by the end of 2020, compared to 5.3% at the end of 2019, and would reach 12% if a second wave of the COVID pandemic develops. Job recovery is expected only after 2021. (OECD, 2020)

Banking organizations advertise the ease and convenience of global banking, but the majority of people in the world face great difficulties in obtaining even a small loan. Nearly 4.8 billion people worldwide still live in countries where the average BNP / per capita is less than \$ 1,000 a year; only a handful of these people have access to credit from multinational banks. This is despite the fact that the 31 banks in the Top 200 have combined assets of \$ 10.4 trillion and sales of over \$ 800 billion. (Anderson & Cavanagh, 2000).

About half of the corporations in the top 100 are state-owned and the other half are private, and the number of honest MNCs is already growing above that of state-owned ones. This shows an increase in competition between private and public corporations.

In Europe, according to Khusainov's calculations, 53.8% of TNC-MNCs are based, and in the EU countries 47.4% of TNC-MNCs are based, respectively. (Khusainov, 2012),

With all this, every corporation is a player in the field of public health. The public health footprint of corporate behavior has come under increasing scrutiny over the last decade, with expectations that private profits of corporations in the health industries are not at the expense of public welfare.

The impact of each corporation on public health must have 3 pillars - safety, hygiene and sustainability. (Quelch, 2016, p. Xiii)

Therefore, more and more regulations, standards, certificates and verifications require corporations to show "transparency" of their financial, environmental, social and managerial activities and policies. "Transparency" is understood as a concert in various ways. In strategic terms, "transparency" is understood as the achievement of a specific goal - reducing harmful emissions and thus the impact of corporations on the climate, as well as protecting human and intellectual capital and compliance of corporate governance with the standards of "good governance" - governance bringing them closer to the strategic benchmarks of these strategic goals. It is the large corporations that promote not only the ideas of globalism but also those of environmentalism. European companies such as Unilever, MunichRe and SwissRe

and global corporate organizations such as the World Business Council for Sustainable Development promote corporate environmentalism. (Holliday, Schmidheiny, & Watts, 2017).

It is the large corporations with their own funds that independently develop models for environmental and social accounting and reporting, for sustainable reporting and corporate social responsibility. They are the authors of ambitious plans to green their production and supplies. Such are the plans of Google, IKEA (which is even a social enterprise), FedEx, Sony, Toyota and most of Japan corporations, Unilever, Gazprom, General Electric and many others.

SMES AND NON-FINANCIAL REPORT IN FORCE-MAJEURE

Entrepreneurial initiatives are implemented through the creation of small and medium-sized enterprises. SMEs operate in harsher conditions and any new and complex regulation affects them more severely than corporations.

SMEs in the EU and OECD are defined as enterprises with less than 250 employees. (OECD (2005).

In the EU, additional requirements for their classification have been added, taking into account the size of the turnover or the balance sheet number. They are subdivided into Micro with less than 10 employees and a turnover of 2 million euros or balance sheet total; Small - with up to 50 employees and a turnover of 10 million euros or balance sheet total and Medium-sized with up to 250 employees and turnover or balance sheet total of up to 50 million euros and balance sheet total of up to 43 million euros. (European Commission (EC), 2017).

For example in the USA, SMEs create 99.7% of the total amount of the firms and create 49.2% of jobs in the private sector. ("2012 | The U.S. Small Business Administration | SBA.gov," 2012 A report shows that SMEs account for 44% of the US economy. This is a significant contribution to the welfare of the US economy, although this share has declined in the Covid crises. (Kobe & Schwinn, 2019).

Small and medium-sized enterprises account for 99% of all enterprises in the EU. In the last five years, they have created about 85% of the new jobs and provided 2/3 of the total EU private sector employment. The European Commission considers SMEs and entrepreneurship as key economic organizations for ensuring economic growth, innovation and job creation in the EU. (European Commission, 2017).

Globally, SMEs account for more than 90 percent of the business and between 50 percent and 60 percent of the employment, generating more than half of the global GDP. (Vives, 2016, p. 107).

The World Bank estimates that 600 million jobs will need to be created by 2030 for a globally growing workforce, not counting the jobs lost by the Covid crisis. In emerging markets, most officially registered jobs are generated by SMEs, which create 7 out of every 10 jobs. (World Bank SME Finance. Improving SMEs' access to finance and finding innovative solutions to unlock sources of capital, n.d.)

The impact of the Covid crisis on the European economy has forced the EU to take measures for their extraordinary support. The long-term EU budget 2021-2027, adopted by the European Council, envisages a comprehensive package of funding of EUR 1824,3 billion for the Union's policies, which includes the Multiannual Financial Framework (MFF) and an emergency recovery fund from the COVID crisis, through an additional financial instrument called "Next Generation EU." (European Commission, 2020b, p. 1-3).

What part of these funds will be allocated to SMEs and what to large technology companies, and what part of the funds will go to them effectively cannot be precisely calculated. The United States has

unveiled a \$ 2 trillion corona virus rescue package for troubled companies and employees, which includes loans, government equity stakes in strategic sectors and direct cash payments to individuals.

The International Labor Organization (ILO) estimated that during the first half of 2020, the Covid crisis deprived 155 million full-time workers of their jobs and predicts that the pandemic will take the equivalent of 140 million full-time jobs. (International Labor Organization, 2020, p. 1).

All this makes SMEs particularly important in times of crisis, as well as in strategic terms.

Data show that SMEs are a critical part of the world economy and are beginning to be of interest to regulators in terms of their sustainability. Therefore, as early as 2018, the European Federation of Accountants and Auditors for SMEs is conducting a study on the possibility of introducing non-financial (extended) reporting for SMEs as well. (European Federation of Accountants and auditors for SMEs (EFAA), 2018, p. 5). The study states that the introduction of non-financial reporting for SMEs can also help them gain access to finance, provide them with new business partners, attract new users and customers, and attract and retain talent. (European Federation of Accountants and auditors for SMEs (EFAA), 2018, p. 5).

The main difficulties in implementing an entrepreneurial project through the creation of SMEs are in its financing. By channeling green finance to large corporations through Green Deal, Green Taxonomy and New EU Financial Plans, their access to finance would be further hampered.

There is a need for a program for full and equal inclusion of SMEs in financing, which goes through the requirements for sustainability and its demonstration - through expanded accountability. SMEs could not go “second gear” compared to large corporations and gradually drop out of the market. The reasons for engaging responsible practices are different for SMEs than they are for large companies, because they are less subject to pressure from powerful stakeholders and rely more on owners, managers and employee motivation. (Vives, 2016, p. 128).

For example, the International Finance Corporation draws attention to the difficulties in financing SMEs as early as 2010-2011, stating that “*Progress towards a comprehensive set of financial inclusion indicators requires special attention to developing indicators for the dimensions of financial inclusion that are yet to be measured consistently: (1) indicators on quality of financial services, financial literacy, barriers to access; (2) access and usage indicators for informal and non-bank providers; (3) indicators on key enabling environment; (4) differentiation of active users; (5) access to finance by women-owned SMEs, agricultural SMEs, and informal businesses; and (6) frequency of measurement of usage by enterprises.*” (International Finance Corporation, 2011. p. 6).

International Finance Corporation points out as the biggest data gaps in the study of SMEs’ financing needs, namely Barriers to Access and Regulatory / Enabling Environment, Coops & Credit Unions, Specialized State Financial Institution, Microfinance Institutions. (International Finance Corporation, 2011. p. 9).

There are also exemplary models for non-financial reporting of SMEs, such as that of Adopting sustainable practices for Reporting (ASAP). (Adoption of Corporate Sustainable Practices for Reporting, 2019). It includes:

1. Title of the report
2. Statement of senior management Extract from GRI standards
3. Summary
4. Overview and goals of the company
5. Introduction

6. Strategic framework for sustainability
7. Performance indicators

According to ASAP, SMEs must report on the basis of the European Commission's guidelines on non-financial reporting, the guidelines of the Global Reporting Initiative (GRI), ISO 26000 of the International Organization for Standardization and the UN Global Compact.

These standards are designed for corporations and their specifics. Equating the non-financial reporting of SMEs with that of corporations is the wrong approach. Such harmonization is rejected in the financial statements, which take into account the specifics of SMEs. Therefore, a specific approach to the non-financial reporting of SMEs is needed.

In research from Medel, García, Enriquez, and Anido (2011, p. 409 Medel et al) recommend that SMEs report on the sustainability of the business model, focusing on a sustainable strategy, sustainable business outcomes, transparency around the dynamics of the business model and the associated risks and opportunities that emerge, including environmental and social factors, and the use of the Sustainability Balanced Scorecard, which will be a modification of the Balanced Scorecard, including social, environmental, cultural processes and strategy, as well as GRI standards. (Medel et al., pp. 4-10).

In research from Newell and Moore (2010, p. 20 Newell et al) recommend for SME reporting the so-called GLATE model (Generation "Y", Logistics, Accountability, Technology, Environment). It includes human capital, which is recruited by the U generation - the first generation born in an environment with computer technology, electronic logistics, environmental reporting to be conducted "environmentally friendly", and the use of environmental technologies.

Reasonable Baseline for SMEs Non-financial Reporting in Case of Force Majeure

Europe is leading the way in disclosing non-financial indicators, and so far, according to a study by the Carrots & Sticks project, it has created 245 reporting instruments, 174 Asian markets.

North America has a lower number of non-financial reporting provisions, 47 a fact that is due in part to the smaller number of national jurisdictions in North America.

At the country level, a number of reporting provisions, including reporting requirements and resources, have been found by Carrots & Sticks in the United Kingdom-21, Spain-20, Italy-17,, the United States-19, Canada-18, Brazil-18, Colombia -20, China-18, South Africa - 19, Australia - 18, etc. (Carrots & Sticks, 2020).

Table 1. Timeline of Regulation of Non - financial Reporting in the European Union

2013	2014	2015	2017	2018	2019	2020	2020	2020
Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC	Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups	Paris Agreement SDG: Transforming our world: the 2030 Agenda for Sustainable Development)	Guidelines on non-financial reporting (Methodology for reporting non-financial information), (2017/C 215/01)	Action Plan: Financing Sustainable Growth COM (2018) 97 final	Guidelines on non-financial reporting: Supplement on reporting climate-related information (2019/C 209/01) - Regulation (EU) 2019/2088 of the EP and of the Council of 27 November 2019 on Sustainability-related disclosures in the financial services sector - Presented European (Green deal)	Taxonomy: Final report of the Technical Expert Group on Sustainable Finance March 2020	Sustainable Europe Investment Plan European Green Deal Investment Plan, COM (2020) 21 final	Usability Guide TEG Proposal For an EU Green Bond Standard

The detailed presentation and analysis of the non-financial reporting regulations is not the subject of this article. As the EU and the countries of the European Union are leaders in developing regulations on non-financial reporting, we will take a brief look at the EU’s efforts in this direction. From 2013 to 2020, the EU adopted a series of regulations and programs addressing corporate sustainability reporting requirements. These are voluminous and complex administrative documents, plans, manuals and methodologies that aim to redirect funding from investors and banks to environmental projects based on new, more productive and non-criminal technologies.

By sustainability, the EC means, above all, the transition of production and supply chains to environmentally friendly technologies and methods.

This, however, directs the financial flows to large corporations, which change their energy sources, their production methods, and their supply chain. These requirements also affect the supply chains of corporations.

The adopted regulations affect SMEs in several ways:

For SMEs that are part of the supply chains of corporations, the same environmental requirements are indirectly imposed. Those who cannot negotiate will drop out of the partnership with large corporations because their environmental friendliness will have a negative impact on corporate financing.

For SMEs, this also means a technological lag behind the competition of large manufacturers and they become undesirable for large distributors.

Last but not least, the problem of SME financing arises once the financial crucials have been channeled, through regulations transposed into national law, targeting corporations with the most advanced green technology.

As mentioned, the main problem for SMEs is their access to finance. SMEs still face difficulties in accessing finance due to their lower profits and lower incomes, less liquidity, and poorer asset structure. The differences between the financial indicators of corporations and SMEs have been studied. (Kudlyak &

Sánchez, 2017, pp. 48–69; Lisboa, 2017, pp. 25-49; D’Amato, 2019, p.p. 1-23). There are also indicators between younger and the already established SMEs. (Serrasqueiro, Leitão, & Smallbone, 2018, p. 1-6).

Conditional Model of Non-financial Reporting of SMEs in Pandemic Crisis

First of all, the question is, what model of non-financial reporting does an SME need during a crisis like the Covid pandemic?

1. Environmental report
2. Social report,
3. The ethical report,
4. Sustainability report,
5. The strategic report,
6. Corporate Social Responsibility Report,
7. Intellectual Capital Report, Human Capital Report, Intellectual Capital Report with a focus on human capital,
8. Integrated reporting,
9. Environmental, Social, Governance (ESG) report?

The need for each enterprise in the group of SMEs from a non-financial report and whatever it may be can be easily assessed by applying the Descartes Square.

Figure 1. Descartes Square for decision making with uncertainty goals



In our opinion, in the Covid crisis SMEs does not need requirements and regulations, but auxiliary information about their sustainability. Therefore, we accept that the model for non-financial reporting of SMEs should not regulate and control them, but provide information about their sustainability. Economy during the Covid crisis is risky, as the crisis is unsustainable, and in general the strategic vision gives

way to daily survival. Arthur Pigou, the first author to describe economic instability, defines it as “... this ‘natural’ tendency of people to devote too much of their resources to present service and too little to future service...” (Kula, 1998, p. 84).

The aim of the concept of sustainability presented by the “Commission Brundtland” (W.C.E.D. 1987) is to increase or at least stabilize the well being or usefulness per capita over time, without leaving future generations at a disadvantage. This is a macro-level concept that has become very popular in recent years. (Figge & Hahn, 2004, p. 179).

At the firm level, the definition of sustainable business may look like this: “*Sustainable business provides financial returns in the a short and long term, while generating positive value for society and operating within environmental constraints.*” (Accounting for Sustainability, n.d.).

Accepted as non-economic factors such as workers (human and intellectual capital), community (social capital), laws, etc. are the subject of non-financial accounting and reporting and are present as an entire list as a purely practical discipline and a key tool in modern sustainability management of organizations. In order to achieve sustainability, it is necessary to combine the interests of all stakeholders, the environmental elements of the region, to unite entities different in nature in social, political, environmental and other terms. The Covid crisis added to all these requirements to the imprint on public health with its three pillars - safety, hygiene and sustainability.

An EC study unequivocally shows that it would be useful to simplify the standard or reporting format for SMEs. (European Commission, 2020a, p. 22).

Characteristics of the SME Baseline Model of Non-financial Report

Contents of the report. The content of the report should be characterized by simplicity and easy applicability as well as for micro, small and medium enterprises.

Materiality. Focus on the collection of information to support SMEs - non-compliance with regulations.

Measurement and Valuation. Use of the developed standard measurement methods provided by the popular applicable standards and risk assessment of SMEs for their existence, good functioning and development during a pandemic crisis.

Reporting scope: the reporting scope should be based not on providing the full set of indicators, but on deriving indicators to help SMEs survive the crisis and obtain the resources they need.

Guidelines and Standards issued in part by the Global Reporting Initiative (GRI), Framework and Standards issued by the Sustainability Accounting, Sustainability Accounting Standard Board sectoral standards (SASB), Accounting for Sustainability (A4S) Guidelines on Social and Human Capital Accounting.

The sustainability report usually contains the following parts:

1. Economic sustainability
2. Financial sustainability
3. Environmental sustainability
4. Social sustainability

The elements of the denial of public health must also be present in social sustainability in view of the exogenously caused crisis.

1. General Information About the Business

- 1.1. Economic sector, Production
 - 1.2. Type:
 - Small enterprise
 - Medium enterprise
 - 1.3. Headquarters of the company
 - 1.4. Branches and other production sites in and outside the country
 - 1.5. Ownership
 - 1.5.1. Participation of owners in other companies

2. Business Model in a Pandemic Crisis

- 2.1. Pandemic risks within the supply chain
 - Impact of external pandemic factors on the operational work of the enterprise
- 2.2. Significant changes in financing arrangements

3. Economic Sustainability

Economic resilience during an exogenous pandemic crisis is not an oxymoron. In general, the conditions for existence and SMEs in such a situation can be called “*Economic singularity*” (World Business council for sustainable development, 2020, p. 5).

3.1. Market share and its dynamics. The economic stability of the enterprise is best expressed through the market share of the company. It may be specified for a period longer than two years (the usual way of reporting) in order to monitor the market strength of the enterprise. This indicator supports management decisions for the company’s strategy.

Financial sustainability - through the company’s ability to service its obligations and to develop with its own funds.

This section also uses cost-effectiveness indicators:

3.2. Economic efficiency. The guidelines of GRI 201-1 can be used to measure economic efficiency. Economic value created and distributed

3.2.1. Created direct economic value: income of the enterprise.

3.2.2. Distributed economic value: operating costs, wages, etc. staff payments, payments to capital providers, payments to the budget, etc.

2.2.3. Net (undistributed) economic value: income of the organization minus operating costs, salary, etc. staff payments, payments to capital providers, payments to the budget, etc.

3.2.4. Liquidity for the enterprise and its key suppliers and customers

3.2.5. Market development

3.2.5 a. Distribution of customers by category

3.2.5.b. of which SMEs and corporations

3.2.5.c. New clients

3.2.5.d. New products and services

4. Sustainability of Supply Chain

- 3.1. Supply chain disruptions
- 3.2. Triggering events
- 3.3. Alternative supply chain strategies and exploration of new sources of supply

5. Sustainability of the Implementation in Lockdown Conditions

- 5.1. Geography of sales of products / services
 - In the location
 - In the country
 - Out of the country
- 5.2. Participation in clusters. This is an important indicator during a pandemic, which can ensure the existence of business when closing the borders between countries or cities (locations) - GRI 204: Procurement Practices 2016 can be used here.
 - Important indicators are
 - 5.2. Possibility to join clusters
 - 5.3. Share of purchases from local suppliers in the total supply of the enterprise.
 - 5.4. Share of purchases from foreign suppliers in the total volume of deliveries

6. Sustainability of Human Resources and Substitution

Human health is the basis of human capital. COVID has become a major risk factor driving the global burden of disease.

- 6.1. Demographics of the region
- 6.2. Average age and education for the needs of the enterprise of the population in the location.
- 6.3. Territorial origin of the staff
- 6.4. Critical workforce for the enterprise
- 6.5. Preservation of jobs (% of the number of jobs at the beginning of the year)
- 6.6. Type of contract
- 6.7. Freelancers
- 8.8. Average staff remuneration
- 6.9. Average remuneration of the management staff

7. Health Footprint

In the pandemic crises the guarantee of the safety of the people is a first duty. The listed sub-accounts should be used to develop an index for the health of workers by the monitoring state and local authorities.

7. Health Footprint

In pandemic crises first and foremost is people's safety. The listed sub-accounts should be used to develop an index for the workers' health by the monitoring state and local authorities.

7.1. Employees' health

7.1.1. Access to staff health care

- 7.1.2. Employees with health insurance and social insurance (number)
- 7.1.3. Amount of paid health insurance and social insurance by employees and the company
- 7.1.4. Occupational accidents (number)
- 7.1.5. Absences from work due to accidents at work,
- 7.1.6. Absence from work due to general illnesses,
- 7.1.7. Absences from work due to an epidemic disease
- 7.1.8. Number of employees diagnosed with occupational diseases (% of average staff)
- 7.1.9. Number of employees ill as a result of the pandemic

7.2. Public health. Footprint of the enterprise on public health.

7.2.1. Number of customer complaints on unhealthy products or services

- 7.2.2. Number of lawsuits regarding products and services dangerous to health
- 7.2.3. Number of sanctions for non-compliance with sanitary and hygienic measures

8. Relationships With Corporations

In the Covid crisis, a number of corporations, due to the closure of borders, turned to the organization, refusing to execute orders from SMEs. (Panwar, R., (2020). Such behavior of corporations is a risk factor for the activities of SMEs.

8.1. Subcontractors of corporations

8.1.1. Does the SME receive the best from the corporation in terms of orders and conditions

- 8.1.2. Access to corporate projects
- 8.1.3. Access to best available technologies according to taxonomy standards

8.2. Significant changes in arrangements with corporations

9. Ecological Footprint

We reduce the environmental footprint to basic environmental performance data that can be compared with all large, small and medium-sized enterprises that report their environmental impact.

9.1. Energy. Total annual energy consumption and percentage renewable (e.g., wind, biomass, solar). Changes in energy prices. In this section GRI 302 is useful.

9.2. Water. Direct water consumption. Water stress. Here is adequate to use Aqueduct Water risk atlas data. (Aqueduct™, 2020). Changes in water prices year to year. GRI 303 Water and Effluents

9.3. Emissions: Only for direct emissions in equivalent CO2 tons. GRI 305.

9.4. Environmental costs, total

10. Financial Partnership

- 10.1 Relationships with banks
- 10.2 Relations with insurance companies
- 10.3 Relationships with financial services companies (such as leasing companies)

11. Relationships With Government and Local Administration

- 11.1 Taxes and fees
- 11.2. Fines
- 11.3 Relations with local authorities
- 11.4. Contributions, subsidies, grants or loans on concessional terms

12. Technology and Innovation

- 12.1. Integrated Pollution Prevention and Control Technologies
- 12.2. Best Available technologies
- 12.3. Export substitution technologies
- 12.4. Ownership on patents and licenses

SOLUTIONS AND RECOMMENDATIONS

In this study we addressed the issue of the need for non-financial accounting and reporting of small and medium-sized enterprises in a pandemic, externally caused crisis in the economy.

We have addressed the problem of SMEs, which is caused by the complex non-financial reporting for corporations, by the fact that in the pandemic, guidelines for financing the projects that meet very high environmental requirements have not changed. This calls for the resilience of SMEs in crisis, SMEs that are the backbone of the market economy, competition and through which entrepreneurial endeavors are realized.

We have proposed a reasonable baseline for non-financial reporting for SMEs to give a clear picture of their situation during a crisis. This baseline of non-financial reporting of SMEs is designed to provide the necessary information to enterprises and government agencies about their needs during a crisis, their relationship with corporations, and to create feedback between the state and SMEs in order to survive and continue developing during force majeure circumstances.

FUTURE RESEARCH DIRECTIONS

The future directions in the research of this problem is the development of a standard for non-financial reporting for SMEs in force majeure circumstances, the creation a comprehensive philosophy to change the view from regulating the performance of SMEs to creating conditions for good performance of SMEs in such a crisis. A special emphasis in this direction is the creation of a connection between the SMEs themselves, the governmental and local authorities, as well as the local communities and branch

organizations. The emphasis in this philosophy is the needs of SMEs to achieve modernization, environmental friendliness and sustainability, expressed in finding tools to track the critical points in their condition and take measures to rehabilitate them. Further research should also focus on the development and implementation of quantitative and qualitative metrics serving these objectives.

CONCLUSION

Until now, small and medium-sized enterprises have not been required to draw up non-financial statements. The reason for this was the fair opinion that they do not have the necessary resources, unlike corporations to submit such complex reports, that they are not “public interest” companies and that their impact on the planet and society is insignificant compared to that of large companies. However, small and medium-sized enterprises represent a significant part of the economic entities in the world economy and their share in job creation and production is in total more significant than that of corporations. SMEs are a source of innovation and the quintessence of entrepreneurship, the basis of competition, and thus the basis of market economic relations. In our opinion, this requires that simple and adequate rules for non-financial reporting of SMEs are created and implemented in a pandemic crisis. In this article we offer the basics of such a model, consistent with a pandemic crisis with closed borders and quarantine. This model has not been empirically tested, but only conditionally developed, in order to give a direction to another philosophy of non-financial reporting of SMEs and with this – towards adequate contents, goals and scope.

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Chapter 14

Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs

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ABSTRACT

COVID-19 has placed the MSMEs of the world and Latin America in a difficult situation. With the region's economies in the middle of the march, many of them have been liquidated or their activity has been drastically reduced, reflected in lower incomes, among other situations. Faced with this situation, the governments of the countries have developed actions to protect the health of the population and the economy of the countries. This chapter presents and analyzes the strategies that have been developed and are being developed in times of the pandemic and are going to be developed in the post-COVID period by Colombian micro, small, and medium-sized enterprises (MSMEs).

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INTRODUCTION

COVID19 pandemic has abruptly interrupted normal business and life in general as we were living it worldwide and it has had great impact in the behavior of companies in all sectors. This crisis has accelerated automation and digitization for everybody. To improve and to train again the labor force will be an even greater priority and it will be essential for companies to restructure sales role and to encourage collaboration among stakeholders.

To successfully overcome the pandemic will require an approach focused on people for internal and remote leadership. Permanent executive meetings must be used not only for decision making but as an opportunity to extend empathy to all coworkers. Considering workers and building sound relations have increased companies' resilience. Besides the foregoing, the recovery of the organizations must also include a high dose in the digital field.

For these reasons, this chapter shows the actions taken by different governments in Latin America and the Caribbean, specially the Colombian government, to face the pandemic. Following the same line of thought, this chapter presents the strategies that have executed and that will be implemented by certain national and international companies with respect to COVID 19; it also includes some cases of success that can be used as an example for other organizations.

BACKGROUND COVID19 PANDEMIC

International Field

Hubei in Wuhan, China is the news epicenter of a pandemic when in December 2019, a group of patients went to different hospitals with diagnoses of pneumonia of unknown etiology (Wang, Horby, Hayden & Gao, 2020). The first five cases were reported between December 18th and 29th, 2019, four of which were hospitalized for showing acute respiratory distress syndrome and one of the patients died (Du Toit, 2020; Kour and Hirschhaut, 2020). The epidemiology of the disease was linked to a wholesale market of fish, sea food and live and not processed animals of this province, since most of the patients assured to have had direct or indirect relation to this food market (Bogoch, *et al.*, 2020; Lu, Stratton and Tang, 2020).

By January 2020, the Wuhan market had been closed and there was no clear evidence of person to person transmission. On January 2nd, a total of 41 patients had been hospitalized and only one had died, who showed serious pre-existing pathologies. On January 7th, Chinese authorities announced that they had identified a new type of coronavirus (New Coronavirus, 2019-nCoV) (Kour *et al.*, 2020).

Since then, the number of people infected has increased exponentially in Continental China and by January 30th, 9,692 cases had been reported in all China and 90 cases in different countries including Taiwan, Thailand, Vietnam, Malesia, Nepal, Sri Lanka, Cambodia, Japan, Singapore, the Republic of Korea, the United Arab Emirates, the United States, Philippines, India, Iran, Australia, Canada, Finland, France and Germany (Rothan & Byrareddy, 2020; Wang, Tang & Wei, 2020).

The first case report in North America was on January 19, 2020 in the State of Washington, United States of America; a 35-year-old male patient with a history of cough and fever, who went to a health facility searching for medical attention. His background showed a family visit trip to Wuhan, China (Holshue, 2020). Likewise, on January 24th, the first case of COVID-19 was reported in Europe, specifically in Bordeaux, France, of a patient with a recent history of having travelled to China (Provenzano,

2020). On February 26th, the Minister of Health of Brazil reported the first case of COVID 19 in South America; a 61 years old male from São Paulo, who showed mild symptoms and went into quarantine, with history of having recently travelled to Lombardy, Italy (De S. Paulo, 2020). On March 11th, with 118,000 cases reported in 114 countries and 4,291 people dead, the World Health Organization declared that the outbreak of the Coronavirus 19 disease caused by SARS-CoV2 is considered to be a pandemic (World Health Organization, 2020).

Latin America and the Caribbean

“Coronavirus landed in Latin America on February 26th, when Brazil confirmed the first case in São Paulo. Since then, the governments of the region have taken several measures to protect their citizens and to contain the spread of COVID-19. However, as per a Reuters count on July 26th, Latin America is the region with more confirmed cases worldwide, accounting for over one fourth of the world cases” (Horwitz, Nagovitch, Sonneland and Zissis 2020a).

As of July 26th, 2020, the pandemic statistics in Latin America and the Caribbean showed 5,129,680 cases and 206,814 dead, distributed as follows (BBC News Mundo, 2020) (table 1):

“Besides the risks on health, COVID-19 will also have an impact on the economy. The World Bank forecasted that Latin America and the Caribbean in general will suffer a GNP contraction of 7.2 percent this year. In October 2019, before the pandemic, the multilateral entity foretold a GNP growth of 1.8% in 2020 for the region” (Horwitz, et al., 2020a).

These countries have taken actions to contain and mitigate the pandemic, such as

Mitigation Measures

Relaxation plans of the quarantine and distancing measures in certain areas and/or cities by date intervals, beginning with the reopening of non-essential businesses, including beauty parlors and lawyers' offices, as well as allowing exercise in the open.

In some countries, during quarantine, markets are open until noon and one person per family can go shopping. Factories, banks, and production facilities of basic goods operate as usual.

Restriction and reactivation of social and economic activities, but following strict health guidelines, including limitations to meetings of more than a certain number of people and keeping two meters between each person, and wearing a mask in public places.

Clinical trials for the treatment of COVID-19, using different experiments.

Announcement of the finishing of the construction of emergency hospitals and/or special health facilities offering more beds for intensive care.

Mandatory online sessions for congress meetings.

Announcement of measures through presidential decrees 1) including cancellation of all flights coming from China, Europe, Iran, Japan, South Korea, and the United States during certain number of days, 2) announcing new forms of social distancing and extending the closing of land, port and air borders, closing the entrance to all national foreigners with deadlines and forbidding all international and domestic commercial flights until certain dates.

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Table 1. Number of cases in Latin America and the Caribbean

COUNTRY	NUMBER OF CASES REPORTED
Mexico	449.814
Guatemala	52.365
Belize	72
Honduras	44.299
El Salvador	18.262
Nicaragua	3.902
Cayman Islands	203
Cuba	2.701
Bahamas	715
Bermudas	157
Jamaica	920
Turkish Islands and Caicos	116
Haiti	7.532
Dominican Republic	74.295
Puerto Rico	19.324
British Virgin Islands	8
Saint Martin Island	150
Guadalupe	272
United States Virgin Islands	463
Antigua and Barbuda	92
Saint Christopher and Nieves	17
Dominica	18
Santa Lucia	25
Barbados	132
Martinica	269
Saint Vincent and Granadinas	55
Granada	24
Trinidad and Tobago	194
Curazao	29
Aruba	132
Costa Rica	19.837
Panama	69.424
Colombia	334.979
Venezuela	21.438
Guyana	497
Surinam	1.981
French Guyana	7.998
Ecuador	87.963
Peru	439.890
Brazil	2.801.921
Bolivia	83.361
Chile	362.962
Paraguay	5.852
Uruguay	1.300
Argentina	213.535
Falkland Islands	13
Total	5.129.508

Source: Own preparation by Johns Hopkins University (BBC News Mundo, 2020)

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Suspension of classes at schools and universities. Geographical areas with low contagion indexes could gradually resume classes in August. Only small schools in these regions that meet the protocols set forth by the government could open at that moment. More contaminated regions were not included among the geographical zones chosen.

Launching of trials of COVID-19 vaccines by AstraZeneca, Sinovac Biotech, and an agreement between Pfizer and BioNTech.

Development of special plans to hire med students and health professionals to aid in the first line of the pandemic, including nurses, technicians in nursery and pharmaceutical workers.

Implementation of plans to bring medical equipment, masks, test kits and different type of ventilators with the help of the private sector to cover transportation and freight charges.

Issue of laws that ordered the government to supply drinking water, disinfectants, and quotas of hospital beds for the Indian people during the pandemic and at the same time allowing proposals for test supplies, ambulance services and medical equipment.

Formation of a work team in charge of going to those communities with limited access to medical attention in order to carry out more tests, a strategy to locate those who had been in touch with a confirmed case and encourage a quicker isolation, and a plan for more health boarding houses for those people who cannot isolate at home.

Mandatory use of protection masks in both public and private transportation. Such measure should be monitored by the health authorities, the armed forces, and the national police.

• Tax incentives and economic policies

Special decrees to forbid companies to fire workers without just cause or by reasons of personnel reduction, and tax measures to decrease corporate and individuals' taxes.

Freezing of prices for food and health-related products.

Increase in the public expense budgets of items related to the health emergency due to COVID-19.

Proposals to tax fortunes over certain amount, to counteract the economic crisis.

Special measures were implemented by decree to control price increase of basic goods by geographic areas or country wide.

Elimination of import duties to critical medical supplies, during the health crisis.

Approval of bills to allow for "financial pauses" in all loan payments under certain amount, liberalization on loans higher than a given amount and restructure once the health crisis is over.

Some central banks issued certain measures until the end of 2020: limits to the increase by banks of dividends beyond the floor, reduction of salaries of top-level bank employees and limits to the stock repurchase by financial institutions.

Issue of laws to float big amounts of dollars, to be distributed during several months, as an aid to states and municipalities, both at a central and a federal level. Laws that ceased payments of debt from local governments to the federal government, as well as renegotiation of loans during the state of emergency.

Bills that proposed salary increases for government employees until December 2021.

Some Ministries of Health announced distribution of a special budget to help combat the pandemic, including structural improvements to the health services, as well as to personal protection equipment, tests, and breathers.

The congress of some countries approved special credit lines for micro and small companies.

Some governments to distribute emergency money aids to informal workers and unemployed people, with deadlines. Payments would be made in several installments to extend them over a longer period.

Setting up a “war budget” until the end of the state of calamity, in order to separate the COVID-19 expense from the central budget, giving the Central Banks the power to purchase bonds, thus bringing calm to the financial markets.

• **Social programs**

Setting special financing for companies that showed increase in mid-year income.

Governments to pay salaries to the workers of the private sector whose income decrease in certain months of the year 2020 compared to the same period of the year 2019. Moreover, workers of companies deemed “critical” -including tourism, entertainment, culture, health, and sports- would receive additional salaries until December 2020.

Granting loans with no interest to independent workers.

To postpone or reduce up to certain percentage payments by employers to the social security agencies of the different countries, as well as a compensation salary to workers of companies with up to 100 employees, which meet conditions such as mandatory quarantine or which could be a high risk for health, or if the productivity based on commissions has been affected.

To extend the deadlines to those holders who have not been able to pay fees or whose checks have bounced.

Some governments extended up to December 2020 a measure demanding companies to double the severance pay for workers in the private sector that are unfairly dismissed.

Implementing a series of monthly non-deductible vouchers for workers in the health sector during certain months of the year 2020, the amount of which to vary depending on the time of service and the specialty.

Additional payments of certain amount for previously set periods, to be distributed among a specific number of beneficiaries of the special programs, such as the family emergency program, to help independent workers, informal and vulnerable because of the pandemic.

To cease price increase of certain services such as television, cellphones, and Internet until certain dates.

To cease eviction for those people who have not been able to pay rent, and freezing thereof based on the rent rates in force from March to September 30th, after which, increase in rent would be paid in three installments with no interest. Also, freezing of mortgage loan rates until certain dates in 2020.

Work measures for those people who could not work remotely, including staggering of clock in, clock out and lunch time, to minimize close contact.

Distributing food baskets or basic markets to low income families.

Economy plans for low income families, to delay payment of utilities without reducing the service, granting an amount of money per dependent person to each family, and approval of special labor protection laws for those who can not work during the quarantine.

Government Measures in Colombia

• General aspects

On March 12th, the President of Colombia Ivan Duque declared a national health emergency for the first time; on March 17th he declared an initial state of emergency and on March 24th, a national quarantine. He also appointed a former Minister of Commerce to oversee the coordination, as a response to the coronavirus in the country. On May 6th, Duque declared a second 30-days state of emergency (Colombian Constitution does not allow more than 90 days by presidential decree in the first year of government). On May 19th, the national health emergency in force since March 12th, was extended up to August 31st.

After a national quarantine that lasted from March 24th to May 31st, 2020, in June, some regions of Colombia began to reopen in part including Barranquilla, Cali and Medellin. The Minister of the Interior of Colombia had previously given a “green light” to 90 Colombian municipalities with no reported cases of the pandemic to raise their social distancing measures on May 14th and since June 14th, the municipalities with no confirmed cases of COVID-19 could open again restaurants and celebrate religious services. Certain social distancing measures remained in force up to August 1st.

President Duque refers to the new reopening phase as “intelligent distancing”, where certain institutions, including malls, museums, libraries, and parlors can open at 30% of their capacity and public transportation at 35%. Bars, clubs, churches, and parks will remain closed. In Bogota (Colombia’s capital city), the Mayor began the reopening of the city on June 15th with staggered working hours for construction, malls, domestic and informal workers. People who could continue working from their homes will continue doing so.

Colombian courts began to reopen on June 17th, but with no public hearings and preference for online hearings, whenever possible. Some wholesaler and retail sectors reopen on May 11th; construction and manufacturing sectors have been working since April 27th.

• Mitigation Measures

People over 70 years have been forced to remain at home and to be isolated since the first state of emergency entered in force on March 17th; this measure is still valid as of the date of this writing.

Since April 13th, Bogota began to limit mobility by gender, so men could go out on “odd” days and women on “even”. Trans people and those not in agreement with the gender could go out according to the gender with which they identify.

• Restriction to travel and borders

After initially closing the border with Venezuela on March 14th, all borders and entry points to Colombia were closed as of March 17th and only certain import shipments were allowed. By mid-May, Colombian military presence was strengthened along the border with Brazil after an increase of cases in that country. Although Colombia shares a longer border with Peru, that country has fully closed its borders. Entry ban was applied to both citizens and foreigners. International flights could be renewed on August 31st.

On June 23rd, Ecuador and Colombia announced a plan to allow citizens who got stuck in the other country to return to their homes through a land border crossing.

• Educational closing and restrictions

On March 16th, the government cancelled all face-to-face classes in the national educational system. Both public and private schools and universities continued to offer online classes until further notice by the government.

• Economic Impact and Measures

On June 8th, the World Bank published updated projections that showed that Colombian economy would shrink by 4.9% in 2020 (WoldBank.org, 2020a), which is below a projection of -2.0% in April (WoldBank.org (2020b) and further away from the growth projection of 3.6% in October 2019 (WoldBank.org, 2019).

“On March 27th, Standard & Poor’s lowered Colombia credit grade from stable to negative, making a warning that the country could lose its condition of investment degree in the next 12 to 18 months. Even so, Colombia is able to lead the recovery of the region due to its recovery ability and its strong internal demand” (Galindo, 2020).

On March 18th several economic measures were announced, which included quick tax reimbursements, a grace period for payment of mortgages and loans of small and medium-size enterprises, and special credit lines for agriculture, tourism and aviation sectors (Eltiempo.com, 2020a). Furthermore, to encourage consumers and to keep people at home, July 3rd and 19th were set for tax-free purchases of electrical appliances, electrical items, and computers, provided purchases were made online (Eltiempo.com, 2020b).

On June 3rd, a measure was speed up that allowed companies whose income had dropped at least 20%, to delay bonus and overtime payments to employees from the first half of the year until December 20th, 2020, the latest; moreover, the government will subsidize 40% of the minimum wage of workers of \$250 Dollars per month (Portafolio, 2020a).

As opposed to the first economic package under which funds were delivered through the banks to grant loans, in the second phase. the government delivered the money directly to the companies (Perez and Avila, 2020).

• Social Programs

On March 24th, once the national quarantine went into effect, Duque announced a new set of economic measures which included disbursements for approximately \$40 Dollars for 3 million low-income families, online deployment of approximately 2,500 mental health professionals, distribution of 23 tons of food and 96 million gallons of water to vulnerable population. He also raised some conditions for payment of student loans (Twiter.com, 2020).

On April 8th, the Major of Bogota announced the appropriation of US\$128 million to a project aimed to give financial support to half a million low-income families in the Capital city (El Espectador.com, 2020).

On May 27th, Colombian Lower House passed the “clean slate” law that would grant debtors a grace period of one year to get up to date with their payments, and those who did so would have their negative credit reports erased from the risk offices. The draft bill, that also includes protection to victim of identity theft, will first go to a conciliation committee before being sent to Duque’s office for his signature (Portafolio, 2020b).

MSMEs Strategies in Times of COVID

COVID-19 pandemic has resulted not only in a health crisis but also in a humanitarian and economic one, which has spread worldwide since it began in Asia, specifically in Wuhan, China, causing untold human and economic losses.

When societies entered in quarantine, the economies began to close, thus generating uncertainty for not knowing until when this crisis will last. Traditional market mechanisms have not been enough to face this situation in which productive activities have been interrupted, hence causing a low demand (CEPAL, 2020).

With reduced demand, both national and international, SMEs had to face different situations, such as: diminished income, problems to import raw materials, few or no labor force, trouble having access to financing and problems adjusting the productive processes to remote or automated operations. Impact on SMEs differs depending on the sector to which they belong. The problem for tourism and restaurants has been reduced demand, while the problem for the textile, metallurgical and construction sectors has been low access to imported raw materials or the lack of labor force. On the other hand, the situation for service providers has been bearable due to the possibility of operating by telecommuting (Huilcapi-Masocon, Troya-Terranova, & Ocampo Ulloa, 2020).

This situation of isolation established by the different governments, both at a national and an international level, has led to the temporary closing of companies, notwithstanding the efforts made by the governments to reactivate their economies and the productive apparatus through reboot, for example, to use technological platforms and electronic commerce and in this way increase the efficiency levels of the markets (González-Díaz & Flores-Ledesma, 2020).

Of course, MSMEs have not been foreign to the negative impact caused by COVID-19. According to CEPAL (2020) quoting Dini and Stumpo, (2019), people working in this type of companies are very vulnerable to the pandemic crisis since temporary closing of their business activity -due to the preventive quarantine measures- can result in a significant drop of income. “Sales could not be enough for the survival of these companies, which may not have the resources to pay salaries, employees’ contributions nor make payments to social security, and they could even go on bankruptcy” (p.12).

This is a very worrisome situation since 99% of Latin American companies are micro, small, or medium size (MSMEs) and they cover almost all sectors of the economic activity. Moreover, this economic impact has had a high social cost because this type of companies are the ones that generate more than half of the jobs (CEPAL, 2020; Ramirez-Garzon, Perez-Uribe, & Espinosa-Mosqueda, 2020).

Despite this overly concerning situation, many small and medium companies have decided to implement some strategies to go on with their business and in this way, respond to their family and social responsibilities. Some entrepreneurs have resorted to their corporate values and to their personnel commitment to continue operations and at the same time following the biosafety measures set forth by the governments of their countries. This means that the organizational culture based on values and on the commitment of workers has made some MSMEs to develop strategies that allow them to keep their productive units and many of them have reorganized their homes to use them as temporary offices (Gonzalez-Díaz & Flores-Ledesma 2020).

Rivera-Porras, Carrillo-Sierra, Forgiony-Santos, Nuvan-Hurtado, & Roza-Sanchez (2018, p. 29) quoting Hernandez-Sampieri, Mendez-Valencia & Contreras-Soto (2014), assure that the organizational culture “is an strategic resource that has the value of assuring continuation and presence of the organizations”. This fact is confirmed by the study made by Gonzalez-Díaz & Flores-Ledesma (2020) in

which the managers of the MSMEs studied, which work in the retail business of children clothing in the municipality of Cabimas -Venezuela, assure that for workers to have a sound organizational culture in which for example the value of responsibility is evident, has been essential for the development of these activities. Another mechanism used by the SMEs studied has been that of keeping the workers' wages due to the use of social media and electronic commerce to sell their products. This activity has allowed them to decrease electricity and stationary consumption in the different commercial transactions. Having information technologies has become an essential action to survive the external conditions that SMEs are facing due to the coronavirus pandemic.

For example, in Spain, as in many other countries, companies had to modify their way of working and many of them have reinvented to face this situation of uncertainty. "At a strategical level, some companies have been forced to redirect their activity and to redefine their business model facing the future". This is the case of textile companies that have begun to manufacture products for the health sector, such as masks and coats, and in this way fulfilling the needs of this new demand (Huilcapi-Masocón, *et al.*, 2020, p. 81).

Cases of Success

Undoubtedly, the coronavirus pandemic has led to alarming situations in the economy of countries and have forced many businesses to close doors or, in the best case, to reconsider their organizational structure. Micro, small and medium-size companies have been affected by their short or non-existent cash flow reserves since their income depends on daily sales, causing them financial stress and in some cases, forcing them to dismiss their collaborators (Sulbaran-Lovera, 2020).

However, as assured by Sulbaran-Lovera (2020) referring to Nicolas Cañete -IDB consultant- SMEs can be "part of the solution to save lives" because this type of organizations play a key role in the supply of products and services, which are essential for the population in this moment of crisis.

BBC Mundo gathered seven stories of SMEs from different Latin American countries that reinvented themselves forced by the situation of the pandemic, helping them to survive and, in some cases, to grow. Following are the stories published on May 8th, 2020 by Sulbaran-Lovera (2020).

• An online disco

When Sebastian Gonzalez, a Colombian citizen that have created experiences in the entertainment sector in Bogota for ten years, saw that reopening of discotheques and bars was not foreseeable in the near future due to the provisions set forth by the Government, he decided to create parties by Zoom (a video-conference tool), through which 500 people can meet, along with a DJ, dancers and a presenter. His strategy, which began at the end of March, was to let 500 people enter free of charge. He currently charges US\$ 5, or COP 10,000, to men only; women can enter free of charge; this market strategy being common practice in the discotheques trade.

The value promise offered by Gonzalez is the possibility that attendants make new friends, which has happened, since some people have made contact by WhatsApp and keep in touch.

These parties have brought the interest of liquor store managers who, along with Gonzalez, have started to develop strategies to promote and to sell their products.

Gonzalez has spread this business initiative by mouth-to-mouth, and he has used the social media, such as Facebook and Instagram, for advertising. Without knowing how, parties began to reach North

American and German people, which he sees as an opportunity to establish connections he is interested in. Another advantage that Gonzalez sees is that online parties have less expenses than on-site parties because the investment has not been over US\$ 300 in a big night. On the other hand, to open a discotheque for 800 people has a fix cost of approximately US\$ 8,000.

• Fruits and vegetables in high demand

Natalia Peris and her partner have been in the food and organic packaged products market which are acquired from small local producers and craftsmen. Their convenience store called “La Trocha” (“The Narrow Path”) is located downtown Bogota. When the pandemic began, they decided to close doors and to work indoors, making home deliveries as well as personal deliveries to the neighbors that went to pick up their purchase. Given this situation, they decided to change their operation working only Monday, Wednesday, and Friday at the store to prepare deliveries and during the other days they received orders and organized supplies with farms and producers.

Since they did not have an organized home delivery system, they looked into the bike courier service, with which they have increased sales three times, going from a business that barely survived to one with high volume sales, which they have been able to manage. Peris has seen that people have decided to consume organic food, and that now is a good time to support peasants. Business has grown in a such a way that they had to hire two additional workers. The communication strategy used with their customers is social media, which they have seen as their big ally, which they had abandoned before. Peris says: “I am now a sort of executive peasant: I spend all day in front of the telephone and the computer taking orders”.

• Online classes with a world champion

Antonio Diaz, a Venezuelan karate expert and world twice champion opened his dojo in Caracas two years ago. At the beginning of 2020 Diaz was in Hong Kong and Spain training to participate in Tokyo’s Olympics and his dojo was active accepting new students. On March 13th the Venezuelan government ordered mandatory quarantine and Diaz, who had just arrived from Spain, was forced to cancel the classes at the dojo, where two instructors worked along with three people belonging to other areas of the business. When Diaz realized that the situation was not going to be temporary, he explored the possibility of giving classes over the Internet. He began to make Instagram Lives through the dojo’s account and he saw with pleasure that many people joined the initiative, even from other countries. Afterwards, he began to use Zoom, as well as his instructors, but the transition has not been easy. Diaz accepts that new opportunities are opening before him and he is thinking on the possibility of making a series of professional videos so people can train at home.

• Copper masks

Before the pandemic, Chilean fashion designer Luz Briceño began to make a research on how to produce textiles with antibacterial properties and made of copper. She partnered with Soledad Silva (commercial engineer) and Rocio Cassis, in charge of supervising production, and together they created The Copper Company. Prior to the coronavirus, their intention was to produce antibacterial textiles for use in operating rooms, but with the pandemic, they decided to manufacture masks with fabrics made

of copper nanoparticles. This endeavor has allowed them to sell 60,000 masks in less than one month and to generate jobs for more than 70 people, since they found a new niche in markets such as salmon companies, vineyards, telecommunication, and textile companies, which are interested in purchasing the masks for the protection of their collaborators. However, the problem they have faced is the obtention of certificates to endorse the use of the masks by the medical staff.

• **Bread through an app**

The Argentinian Antonio Bertasio saw that an investment he made five years ago in an app called Quiero Pannet (which did not have the expected results back then), became a mobile tool that is saving his bread manufacturing business at this time of crisis due to the pandemic. The app shows a brochure of frozen breads available for baking at home. Bertasio went from supplying restaurants, diners, supermarkets, and public institutions, to individual consumers. When the quarantine was ordered in his country on March 18th, he met with his working team (25 people) and informed them that all of them were going to be salesmen as of that date, using the strategy of recommending the app so people would use it. He currently has an expert team in e-commerce.

• **More work at the lab**

Uruguayan chemist Andres Abin and his partners of the small lab ATGen saw coronavirus as a menacing tsunami wave, but distant. They were analyzing the feasibility of investing on methodology and supplies to run SARS-CoV-2 diagnostic tests in their lab and decided that it was not worth investing on COVID-19; however, when they saw that the tsunami wave was growing, they changed their minds and in early March they already had the supplies and the methodology needed to work and to obtain the approval of the Ministry of Health. This effort resulted in the incorporation of more people into the work team, that more public institutions get involved because they lent equipment. They also received the support of the academy to create a web page, a chatbot as well as a donation of a container to set up the first mobile station for sample taking in the country. The foregoing allowed them to develop in one month what they would normally do in one year.

• **Protection shields**

Venezuelan architect Francis Murillo has worked for six years in the laser cuts and 3D printing business in her company 2MD Laser. Her frequent customers are architect students and professionals that sent their scale models for her to make, interior designers or companies that order executive presents. With the arrival of the coronavirus, her company's market niche changed, and she is currently making approximately 8,000 protection visors for medical staff. This new product began when Code4Venezuela organized a network of 3D printing places to print visors. Afterwards, she received an expected donation of acetates and polyethylene terephthalate (PET) from companies and individuals. Murillo got in touch with doctors, who informed her which hospitals needed the product and she saw with pleasure the importance of joining the competition to make a success of this project. Although all the production of the first month was a donation, she is now focusing on building inventories to implement a new purchase-donation project under which "for every visor you purchase, you donate one".

METHODOLOGY

This chapter is the result of a descriptive study that “seeks to specify the properties, characteristics and profiles of people, groups, communities, processes, objects or any other phenomenon subject of analysis. In other words, it only intends to measure or collect information in an independent or joint manner on the concepts or variables which it refers to” (Hernandez-Sampieri, Fernandez-Collado and Baptista-Lucio, 2014, p. 92; Bernal, 2016, pgs. 143-144). In this case, based on a research in secondary sources and on a fieldwork developed through a structured survey sent to a group of graduates from, and students of EAN University, answers were received in relation to several activities carried out by companies during the pandemic and after the pandemic (Ramirez-Salazar and Perez-Urbe, 2020).

Regarding the sample, it was worked by convenience, which allowed to select those accessible cases that accepted to be included, based on the convenient accessibility and proximity of the subjects for this research (Otzen & Manterola, 2017). In this case, the source was a selected list of students and master and doctorate graduates from EAN University (103 students) (figure 1), holding positions as CEOs, managers, coordinators, analysts and advisors of micro, small, medium and big companies and who were working in Colombia.

FINDINGS

• Number of MSMEs and big Companies in the Sample

51% of the companies were micro (2 to 10 workers), small (11 to 50 workers) and medium (51 to 200 workers) (26% small, 17% micro and 8% medium) and 49% were big companies (over 200 workers) (figure 2).

• Type of Positions

As shown in figure 3, the positions that answered the survey were representative from the standpoint of leadership and decision making in their companies. 35% were area coordinators, 34% presidents and entrepreneurs of their companies, managers, and directors, and 31% analysts and/or advisors of their institutions.

• Cities Where the Companies are Located

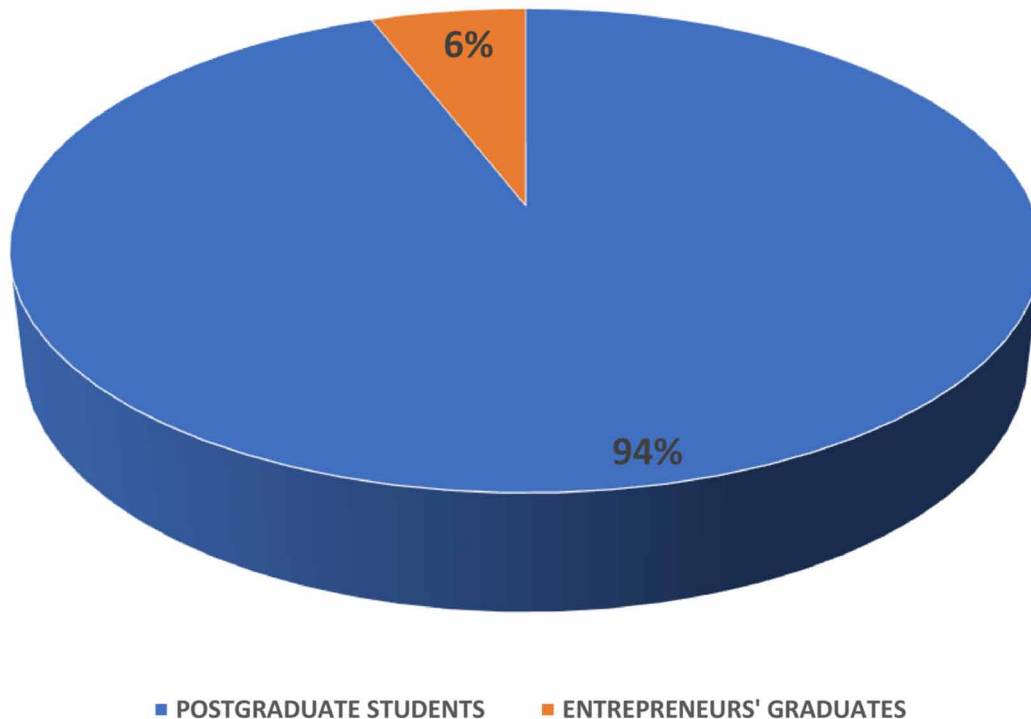
81% of the companies are located in the city of Bogota (capital city of Colombia), 12% are in different Colombian cities in rural area and 8% are in Popayan (urban area), probably because some of the students and graduates belong or belonged to health postgraduation programs where the University has covenants (figure 4).

• Economic Sectors

79% of the companies are in the service sector (81 answers), among which the following stand out (figure 5): several subsectors (35 answers), hospital and aid (25 answers), financial (13 answers), telecommuni-

cations (5 answers) and transportation (3 answers). The other 22% is distributed as follows: commerce (7%), energy and mining (4%), construction (4%) and manufacturing (4%).

Figure 1. Number of students and graduates surveyed
Source. Own preparation

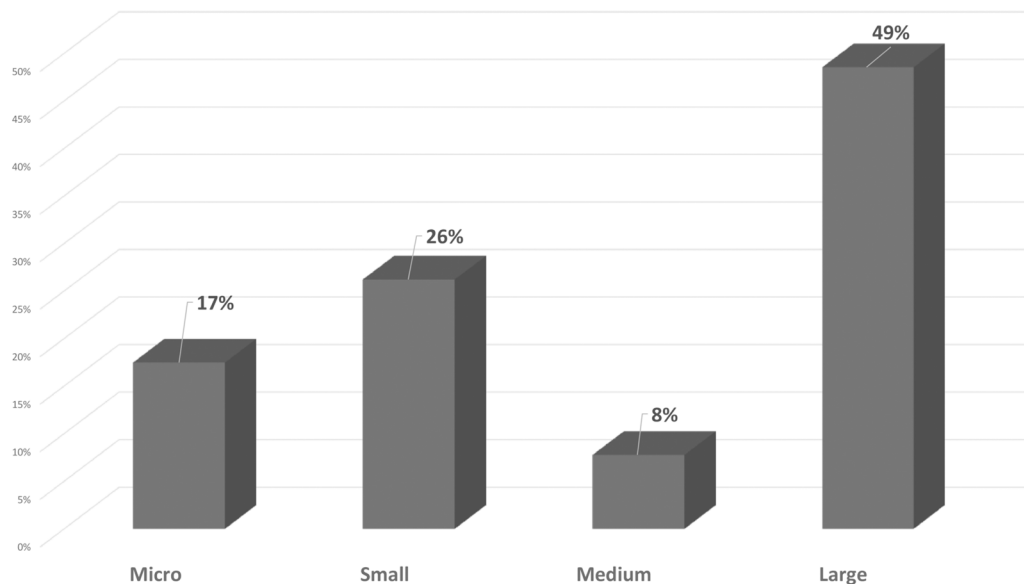


• Measures to Prevent and to Counteract the Pandemic

85% of the companies are fulfilling the measures issued by the national and local governments, both companies in the urban and rural areas, described in the theoretical framework with respect to the Colombian government, and the remaining 15% have teleworking (8%), own protocols (6%) and have given masks and anti-fluid suits to their workers (1) (figure 6).

Figure 2. Size of companies by number of workers

Source. Own preparation



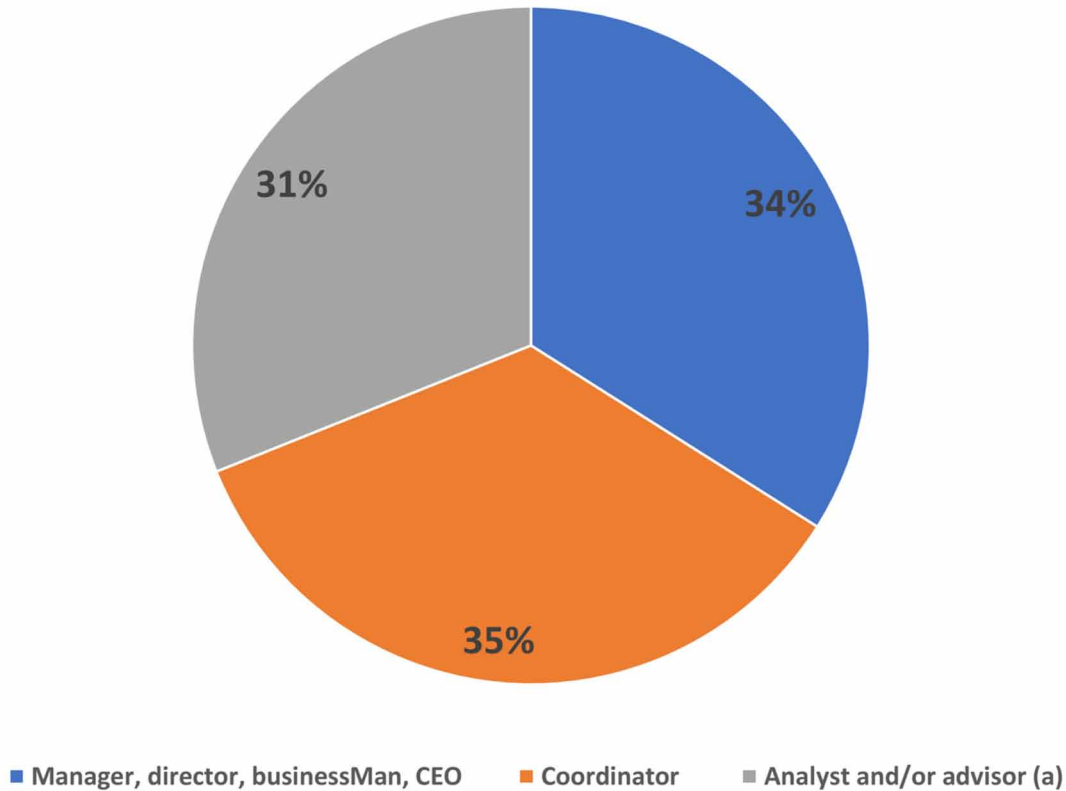
• Actions to Increase Sales

The following is observed in order of importance by number of answers (it is worth mentioning that one company may have several answers) (figure 7): 1) New customer service processes (53) (both companies in the urban and rural areas), 2) Sale of products and services through digital channels (34) (only companies in urban areas), 3) New technology (28) (only companies in urban areas), 4) Creation of new products and services (27) (both companies in the urban and rural areas), 5) Involvement in social networks (23), 6) They are working without changes (18) (both companies in the urban and rural areas) and 7) New market niches (17) (both companies in the urban and rural areas).

• Actions Taken by the Workers

The following is observed in order of importance by number of answers (it is worth mentioning that one company may have several answers) (figure 8): 1) Teleworking has been implemented for people who can do it and physical jobs are preserved (33) (companies in the urban area), 2) Functions have been redistributed and work has been recharged with the same salary (24) (both companies in the urban and rural areas), 3) The staff floor was lowered (23) (companies in the urban area), 4) Personnel on paid leave have been sent home (22) (companies in the urban area), 4) Staff relocated to new jobs and shift work (16) (companies in the urban area), 5) It continues to work as before the pandemic (4) (companies in the rural area) and Holiday advance for some workers (1) (companies in the urban area).

Figure 3. Type of positions of the people surveyed
Source. Own preparation



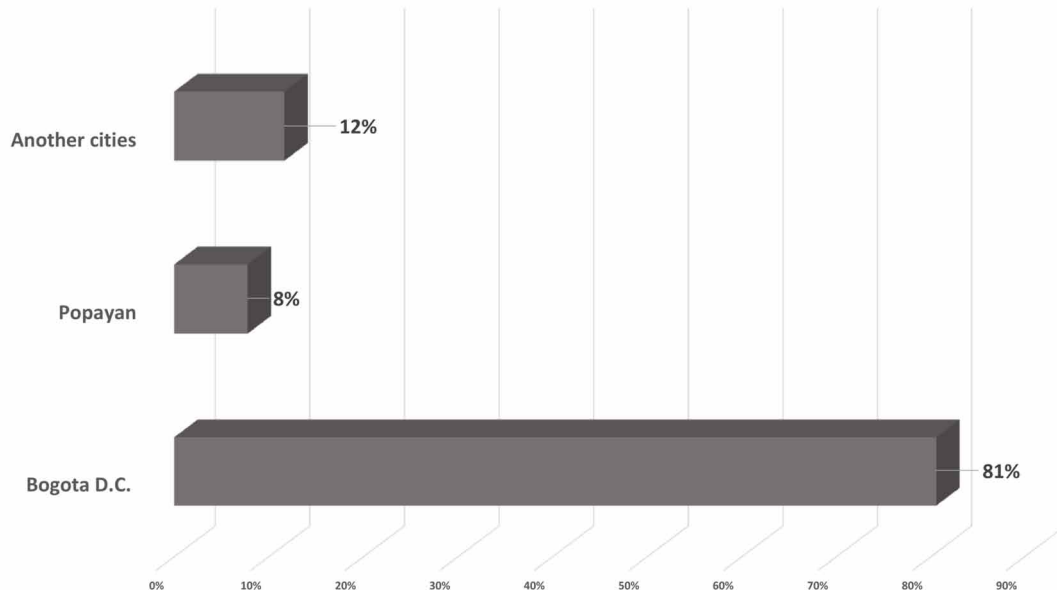
• Actions Taken to Improve Cash Flow

The following is observed in order of importance by number of answers (it is worth mentioning that one company may have several answers) (figure 9): 1) Leverage with partners and / or investors (26) (both companies in the urban and rural areas), 2) Leverage with clients (21) (both companies in the urban and rural areas), 3) Loans with financial institutions (18) (both companies in the urban and rural areas), 4) It has not been necessary (16) (both companies in the urban and rural areas), 5) Leverage with suppliers (14) (both companies in the urban and rural areas), 6) Loans with third parties (10) (both companies in the urban and rural areas), 7) Agreements and alliances (2) (both companies in the urban and rural areas), 8) Sending workers on vacation (1) and Portfolio Recovery (1) (companies in the urban area).

Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs

Figure 4. Cities of location of the companies in which the people surveyed work

Source. Own preparation



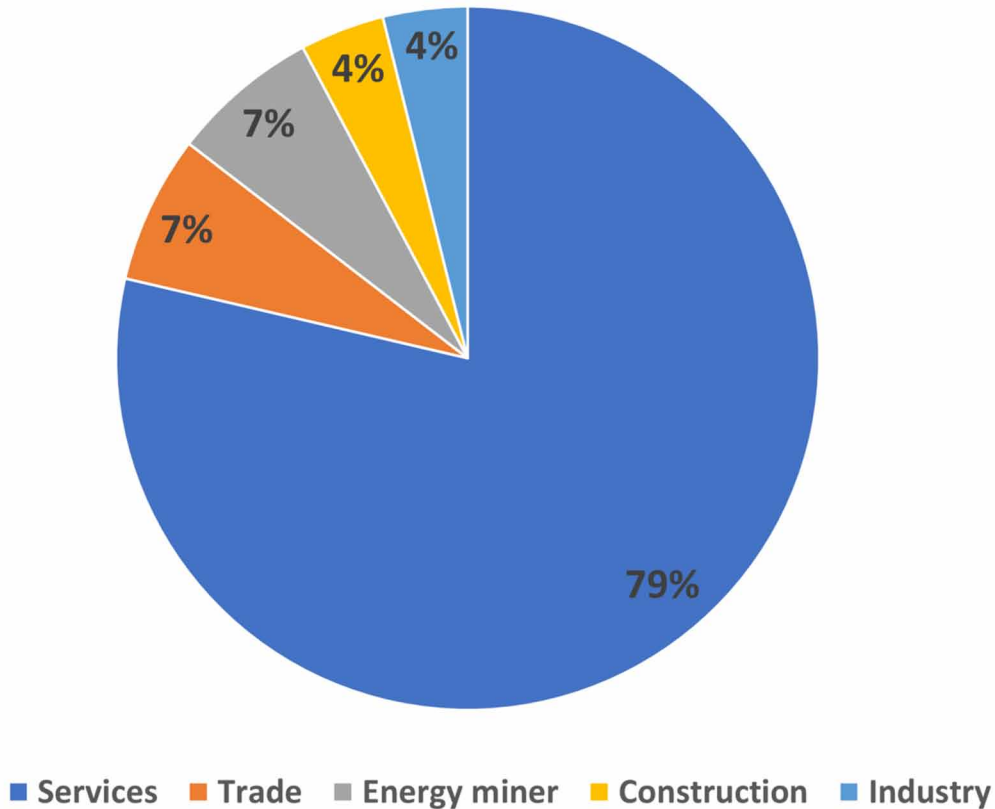
• Actions Ahead (After COVID-19) to Increase Sales

Following are the answers of the people surveyed, in order of importance and taking into account that there are one or more answers per company (figure 10): 1) Creation of new products and services that can be sold online (41) (companies in the urban area), 2) Restructuring of the commercial strategy (39) (both companies in the urban and rural areas), 3) Offer of products and services through networks (39) (both companies in the urban and rural areas), 4) Investment in ICTs (24) (both companies in the urban and rural areas), 5) Investment in image improvement through networks (17) (companies in the urban area), 6) Continue teleworking for workers in those positions that can be carried out at home (12) (companies in the urban area), 7) Remove obsolete and unprofitable products and services from the market (8) (companies in the urban area), 8) Hiring vendors with experience in technology (4) (companies in the urban area) and 9) Continue working with the measures decreed by the government (2) (both companies in the urban and rural areas).

• Actions Ahead (After COVID-19) to Search a Better Quality of Life for Workers

The following is observed in order of importance by number of answers (it is worth mentioning that one company may have several answers) (figure 11): 1) Training in different areas and redistribution of functions (69) (both companies in the urban and rural areas), 2) Adjusting schedules to balance work and family (67) (both companies in the urban and rural areas), 3) Conditioning of work sites at home (66) (companies in the urban area) y 4) Wellness actions (48) (both companies in the urban and rural areas).

Figure 5. Economic sectors of the companies
Source. Own preparation



CONCLUSION AND RECOMMENDATIONS

Based on the research carried out, possible strategies to be developed both for companies that operate in urban and rural areas, after COVID are observed that can help MSMEs to overcome difficulties, to keep on going and to grow:

- 1) To get rid of assets and lines of business which are not profitable. This means that both companies in urban and rural areas, must identify the customers and products that can potentially generate greater benefit and those that offer better opportunities in the short run. Eliminating services that do not add value to customers and taking out of the market a non-strategic line of business will give the organization a better cash flow.

Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs

Figure 6. Current measures to prevent and contain the pandemic
Source. Own preparation

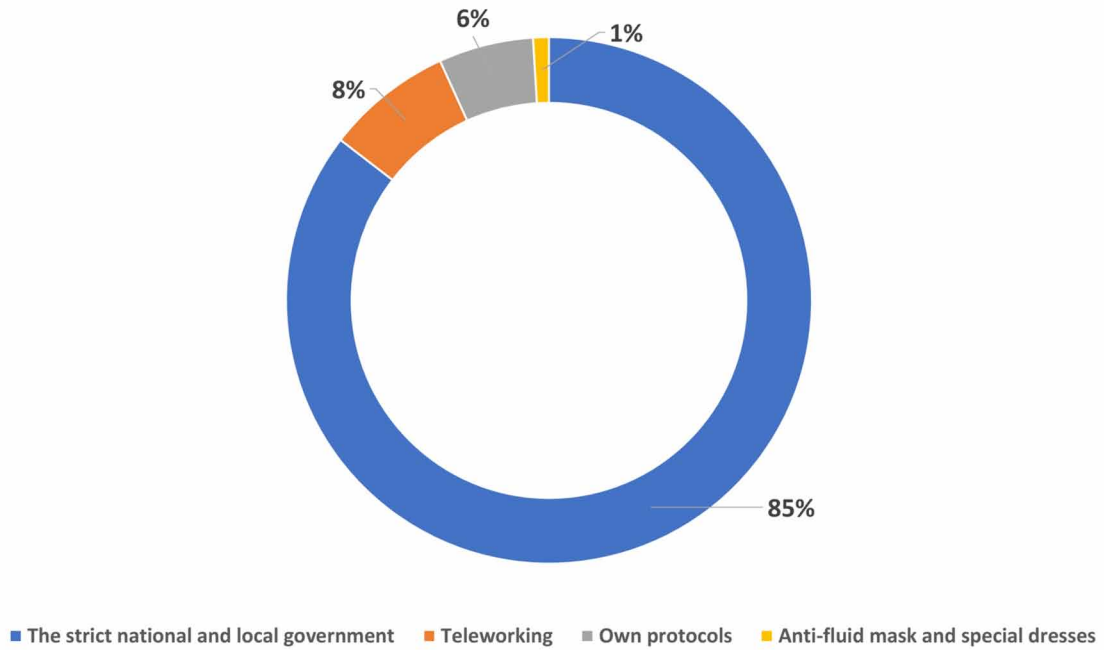
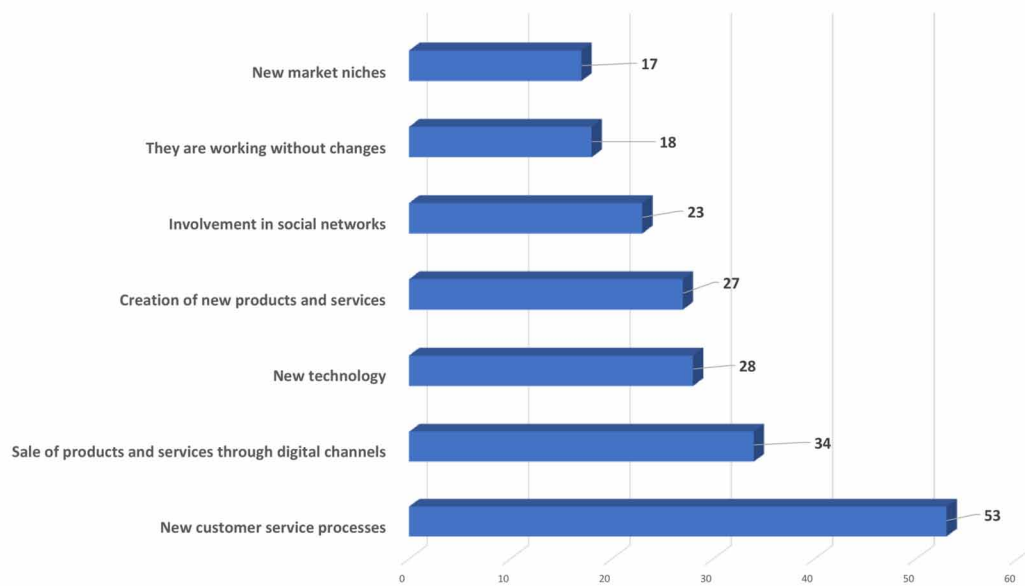


Figure 7. Actions to improve sales
Source. Own preparation



Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs

Figure 8. Actions taken by the workers
 Source. Own preparation

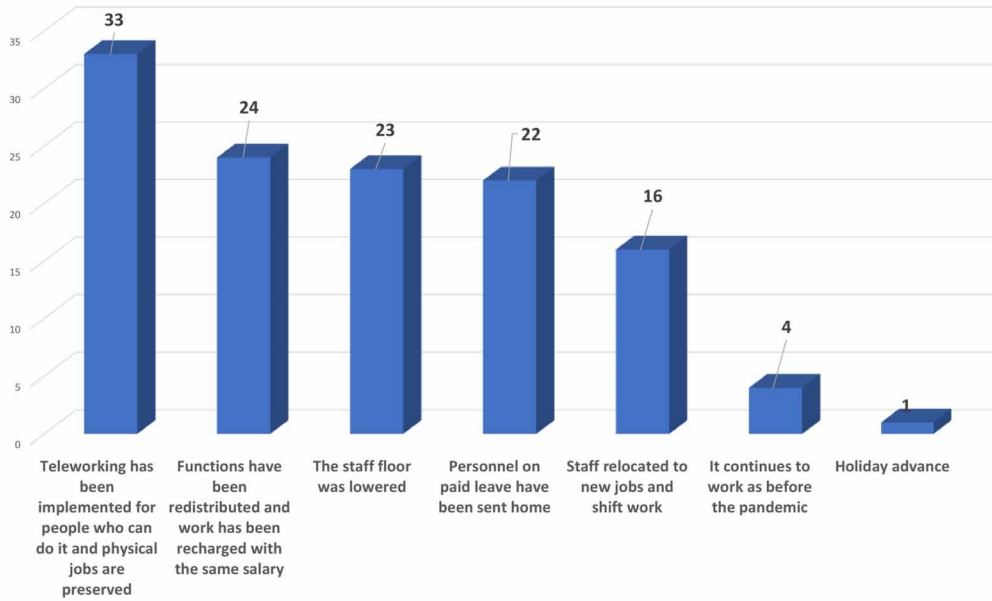
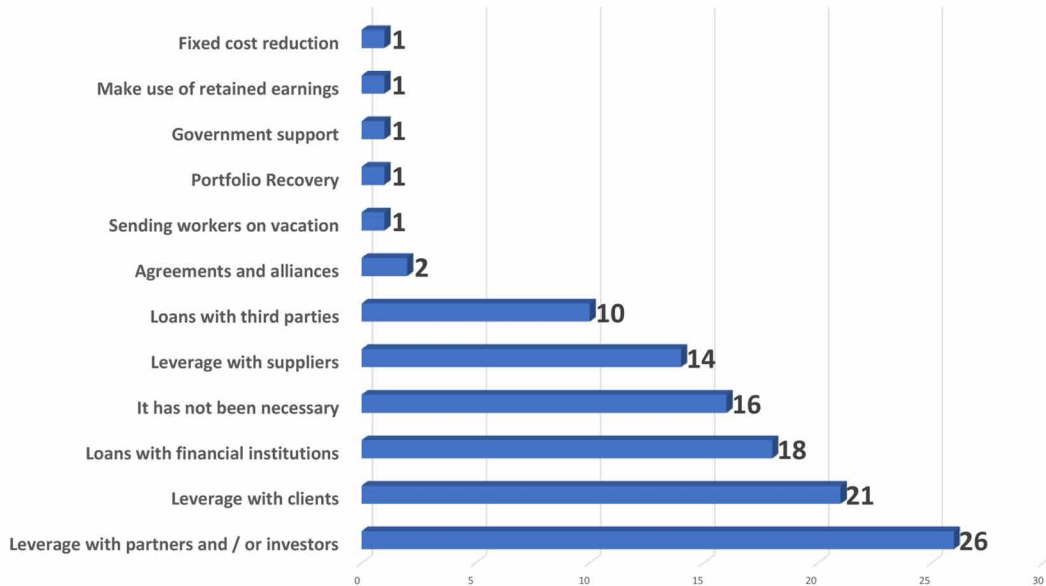


Figure 9. Actions taken to improve cash flow
 Source. Own preparation



Post-COVID-19 Business Strategies to Combat Challenges of Colombian MSMEs

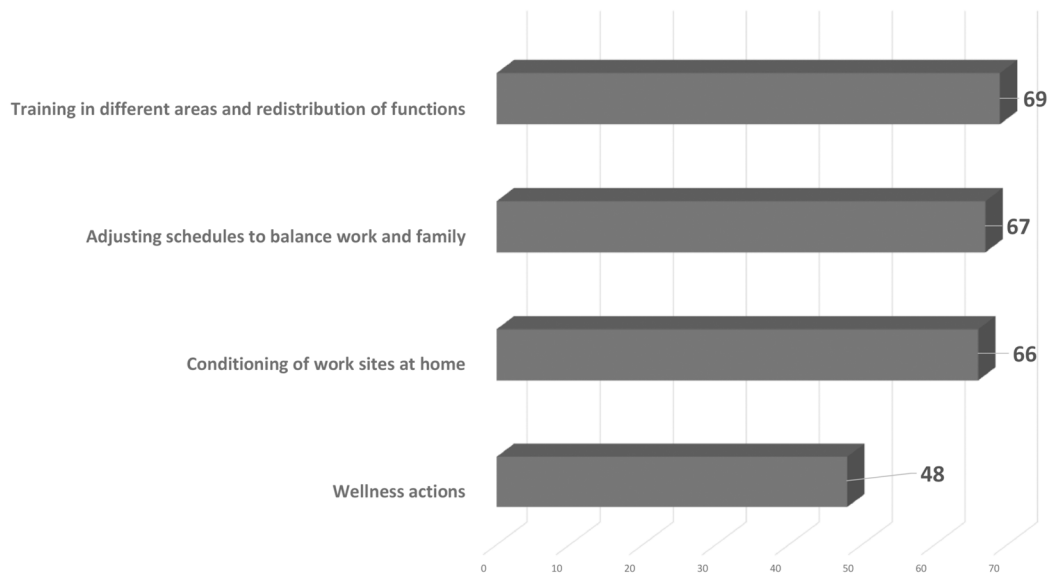
Figure 10. Actions after COVID-19 to increase sales

Source. Own preparation



Figure 11. Actions after COVID-19 to be taken along with workers

Source. Own preparation



- 2) To incorporate new technology, especially for online handling, if there is cash flow or access to financing. This strategy will be more difficult for those companies that are further from the urban area, since the issue of Wi-Fi is complicated, especially that there are areas where the signal does not reach even with satellite internet. It is not the case of the companies analyzed that, although they are in a rural area (Cundinamarca), are close to the urban area and do have access to fiber optics and antenna repeater signal. Those companies that quickly innovate, that have bold movements and that rapidly relocate resources are the ones that will win; therefore, to increase and to optimize processes by boosting technological transformation is vital for any type of organization. Preserving traditional working forms will hinder the recovery and survival of companies; the organizations that direct their services and offer their products using digital platforms will reach more people and, therefore, their business will have greater operation margins (Dinero Journal, 2020).
- 3) To strategically adapt or choose the business route to stay in the market. This can be achieved by improving inventory turns and competing with prices by increasing sales or improving the quality of goods and services. This strategic activity applies to both urban and rural companies.
- 4) To take advantage of the possible opportunities that rise in times of crisis. Maybe, by decision of the governments regarding public administration, there may be some liberalization that favor companies with respect to tariff regulations, exchange rules, etc. and that make imports or exports easier (Huilcapi-Masocoon *et al.*, 2020).
- 5) Organizations must redesign their operation models to quickly respond to new circumstances. For this reason, aspects such as speed, information and collaboration gain great value because they will guide their performance in the future (McKinsey, 2020),
- 6) Work at home can no longer be an impairment and for this reason, great talents are leaving those companies that do not have a good organizational culture and that do not respond to the changes generated by the pandemic. Therefore, in times of COVID-19 the human resource is decisive and motivation to collaborators is relevant. It is essential that directors watch over their collaborators and, if possible, provide them with the tools they need to carry out their work. Sending messages that help keeping people encouraged are simple activities that any organization can carry out (McKinsey, 2020; Dinero Journal, 2020).
- 7) To release the brake with actions such as: 1) Rewire ways or working: to take decisions at a higher speed and reduce by 50% meetings and reports. To define a new work model, giving priority to the remote work, and 2) Reimagine structure: To launch agile interdisciplinary teams (Mckinsey, 2020).
- 8) Expense control since the cash flow of the company after the pandemic may define in great part the course of its actions. Being efficient in collection and invoicing Will help the company to strengthen its production capacity (Dinero Journal, 2020).
- 9) The following activities could be carried out to increase sales: Creation of new products and services that can be sold online, restructuring of the commercial strategy, offer of products and services through networks, investment in ICTs and in image improvement through networks, continue teleworking for workers in those positions that can be carried out at home, remove obsolete and unprofitable products and services from the market, hiring vendors with experience in technology and continue working with the measures decreed by the government.
- 10) Regarding the search for a better life quality for workers, it is suggested to work on: Training in different areas and redistribution of functions, adjusting schedules to balance work and family,

conditioning of work sites at home, wellness actions, help employees to develop and practice new abilities related to technology handling, including everything related to the Internet.

- 11) Management in the organizations must work with a systematic, strategic, data-based approach so the labor force at all levels advance in the evolution of its operational model, adopting agile and flexible working methods and improving attraction and retention of the human talent.

FUTURE RESEARCH DIRECTIONS

It is a reality that the pandemic will not disappear overnight and until there is a vaccine solid enough to counteract it, managers and workers of all organizations must continue operating, implementing all safety measures and being very careful to safeguard health.

In this sense, it is suggested to continue investigating on the best managerial practices of the cases of success of companies that have survived managing the crisis, and to extend the research, using the same instrument of survey to MSMEs by economic sector, to distinguish the actions after COVID by each of them.

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KEY TERMS AND DEFINITIONS

After COVID-19: COVID-19 is posing an unprecedented situation worldwide. The consequences of this situation have been serious at a social and economic level in all countries and it will be necessary to take measures to counteract the tremendous effects of this pandemic and of future crisis of similar origin. The after Covid-19 era forces to present initiatives regarding the behavior of human beings and organizations after the COVID-19 crisis.

COVID-19: Coronavirus refers to a wide family of virus that harms both human beings and animals. In the case of humans, it directly affects the respiratory system, causing different types of flues. It may cause more serious diseases such as MERS (Middle East Respiratory Syndrome). It has been declared a worldwide pandemic by the World Health Organization (Martinez, Torres, and Orozco, 2020, p. 2).

MSMEs: Micro, small, and medium companies. The classification of these companies varies from country to country. For the purposes of this article, the basis was the number of workers: Up to 9 -micro companies-; between 10 and 15, small companies; between 51 and 200, medium size companies and over 200, big companies.

Chapter 15

Role of Digitalization Post–Pandemic for Development of SMEs

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ABSTRACT

SMEs are the backbone of India's economy; due to the serious effect of the pandemic COVID-19, almost all the sectors are in a serious threat. This also reflects the SME sector more than any of the sectors. In this chapter, the researcher will analyze the problems faced by SMEs due to the pandemic. For the purpose of analysis, the researcher uses various statistical tools. Most of the data are collected from secondary sources and some of the data are collected using primary sources by issuing questionnaires through social media. SMEs are key players in the global landscape, especially in emerging economies. According to the World Bank, SMEs account for 90% of businesses and more than 50% of jobs. SMEs around the world focus on services, which are characterized by low access costs and low resource requirements. However, there is also a large diversity of SMEs due to different market conditions. According to the country's Ministry of Economy, SMEs represent more than 98% of the total number of companies operating in the country.

INTRODUCTION

SMEs are key players in the global landscape, especially in emerging economies. According to the World Bank, SMEs account for 90 percent of businesses and more than 50 percent of jobs. SMEs around the world focus on services, which are characterized by low access costs and low resource requirements. However, there is also a large diversity of SMEs due to different market conditions. According to the country's Ministry of Economy, SMEs represent more than 98 per cent of the total number of companies

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operating in the country, contributing towards 52 per cent of the non-oil GDP. As an impact of Covid 19 the economic growth curve moved to an L shape Curve and all the economist are trying to pull it back to a V shaped optimistic curve. We believe that regardless of the shape of the scenario, we will be experiencing a “new normal” where not only economic but also social behaviours will drastically change. This will comprise a change in social dynamics (i.e. social distancing, restricted public events/entertainment), values (i.e. support to local businesses, value added to consumers/users, impact on well-being), consumer behaviour (i.e. different expenditure priorities, less disposable income, online over brick and mortar), international travel decline (i.e. quarantine while traveling inside/outside countries). While the new coronavirus has devastated the organized world, it has also created an opportunity for the new tides of transformation to emerge. This gloomy situation in which businesses and institutions have suffered significant losses due to the global pandemic also holds the potential to bring about a profound paradigm shift in the way businesses are imagined and defined, namely the shift from offline to the online digital medium. While most organizations in the world sanction their employees to work from the safety of their homes, there is still much ground to cover. There is an overwhelming range of businesses belonging to sectors that have so far been operated off-line in a conventional way. Types of industries such as manufacturing, retail operations, hospitality, among others mobility, have always been along the physical contour of the industry. While the large multinational enterprises have the advantage of large capital and resources at their disposal, small and medium enterprises (SMEs) benefit from their agile and more compact nature of work. Therefore, there are opportunities for both David and Goliath in this new world order to streamline their operational mediums to achieve seamless objectivity. The collapse taught the entire business world a lesson in surviving the strongest tactics and how to exploit the best seemingly unfavorable conditions. The government of India has introduced a plethora of bail packages, amended fiscal policies, rate cuts, loans and waivers to save the sick industries in the country. It also unequivocally underscores the need for the nation to become self-sufficient, underscoring, in addition to a slew of slogans such as the ‘vocals for local’, financial support and an execution of 20,000 INR security. The center also endorses the immediate need for enterprises, academic institutions and public sector units to switch immediately and effectively to online methods to maintain market relevance. Small businesses are a major part of the economic downturn associated with COVID-19. Here are three ways to make sure SMEs bounce off once the lock is removed. The COVID-19 pandemic worries global societies and economies. Governments, businessmen, and citizens, with more than two million lawsuits in 210 countries, are still facing the effects of the biggest global crisis of the century. As governments continued to take blocking measures to limit the spread of the virus, economic damage became more difficult to manage or predict. According to the World Economic Forum, the pandemic could push the world economy to a 12% contraction from January to March 2020. For SMEs, the sudden cessation of economic activity is devastating. Liquidity and cash flow are common problems in a sector where cash reserves are scarce and money can dry up in a matter of weeks.

The government has joined forces with the private sector to provide support to SMEs. South Africa’s richest families have made billions to provide financial assistance to business owners. The government launched the SMME portal to connect employers with local market opportunities, and aid funds were introduced for a number of areas. Banks and other institutions are still doing their best to support households and businesses. However, these measures will reduce the pressure on SMEs in the short term, but are a temporary support measure that does little to create long-term sustainability. The crisis has been for years rethinking a business and operating model that will change South Africa’s small business sector. It is tempting to just wait to get back to work as usual, but all indications are that the current breach

will continue for months. Some aspects, especially social distance and remote work, are likely to remain with us for years. SMEs must urgently prioritize key digital transformation targets to ensure that they can make a strong comeback once economic activity resumes. Here are the key factors that every SME and MSME must go through before resuming their operations once the downturn has been lifted.

OBJECTIVES

- To find the steps to bring back the prosperity of SMEs
- To find how SMEs stabilize the economy
- To find how the digitalization can reengineer the SME sector
- To find the role of digitalization to ease the trading and other core functions of SMEs

PRESENT SCENARIO OF MSME

In the aftermath of the Covid-19 epidemic and two months of stringent lockdown, India now faces the crises of unemployment and business closure, particularly in the micro, small and medium enterprise, or MSME, sector. A new report by the Council on Energy, Environment and Water and the National Institute of Public Finance and Policy has proposed that MSME recovery can be speeded along by:

- Identifying micro, small and medium enterprises and their workers
- Developing a vulnerability assessment framework of MSME sectors
- Increasing the capacity of the Samadhaan system to expeditiously clear government dues
- Improving the creditworthiness of small businesses.

Among other issues about economic recovery, the report has noted that the reshaping of the economy needs “a new social contract between the state, the citizen and the enterprise” which, it says, rests on “two pillars: commitment to jobs, growth, and sustainability; and a razor-sharp focus on tail-end risks”.

Even though MSMEs have started to think through potential solutions to the many and diverse start up challenges, forward planning still appeared to be in its early stages. Many trust that their problem-solving skills will help them succeed to address the issues one at a time on the go, whereas others put emphasis on their systematic problem-solving capabilities. Now a days these sectors has started strengthen their ongoing communication solutions through their workforce, setting up of buddy system engagement with industrial training institutes (ITI) and they also started hiring temporary workers on walk in basis The most immediate concern currently on the minds of MSMEs are cash flow and working capital. Most are concerned that survival is only possible with a substantive financial and/or fiscal support package from government specific to MSME segment. Some MSMEs believe just a financial stimulus will be enough, yet others are recognizing that COVID19 is a wake-up call to change and improve different aspects of MSME operations as well as the MSME ecosystem

LITERATURE REVIEW

1. Katz (2017) has conducted a study on social and economic impact of digital transformation on the economy. The major objectives of the study was to find out how the digital transformation will affect the social and economic growth. In this study researcher used percentage analysis, year wise comparison, polygon diagram mean analysis and wave analysis for the study. Researcher figured out that implementation of digitalization will reduces training cost, transaction cost and thus overall cost of the firm. It also helps the Human Resource managers in selecting the employees with the use of software and other technological tools. He point out that it will reduce the entire processing time of the Human Resource department and it helps the department to invest their excess time in some other activities for the benefit of organization.
2. Shazia (2015) has conducted a study on digitalization and it's impact on economy. In this study the richer tried to find out the impact of digitalization and its economic impact, ecological benefit, societal impact and heritage. The researcher find out that introduction and advancement in information and communication technology has a greater impact on employment and it also create job. It's social impact is that the process of digitalization will lead to mass digitalization of older books and rare materials which helps the society. The researcher concludes that the process of digitalization is an inclusive technique which leads to the preservation and access by which all the assets of institution are transformed into high quality copies.
3. Leonard (2018) conducted a study on advantages and disadvantages of Human Resource Information System (HRIS). In this study the researcher says that Human Resource Information System helps the employees to store and track all HR related documents. Through this managers can evaluate all files early. But it also have some disadvantages like access of information by hackers and it will affect the privacy of the employees and as well as company. Even though it will help employees to access the benefits such as health benefits and retirement plans easily. The process of digitalization will eliminate clerical work from Human Resource department and they can focus on staffing rather than filing and retrieving forms.
4. **Barann et.al (2019)** conducted a study on supporting digital transformation in Small and Medium size enterprise. According to the researcher digital transformation is the process which helps the company to improve using digital and data driven business model. The study aims to motivate the SME to the path of digital transformation through discussing the advantages and the importance of digital transformation. While company with other sectors SME sector is more flexible, quicker and less constrained. To get started with complex undertaking the SME have to seek support from external consultants. This is a major problem for the increasing the cost. So, if the firm became digitally capable they can reduce the unnecessary cost. The researcher also used the process model of digital transformation in SME. The study concludes that the digitalization will help the SME to reduce the knowledge gap and thus reduce the unnecessary cost.
5. Guardian (2018) in his study game change the digitalization of employs benefit delivery the researcher says that investment in human resource capital management technologies helped to attain 21% growth in venture capital investment in 2012 before the adoption of digital tools in HR venture capital investment was 420 million. But in 2017 it is 1.1 billion demographic shift, along with the increasing dependence on society, digital technology change the consumer expectations. Employee results are based on survey conducted among 1700 employees aged 22 or older, who worked full time for a company for 5 years or more. The margin of error at the 95% and level of confident +-

- 2.3%. from the 1700 samples the researcher found that 80% of cost can be controlled, 77% increase in employee engagement is happen because of the digitalization.
6. Demeijer (2017) surveyed on making digital HRM work- a study in change in perceive consequences of e-HRM in the last decade. The major objective of the study was to study to gain insight into the consequences of digital HRM and to identify the consequences of e-HRM . in the study qualitative research method was used in 21 large Dutch organizations. From the study the researcher found that with the help of digital tools performance and the quality of HRM can be increased. The researcher concludes that it is very important to have a highly skilled e-HR analyst people in the firm.
 7. **Jing (2016)** conducted a study on human resource reform in the digital transformation. The researcher tried to discuss about the necessity, problem and meaning to carry out the digital and standardize human resource. According to the researcher in traditional management models there are problems like decentralized internal system, poor horizontal integration etc. so when digitalization is adopted in an organization information coding can unified and can realize the interconnection and match between data. Digitalization will also help to standardization of lower level business processes. It will also help to proper determination of organizational leadership and personal allocation. The researcher concludes that in the process of HR digitalization and standardization, transformation in order to upgrading the HRM quality, realizing the final goal of HRM digitalization and standardization must follow to upgrade the HR to highest level. For that step by step implementation and constant improvement must needed.

Regardless of the size, nature, or dimension, the biggest concern for each business is to begin an in-depth assessment of the business's existing assets, its overall financial health and safety aspects. As the pandemic has disrupted operations, productions and sales across borders, it is imperative that businesses come to a realistic and holistic overview of the current situation in the face of the ominous pandemic. The business leadership must solve the various deficits, prospective inflows and outflows of capital, latent expenses and liabilities. Obtaining reliable and feasible reports on the different pace of government, apex trading and trading bodies, investors are important before making critical decisions, such as wage cuts, removal of possible future investments, growth and expansion plans, etc.

The reassessment of all business boards is essential for SMEs in the event of such an industrial setback. The post-pandemic landscape will surely be different from the pre-COVID days, and businesses will need to revamp and adjust their planning and strategy for the future accordingly. There is a need for a realistic and well-formed map for the road ahead, while accepting the prospects of the various stakeholders of the enterprise. The leadership must also reschedule the company's objectives in line with the unprecedented developments of coronavirus. The reform of the annual implementation plan can involve a spectrum of different business variables, such as the suspension of funding rounds, the forging of new partnerships or the termination of unfavorable.

Embracing the Digital

The current environment dictates that SMEs as well as the smaller entities immediately switch to the digital avenues of business engagement and create a strong and observable online presence. By optimally utilizing the potential of social media, businesses can even generate sales through interactions with peers and customers via online communication channels. This is the age of digital marketing and entrepreneurs need to take advantage of it now, more than ever. Organizations operating so far via of-

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line modes need to deprive a transitional layout for the coming digital future without compromising employee efficiency or data security.

The fourth industrial revolution is indeed a good timing, a real temptation for businesses around the world. Even SMEs have to take advantage of the latest technological disruptions like the AI, ML, IoT, CRM, cloud and other innovations. Businesses need to adapt to the fourth revolution of smart automation and invest appropriately to achieve a new technology-empowered operational face style and thus thrive in the digital economy. Technically-empowered companies enjoy the lead over conventional competitors who get greater ROI and market performance, even in times of a pandemic. While the necessary investments for this overarching business supplement and skill may seem immeasurable, it is a necessary cost that must be undertaken in view of the future consequences. Businesses must implement optimal risk mitigation strategies in the face of the pandemic and must also seek to acclimatize to future crises.

SUPPORTING SMALL BUSINESSES THROUGH THE COVID-19 CRISIS

The outbreak of the coronavirus (COVID-19) is causing a global health emergency and a global economic slowdown. Trade, investment, growth and employment are all affected and the crisis will have an impact on achieving the UN Sustainable Development Goals. As the only international organization fully committed to supporting the competitiveness of micro, small and medium-sized enterprises (MSMEs), the International Trade Center closely monitors the impact of the pandemic on MSMEs, with a specific focus on small businesses in developing countries. Provide insights and guidance to small businesses looking for ways to deal with the operational stress generated by COVID-19. It will also be a useful resource for enterprise support organizations and policymakers assisting MSMEs in these endeavors.

The world of work is constantly changing, and the outlook for the next decade is a particularly turbulent time - and that was before the coronavirus increased its ante. The growing and more complex demands of customers, the disruption of society and the environment, the need to embrace and maximize new technologies, and the changing demands of a multi-generation workforce are just a few factors that change this. To be successful, invest in becoming highly aware. And make sure you make the same level of investment for each person in your organization. Awareness is your competitive advantage because conscious people are self-assured people. They make better decisions - faster. They understand their work style to become more productive. They conduct relationships in a way that is mutually beneficial and mutually respectful. Their communications are designed for those around them, helping key messages get down better. They know how to influence peers and executives, can develop relationships with higher customer values, and are a voice of positivity within teams. Increased self-awareness can help you develop human skills' skills that will enable you to respond positively to every change you face and be successful as individuals, in teams and as an organization - and thrive. in a digitally connected world.

81% SMEs Confident of Recovery Post Covid, 57% Have no Cash Reserve: Survey

Despite some businesses remaining closed during closure, 81 percent of micro-enterprises surveyed are confident of a Covid-19 recovery post while 57 percent reported having no cash reserves to survive, according to a study. Preliminary results of a six-month study being conducted by GAME (Global Alliance for Mass Entrepreneurship) in collaboration with LEAD at Krea University covering 1,500 micro

enterprises also reveal that 40 percent tried to borrow money to cover expenses. However, only 14 percent of total borrowing was from official borrowing sources. According to the revised criteria, any firm with investments up to 1 Rs crust and turnover below Rs 5 is classified as a “micro” enterprise.

Gearing up for the new Normal: How SMEs can Manage Their Finances Better in the Post-COVID Economy

Small businesses are in a precarious situation today. Yes, the economy is in a bad state now, but it was like that even before the COVID-19 explosion, and small businesses were going through an extended period of low demand. This has worsened since. Assuming the night is darker before dawn, small businesses can hope to restart operations once the dust settles. Let’s look at how a changed approach to finance can help speed things up.

Alleviating the Punishing Interest Burden: The Reserve Bank of India (RBI)

The Reserve Bank of India (RBI) has been criticized in the past for keeping interest rates high, making it difficult for small businesses to compete with conglomerates or foreign competitors enjoying cheap credit in currencies like the dollar. While the RBI has dramatically lowered interest rates over the past two years, banks have barely passed this reduction on to their customers, constrained by their restrictions in the form of high NPAs. The recent RBI directive for banks to link their interest rates to external standards is a step in the right direction. Small businesses will do well to move to the new regime, where the rate cut by the central bank is more quickly reflected in the rates they lend to banks.

Differentiating Between Liquidity and Solvency

While banks expect their borrowers to be solvent over a period of time, cash flow mismatch is something they have ignored for quite some time. Let’s get a hypothetical. Say a small scale manufacturer from Tirupur supplies PPE to government hospitals.

As he enjoys favourable demand (translating into good line), hospitals are making things difficult by delaying payments, thus prolonging the time to realize the proceeds of his sale. In this case, what the small business owner needs is temporary financing to meet his money crisis - cash flow financing - rather than financing to buy assets. The SBI has recently announced the change of the credit rating model for small businesses from asset funds to cash flow based financing. This will be a game changer, leading to easier financing for businesses that do not fit into the traditional working capital models of large corporations that banks are accustomed to financing.

Going Digital to Reduce Concentration Risk

This period of blockage saw that the shops of our neighborhood “kirana” are rapidly renewing to meet public demand - taking orders over the phone, arranging the distribution of local doors, and the like. On the other end of the spectrum, India’s largest company is doing the same with the start of JioMart testing in Mumbai that predicts food orders over WhatsApp. Both are basically reaching a wider customer base, now that digital is trumpeting mortar and brick, even in sectors like education. Businesses can be small in size but large, so that they are not at the mercy of a small number of customers. Digital can be really

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empowering in this regard. A few weeks ago, weavers of Bihar village, with their clothing inventory stuck due to blockage, were able to sell the saree through Twitter promotion!

Green Shoots and Greenfield Industries

The emotional backlash against China in these times could potentially develop into an economic backlash, with countries across the globe wanting to diversify their supply chain and neutralize their dependence on China. In India, for example, discussions continue with foreign companies, encouraging them to see India as an alternative to China. As this effort requires broader, center-level changes to materialize, it paves the way for small entrepreneurs to seize their market share - which is currently dominated by China. In such cases, small businesses can opt for supply chain financing, which helps them get more loans from banks based on the convenience factor provided by MNCs that benefit from their goods / services. Not only does MNC Indian secure funding from the banking system, but its small suppliers (who may not be well known or have enough power to negotiate) also provide free funding, so that the entire supply chain is well equipped for global competition.

Keeping Tabs on Borrowings

Entrepreneurial ventures need to keep their debt loads at manageable levels. Another black swan event like the COVID-19 pandemic is likely to wipe out debt-laden businesses. Small businesses that temporarily compromise growth by keeping debt low are likely to maintain a good growth momentum for a longer period. While banks have a responsibility to ensure that credit funds are put to optimal use, borrowers should also understand that using vague tactics, such as financing long-term assets using working capital borrowing, will only hurt their competitive belt. Permanently damaging the image in the market.

KEY THINGS THAT CAN HELP SMEs

Although the battle with COVID-19 continues, discussions around the economic impact after the pandemic have become ubiquitous. While governments and international economic bodies are already planning strategic measures to slow down with monetary policy, interest rate cuts, loans and waivers, and so on. To combat, the trading and business community across the country is concerned about their business after closing and is in the various planning methods of positivity. The pandemic and the consequent exclusion have particularly affected the SME and MSME sectors, which operate with stricter credit and cash flow restrictions.

While it's only natural to expect a difficult future in the business world after the COVID-19 crash, it's not an impossible difficult situation to cross, as many people believe that when it's going hard, the difficult course go. If it is anything, the closure can help us learn important business lessons that can help us not only survive but also thrive and be well prepared for any other crisis that may come upon us in the future.

1. Financial Assessment and Security

This is the first issue for every business, whether it is small or large. In the case of SMEs and MSMEs, it is important to first evaluate the current financial situation of the business. One can sit down with the CA and the financial team to understand deficits, future inflows of funds, potential expenses and liabilities, and so on, and draw up a new plan of 3/6 months. At the moment, it is important to get reliable and accurate information on government aid packages, financial aid initiatives and support from trading bodies such as CII, etc., and to get a clear picture of investors before planning and executing a financial strategy. Once all this financial risk assessment and support ecosystem is in place, one can execute the plan. This could involve deciding on a possible wage cut, withdrawing investments related to infrastructure or expansion, halting new recruits, and so on. Which then needs to be communicated effectively and implemented.

2. Re-evaluate Business Plan

Based on the financial assessment, risks and revival strategy, it is important to revalue the business plan from the pre-COVID times. Assessing the current situation, one needs to redefine business objectives and plan a more realistic and well-rounded growth plan that can be implemented immediately. At this point, it is of the utmost importance that all stakeholders - senior employees and division heads as well as external investors - be involved and come up with a mutually agreed set of new targets. Depending on the current financial situation of the business, it could be a 3 month or 6 month postponement or an annual growth plan, and it could include postponing funding rounds or accelerating PE funding or even forming new collaborations / business partnerships, which can help achieve the renewed business goals.

3. Create a Strong Digital Ecosystem

If one thing the COVID-19 businesses have learned, it's the power of digital engagement! Even as a SME or MSMSE it helps to be present and active on the digital media, via the website, blogs and social media. Not only does it help to create a positive brand recall, but it also helps to generate business through channels, especially for retail brands that have benefited impressively through online sales. Apart from online sales, a consistent and positive presence on social media can be a boon to engagement with consumers and stakeholders, not only in times of social distance relationships, but also long thereafter. In addition, a digitally activated internal ecosystem must also be in place that can accommodate remote work or work from home scenarios, without compromising employee safety or productivity.

4. Adopt the Fourth Revolution for Business

Aside from being present and accessible on the digital platform, it is also the time to take advantage of the new era of technology innovations and adopt the 4th revolution for your business. While most SMEs and MSMEs consider it an 'out-of-league' investment, it is actually very simple and can be built in in the long run for a higher ROI. Whether it's automation, CRM, ERP, IoT or ML, a well-planned strategy to work towards a technology-enabled, highly productive next-generation enterprise can be worked out with a 2-5 year plan. It is essential to implement COVID on an urgent basis as it will help to achieve an

advantage over completion - which will look at growth targets in the short term, and also help to mitigate the future business crisis effectively.

5. Put a Crisis Management Strategy in Place

With the lessons learned from the recent crisis, it is essential to put in place an effective crisis management plan that will take into account the immediate and long-term impact. Hence, there is a robust digital and technology-enabled ecosystem that creates a financial support and funding reservoir, which must ensure the minimum damage to productivity. While most businesses are prepared for an internal crisis such as fire, theft, etc. Although it is on a preliminary level with insurance policies, one must also have a solid plan for kickback / business revival, taking into account average working days lost, impact on income, liabilities and outstanding etc.

SME INNOVATION: 10 PRIORITIES TO SUPPORT POST-COVID-19

Post-pandemic, public bodies need to restructure SME support systems for long-term growth with well-functioning innovation systems with the right balance between instruments. The economic impact of the coronavirus outbreak was particularly severe for SMEs. In response to this challenge, EU policymakers have increased budgets for direct public support mechanisms and SME subsidies. However, many of these new support tools are poorly designed and poorly implemented, and tend to focus only on short-term liquidity needs. As governments now look ahead to the so-called 'new normal' post-pandemic, the COVID-19 crisis provides a strong opportunity to restructure SME support systems to promote sustainable long-term growth through a well-functioning, right-balance innovation system instruments.

Top of Form

1. Push SMEs to Think Big

Small businesses play an important role in ensuring economic growth, job creation and social integration. While the economic headwind caused by the pandemic, the teams in charge of SMEs will have to be more ambitious to survive and grow. One way to promote this is to explicitly identify ambition as an important criterion for SME support in all EU countries, enabling the most promising enterprises to reach their potential.

2. Talent and Diversity Matters

In today's turbulent times, building resilience through capacity is essential. Policy instruments should focus on capacity building, forging strong teams and access to both EU and non-EU talent. This can be done through (digital) talent matching platform that connects businesses with specific skills in specific countries, such as the 'Talent Boost' program in Finland.

3. Mind the Innovation Gap

Not all SMEs are equalized, and innovation support tools need to recognize this. In regions with less innovative SMEs, the emphasis should be on developing new innovative businesses. Consequently, regional characteristics can become increasingly important criteria for SME segmentation, while keeping in mind that the selection pool for public funding must be large enough to maintain optimal competition.

4. Focus on the Ecosystem

The power of large enterprises to help small and young enterprises to set the scale should not be overlooked. Innovation support organizations need to recognize this ecosystem dimension in their innovation models and create opportunities for knowledge sharing and cross-pollination of ideas.

5. Make it Simple

Many support initiatives are too complex and inaccessible to be useful to SMEs. It must become an urgent priority. Co-creation is one way to achieve this, with support service systems designed and implemented for the customer. Combining different support services under one platform with a simple interface that minimizes the need for data input and maximizes information sharing will result in the adoption of SMEs, which will lead to better outcomes.

6. Bring in Private Sector Funding

The gap between the funding available to SMEs and the funding they can use productively remains a major obstacle to the transition from the start-up phase to the scaling-up phase. As these challenges cannot be tackled by governments alone, new tools and collaborative structures for obtaining concomitant funding from public and private sector actors must be used to increase investment capacity.

7. Keep it Predictable

Security and predictability are key to helping SMEs build, innovate and mitigate risk savings. In times of economic volatility, a stable policy mechanism, ideally not detached from sudden political changes and short-term government needs, will play a crucial role in ensuring SME confidence in the long-term financing environment for innovation investments.

8. Enable a Joined-Up Approach

With resources for SMEs regularly distributed across different support organizations, adequate budgeting must be set aside for staff and collaboration between different agencies. When designing new policies and instruments, this additional budget must be taken into account to avoid bottlenecks in implementation

9. Measure to Manage

Mission-oriented innovation policies can promote disruptive and breakthrough SME innovations to respond to social, environmental and economic challenges such as climate change and resource efficiency, demographic change, clean energy and inclusive societies. To make this happen, new data needs to be collected and new methodologies developed to look at the impact that SMEs are seeking, while innovation support agencies need to develop strategies to monitor progress in this regard.

10. Skill Up the Support Ecosystem

Policymakers often have limited experience of the real world of small businesses, leading to inadequate or inappropriate interventions. This needs to be addressed through face - to - face contact with the enterprise teams managing SMEs to gain a better understanding of their needs, as well as increased training and development within innovation support organizations. Even before COVID-19, the landscape of innovation agencies in the EU needed simplification and restructuring. As policymakers now begin to reflect on the role that public support should play in renewing the economic structure in the wake of the pandemic, we believe that there is an unprecedented opportunity to create a better, stronger system, which will help SMEs will help innovate away from this crisis.

SOME CHALLENGES & TIPS FOR OVERCOMING

Small Businesses are Closing Their Doors & Facing an Uncertain Future

There is no doubt that small businesses are affected by COVID-19. According to a survey conducted by Facebook, 31% of small and medium enterprises have been closed in the last three months.

However, the situation is worse for personal affairs (52% say it is closed), hotels, cafes and restaurants (43%) and for health, care, fitness or other professional services (41%). Among the reasons given by business owners for closure, the majority argued that orders from governments or health authorities had to be obeyed, with a smaller proportion stating that this was due to financial problems (9%) or not. customer demand (7%). But even when businesses remain open, they face significant challenges, including capital and customer access. Therefore, it is very important to support small businesses now. And fortunately there are many ways to do it - buy gift cards, shop online or join virtual classes. According to Cox Business, some of the more popular products to support small businesses in times of social alienation include purchase / delivery orders from local restaurants, increasing the amount they hit, and online shopping with local retailers. Even tech giants like Instagram are leaping into the local buying trend. Since COVID-19 was captured globally, the company has been at the center of the laser to provide tools and features to support small businesses. Food supplies and gift card stickers went viral on Instagram in mid-April, Facebook has a new small business grant program, and more.

Access to Capital

Some of the biggest challenges among open enterprises are access to capital needed to stay afloat, supply lines open, making sure their employees can work remotely, and balancing growing family demands.

According to a Facebook poll, 34% of those who do not, while they expect two-thirds of closed businesses to reopen in the future (including a slightly higher percentage of women than men), say it will be the reason. they cannot pay their bills or rent. Overall, 3 out of 5 companies surveyed (60%) say they are struggling with part of their company's funding. When it came to finances and capital, the biggest concerns were the payment of salaries and wages to employees (29%) and the payment of invoices (28%). For hotels, restaurants and cafes (mostly any business in the hospitality sector), these figures rose to 44% and 54%, respectively. To reduce this financial stress, many businesses turn to institutions for help. According to the report, half of SMEs (small and medium-sized businesses) applied to government sources for capital support 30 days before the survey, 11% for traditional bank loans and 6% for capital grants in the private sector. A number of large technology companies, such as Facebook, Google and more, have begun to provide grants to entrepreneurs struggling with costs during the pandemic. In mid-March, Facebook announced a \$ 100 million grant for small businesses, most of which will be distributed in cash, with some service loans as promotional loans. Google later announced a new \$ 800 + million commitment to support SMEs.

To Adapt to the Ongoing Crisis, SMEs Are Turning to Internet Tools

One of the biggest trends in the COVID-19 pandemic is small businesses operating online. Mark Zuckerberg, during the last Facebook Live address introduced to Facebook Stores, said that a new e-commerce feature will allow small businesses to set up online stores on both Facebook and Instagram.

"We're seeing a lot of businesses that never existed online go online for the first time, and we're seeing small businesses that exist online now turn them into major businesses," he said. Indeed, for many small businesses, the internet remains a lifeline that helps them stay afloat during a pandemic.

According to a Facebook report, 30 days before the survey, 23% of businesses reported using digital ordering tools, 16% using service delivery tools and 37% using digital payment tools. 36% of online businesses that use online tools report that all sales are online. Interestingly, female-led enterprises use more digital tools, especially online advertising (43%) and digital payment means (40%), compared to 37% and 34%, respectively, in male-led enterprises. Of course, digital tools can certainly help, but not all of them are solutions. According to the survey, about half (51%) of businesses report that customers and the majority of interactions between customers or employees need to take place in the same physical location, meaning that these businesses simply cannot be "online." At the same time, we have seen many small businesses find creative ways to succeed in the COVID-19 era, from expanding into new markets to finding new ways to deliver their products and services. At the same time, a number of large technology companies, such as Facebook and Google, are creating new ways for small businesses to connect with customers. Instagram introduced food delivery and gift card labels in mid-April, released a Small Business Support label in May, and recently announced that they were killing new e-commerce tools for small businesses. Again, these new channels can help if you can't pay for all the lost work. For many small businesses during this period, this is the difference between swimming and going under.

Balancing Running a Business & Caring For Their Households

One of the biggest challenges for small business owners is balancing work with home life. According to Facebook, 10% of owners and managers of open businesses said they looked after their family members (children, the elderly, dependent adults, etc.) as their primary concern. About half of those reported (47%)

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set themselves on fire while trying to take care of work and household at the same time. And 29% were worried about bringing COVID-19 home. When asked how household responsibilities affect job orientation, owners and managers reported that this work affected them “more” or “more” than employees (26%) in general (29%). Female owners-managers reported the same 33% as men compared to 25%. In terms of workload, 62% of respondents reported spending 1 to 4 hours on household or household care. A lower percentage of men (21%) and a higher percentage of women (29%) reported that household responsibilities significantly affected their ability to focus on work responsibilities. These results suggest a “close link between personal responsibilities and business operations” and how the demands of home life can affect business owners - especially during a global pandemic. According to a Facebook report, “the needs of businesses are deeply linked to the responsibilities of the people who run them.” In light of the recent breakdown in the division between work and home life, it is important to remember how these stresses affect people’s mental health. Next, we introduced several new initiatives to address the challenges posed by COVID-19. From mental health recharge days to Facemask Friday video calls and virtual happy hours, little effort is made every day to lighten the load.

Employees are Facing Difficult Economic Circumstances

While jobs remain open, workers experience financial cuts from lost jobs or fewer hours worked.

According to a Facebook report, 3% of enterprises said that the number of employees had actually increased, while 44% said that they had to reduce the number of employees or employees in their work due to the pandemic. 22% of enterprises that reduce the hijab leave more than 10 people. It is important to remember that when any job is closed or forced to lay off employees, it affects all communities of people who rely on income from work to support themselves and in turn support other local businesses and organizations.

Remaining Optimistic & Resilient

While Facebook’s report focuses on many of the problems faced by SMEs during the COVID-19 pandemic, there is definitely a silver lining - many businesses are still optimistic about the future!

In fact, the majority of small businesses (57%) say they are optimistic or extremely optimistic about the future of their business despite the COVID-19 crisis!

HOW SMES CAN SUCCEED BY TAKING THEIR BUSINESSES ONLINE IN THE POST-COVID WORLD

The live sector, which employs 40 percent of the country’s workforce and contributes 30 percent of GDP, is one of the biggest victims of the viral epidemic. Companies in this segment face a significant slow-down, mainly in the form of low liquidity and lack of manpower. To ensure sustainability, unfortunately, many players have begun to take survival measures, such as layoffs and pay cuts.

Government Measures

The government has taken a number of much-needed measures to help former SME players continue to operate in this time of crisis. For example, the Long-Term Repo Operations (LTRO) of INR 100,000, implemented by the Reserve Bank of India, allowed banks to increase their lending to SMEs at lower rates. In a similar vein, the current government also issued a 1.70 million pound INR economic package under the Pradhan Mantri Garib Kalyan Yojana. The goal is to help migrant workers and those living below the poverty line by cooking free food and gas for the next three months. The government has extended the income tax return for the 2018-19 fiscal year from March 31, 2020 to June 30, 2020. In addition, the GST has extended the deadline for declarations for March, April and May to June 30, 2020. However, the SME segment requires more concrete initiatives; it can be a digital impetus to recover from the current crisis and always be ready for the future.

Need for a Digital Push

By conducting their business online, SMEs can add efficiency, innovation and accuracy to their existing activities and, as a result, reduce service life turnaround times. However, due to factors such as lack of awareness, skilled workforce, financial assistance and low IT infrastructure, many enterprises in this segment are not able to use the maximum potential of digital solutions. Currently, 68 percent of SMEs in India rely entirely on traditional methods and still operate offline without digital presence. Digital SMEs, on the other hand, are successfully reaching new heights with increasing revenue and profits. By investing in digital experiences - whether it's customer relationship management (CRM), sales on e-commerce platforms, or online payments - small players can increase productivity, add flexibility, and even enter new markets. For example, using CRM tools, companies can simplify tasks and prioritize by deadline. This results in an efficient task division and ensures timely completion, thereby simplifying and enhancing the company's overall way of working. Given the uncertainty in the current scenario, the right adoption of technology and investment in digital tools will help companies better communicate and serve their customers at every step of their operations, without any hassle. For example, they can start by setting up a user-friendly website to mark their online presence. In this way, they can demonstrate their products and services to their customers online, while also ensuring social distance compatibility. Similarly, they should consider a cloud accounting program or SaaS. This software eliminates installation and maintenance issues because it is performed by a service provider. Using this tool, companies can communicate, delegate and monitor key responsibilities while working from home. In addition, the software can allow companies to track and store sensitive information in real time, making it accessible only to authorized persons. Therefore, it can be an excellent solution for SMEs to update accounting and compliance issues without any physical intervention. These solutions will not only help companies cope with the economic storm of COVID-19, but will also help them be more prepared for such outcomes in the future. As more and more players adapt to the new world order and move toward the digital economy, they will learn to take advantage of related ecosystems and add value to business operations. This transition will be a task for many, but those who adapt quickly will certainly shine in the coming days. After all, innovators, regardless of their nature, always lead change.

Building Better Business Continuity

Immediately after the global locking efforts, commentators observed that for many organizations, the pandemic began a digital transformation effort. But, of course, organizations that have already mastered the technology have found it easier to adapt to new realities. When survival is a top priority, SMEs are less likely to invest heavily in new technologies. However, without the right technology, SMEs will find it impossible to adapt to existing changes. The cost of time for new technology applications in this environment - the time between acquiring and applying new technology and the technology that provides the work value - is very important. A solution that eliminates the need for large amounts of capital and can be easily implemented facilitates the introduction of new technologies for SMEs. The cloud removes many barriers to digital transformation by allowing businesses to pay for the services they consume and integrate new services as easily as they need them. Unsure of the power of cloud-based tools, SME owners can now try any solution offered at a discount or free of charge.

Ensuring Remote Teams can Perform Optimally

One of the most obvious changes in business models since the onset of the pandemic is that almost every company relies on remote workers, if not the main service. For some, working remotely has been easier than others. Companies with advanced employee engagement models and the technological tools to support them will be more comfortable transitioning to distant jobs than their less digitally converted peers. Faced with the expected prospect of long-distance work and social distance, SMEs need to urgently look at human capital management tools to manage, motivate and support home-based groups.

SMEs can further use the tools to manage employees' experiences to collect feedback and information from employees on a regular basis, which ensures that team members are engaged and motivated while isolated at home. Because these tools are cloud-based, SMEs can easily identify them to the business on a daily basis and without much impact on day-to-day productivity.

Maintaining Business Integrity

There may not be completely undocumented businesses, but companies that invested in the digitization of paper-based processes before the pandemic have undoubtedly made it easier to maintain integrity without locking. In most companies, signing a financial request and submitting the formal forms required for regulatory compliance requires a handwritten signature on the printed document. SMEs must ensure that they are adaptive and able to have a clear audit trail, crisis or not. Cloud-based e-signature and contract life management tools can help companies securely digitize paper-based approvals and contracts. SMEs should look for tools that are reliable, have reputable certifications such as ISO, and are compliant with GDPR and POPI.

DIGITAL ROUTE IN POST-COVID WORLD

As the country recovers from the traffic jam, industry in the sectors is concerned and the problems are complex and uncertain. Liquidity is a big problem for all companies, big or small, and they all try to protect their cash. "The problem is that there is no clarity on how and when to start or stop a business in

the red zone. Even if it is opened, the supply chain is a problem because many companies in the chain may be in the red zone. It is not known if there is a demand in the market. Social distance and protection of safety norms is a problem and companies should learn to operate a factory for 50-70 people. The reform package should focus more on incentives to restore supply and demand than on sector reforms related to whether or not COVID-19 is injected. "At this time of crisis, a time plan is needed to rehabilitate SMEs and offset large infrastructure costs. Industrial capacity utilization has declined. In this scenario, private companies will be reluctant to spend. Government spending, rapid bid cleaning this is required in times of crisis, currently, six factories have reopened with limited activity, and the other two are reopening. Siemens Limited reported revenue of Rs 2.738 crore for the second quarter of 2020, down 20.9 per cent from the corresponding quarter of the previous year. Profit after tax (PAT) was Rs 172 million, down 38.6 per cent. The company's order reserves are already 12.547 million rupees. Capex spending fell sharply in the current quarter. Since February, there has been a gradual slowdown in customers and supply chains. With the announcement of the closure, all Siemens factories, project sites and offices were closed from the last week of March, resulting in a quarterly decline in revenue.

FOUR FACTORS SMES SHOULD PLAN FOR BUSINESS POST COVID19

A severe pandemic, COVID 19 has hit the world and damaged human life and work in the world. At present, all the nations of the world are trying to fight this catastrophe in their own way. Most nations are currently "locked in" and businesses are virtually at a standstill. None of the existing generations has seen this plague, and therefore suffers to endure this new plague. But there is always light at the end of the tunnel, maybe a long tunnel ! Therefore, the whole world hopes to get out of this trouble.

Related to Business

First of all, consider the purpose and goal of your work, the purpose of the work. Review the Work Plan again. Don't be emotional. Examine objectively. Use this as an opportunity to show a customer segment, business model, technology, or even the product or service you offer

Related to Government

See possible assistance / benefits provided by the government / RBI. The government and the RBI have offered several concessions, especially for SMEs / SMEs. Of course, they can help the business, at least in the short term. This can facilitate cash flow, which can be a great relief in the short term. At the same time, strictly follow all government directives and instructions. Make sure our company does not break any rules. This is very important.

Related to Operations

Review all HR Policies. Start looking for innovation for the continuity of operations. This is our first goal. Involve each interested party. Continue Sales / Branding / Marketing as much as possible. Use digital technology as much as possible. Consider mass production. This means that markets where customers

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and suppliers are close can be the best and fastest starting point. Of course, one of the problems is to find logistics providers. Digital logistics can certainly be considered at this point.

Related to People

This is one of the most important elements. Always remember that this resource is your greatest strength. Communication is key here. Start communicating at all levels in the organization. Fortunately, the means of communication are not a problem in today's digital world. Lower levels of telephone conversations, WhatsApp, SMS, etc. in the organization. Consider how much and how long a pay cut is possible for high-level workers, but where wages continue to be paid to people at lower levels where wages are higher. Reducing salaries is a better option than quitting. However, this should be done carefully so as not to lose the level of motivation. Start training / retraining employees and be very skilled, as you will have to look at the legalization of the organization in a timely manner with various developments such as multi-skills, low-cost automation and improved processes. Certain painful decisions may need to be made, such as little / no growth for the next year or two. Use Start / Stop / Stop / Continue as a model to make the decisions identified above here. Overall, this is a testing time for all of us in the business, and COVID 19 has put us in a position to redefine / restructure business strategies. Consider risks we never thought of before using Risk Management tools such as FMEA. Then we will have to adapt to this new world after COVID 19, and only then will we be able to survive at work, because "The Survival Of The Fittest"

FUTURE AREAS FOR RESEARCH

- Digital marketing
- Digitization of bank
- Small scale digital marketing

SOLUTIONS AND RECOMMENDATIONS

- Drawing up of a flexible policy
- Mitigating the worries of livelihood of the laboures
- Resumption of logistic support
- Mitigating fund constraints
- Preferential purchase from Government and PSU and innovative platform for marketing
- Concept of single window system
- Spread of digital awareness
- Relief from burden of compliance and ease of doing business
- Social security for MSME employees

CONCLUSION

Small-business are bracing for the worst economic scenario due to the COVID-19 effect. Following are some remedial measures that can be used by the SMEs to overcome their financial imbalances due to this pandemic. Secure liquidity of the company ; Access to cash is one of the main problems for small businesses. Managing any company is a risky business, but small businesses are especially vulnerable. According to the Small Business Administration, only half of small businesses live more than five years. Additional costs, such as rent, wages, and expenses, put very little money into company owners. To combat this short-term problem, small business owners need to make an effort to provide immediate liquidity and keep companies solvent.

Ensure the value of the capital; For franchising companies, liquidity is only part of the equation. The value of goods sold in the service industry is primarily the wages paid to employees. Debt burdens from Small Business Association loans are popular for small companies and can create additional stress for business owners. Dismissals are a major problem with declining demand and the reality of paid leave. This is only possible when businesses receive outside support or do capital-saving partners. Large industries and many U.S. governments have come to support small organizations.

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Chapter 16

SMEs and Business Sustainability: Achieving Sustainable Business Growth in the New Normal

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ABSTRACT

The COVID-19 pandemic is an unprecedented global crisis affecting the worldwide socio-economy. Many SMEs have ceased operations due to various obstacles during the pandemic period. The chapter identifies challenges faced by SMEs, specifically in Malaysia. The chapter also proposes that having a sustainable business solution protects SMEs from experiencing a crisis by diluting the impact of the pandemic and the critical challenges related to the financial impact, supply chain disruption, changing customer behavior, and evolving business environment. Post-lockdown, SMEs must revisit, realign, and implement practical operating procedures to stay relevant. Moving forward, SMEs depend on reliable and proactive leadership in revamping some of their business strategies – strengthening financial position, supply chain management, digital transformation, and organizational agility. SMEs must be vigilant and operate within the sustainable business framework involving the environmental, social, and governance (ESG). Consequently, this will fulfill the United Nations' sustainable development goals.

INTRODUCTION

The occurrence of the Covid-19 pandemic that is unprecedented has caused significant damages not only to human health but also to the global economies and businesses that operate in various industries. SMEs are not spared from the impact. SMEs, particularly those involved in the tourism and travel-related sector, retailing of non-essential goods and services, are significantly affected by this pandemic. Many

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SMEs that often operate with minimal capital and limited resources were forced to close down their businesses. The remaining ones are left to handle numerous challenges during the lockdown period. When lockdown measure is gradually lifted, SMEs face new problems when they restart their business operations. SMEs are in desperate need of handling the unique obstacles and issues to stay relevant in business. The reopening of business is one challenge; getting the enterprise to be sustainable with business growth in the long term would be another significant hurdle that SMEs need to strive for.

This chapter aims to systematically review the impact caused by the Covid-19 pandemic together with the critical challenges faced by the SMEs, with a specific focus on SMEs operating in Malaysia. A thorough understanding of the problems is crucial in identifying any shortcomings, hence determining practical solutions in assisting the SMEs to tackle the issues in a structured and more effective way. Some of the challenges are not new but were intensified by the pandemic. The impact of these challenges is more intense that SMEs are left with little choice but to address them tactfully in ensuring continuity of business operations. The SMEs can only be successful when they work on the right solutions. As such, this chapter would illustrate the practical solutions for SMEs to digest and implement for the revival of business. This chapter would also discuss new strategies that SMEs need to adapt and adopt in attaining business sustainability in the long term. The entire chain of command in guiding the SMEs to normalise their businesses after lockdown measures and emerge stronger from this pandemic is no easy task, but it is not impossible to achieve. SMEs must not be complacent by the revival of business in the short term. They must strive to remain agile and rebuild their business resilience to outlive the pandemic for sustainable business growth in the future.

Besides, SMEs must embrace the environmental, social, and governance (ESG) principles when executing new business strategies in the new normal in their pursuit of achieving sustainable business growth. The adoption of ESG in business operations, when carried out effectively, would lead to the fulfilment of SDG 8 and 9, set out by the United Nations.

BACKGROUND

The World Health Organisation (WHO) had on 11th March 2020, declared the novel coronavirus or Covid-19 outbreak a global pandemic. Since the detection of the first pneumonia case caused by Covid-19 at the end of 2019, this disease has spread widely to 220 countries, with a total number of 87,672,854 cases. The incidences include 1,892,072 deaths and 63,157,432 recoveries (worldometers.info/coronavirus/ as of 7th January 2021). The number of Covid-19 infections worldwide continues to rise and has brought a serious impact on socio-economic globally. The World Bank, in its June 2020 Global Economic Prospects forecasting the global economy to shrink by 5.2% in 2020 due to the Covid-19 pandemic. Malaysia recorded its first Covid-19 case on 11th March 2020. The number of new confirmed cases dropped to a single digit in July and August but spiked to over 100 in September and over 1,000 in October 2020. The number of active cases, which rose at a faster pace, has gone up to 128,465, with 521 deaths and 102,723 recoveries (<http://covid-19.moh.gov.my/> as of 7th January 2021).

Countries with heavy reliance on global trade, tourism, commodity exports, and external financing will be impacted most severely (Global Economic Prospect, 2020). Fernandes (2020) reaffirmed that the impact would be worse for the hospitality-related sector. The global travel industry – from airlines to cruise companies, from casinos to hotels - is facing a reduction of activities of over 90%. As of 30th July 2020, 115 destinations accounted for 53% of all destinations worldwide, continue to ban travel for

international tourism to contain the spread of Covid-19 (UNWTO, 2020). The World Tourism Organization predicts that international tourist arrival could decline between 20% to 30% in 2020 from 2019, translating to a decline in international tourism receipts of between US\$300-450 billion. This figure is just about one-third of the US\$1.5 trillion generated in 2019 ([unwto.org/news/international-tourism-arrivals-could-fall-in-2020](https://www.unwto.org/news/international-tourism-arrivals-could-fall-in-2020)). Separately, the International Labour Organisation (ILO, 2020) estimates the impact of the COVID-19 outbreak to result in a rise in global unemployment of between 5.3 million and 24.7 million, resulting in a massive impact on the business operations of the SMEs. Many countries recorded historical high unemployment rates during this period. Organisation for Economic Co-operation and Development (OECD, 2020) has also highlighted the effect on the transmission channels of SMEs, involving both the supply and demand sides. Business transactions were halted due to the disruption of supply chains. Transport restrictions that apply to land, sea, and air, significantly dampened the situation globally. The report added that SMEs are severely impacted because of the high vulnerability and lower resilience related to their size. This outcome is not surprising due to the smallish size of SMEs with limited resources and their operational vulnerability against an adverse business environment.

SMEs faced enormous challenges when the government implemented lockdown measures in containing the spread of Covid-19 infections. This measure has forced most businesses to stop operating, except those providing essential goods and services to the consumers. When staff and maintenance cost continue to recur with business revenue significantly impacted during this period, many SMEs have since closed down their businesses. Based on the Covid-19 Business Impact Survey conducted by the International Trade Centre, two-thirds of micro and small enterprises reported that the crisis has strongly affected their business operations, compared with about 40% of the large companies. One-fifth of the SMEs risked shutting down permanently within three months. Only 10% of the large companies could be closed down within three months. This finding reaffirms the vulnerability of SMEs due to its smallish set-up with limited capital and financial resources (SME Competitiveness Outlook, 2020).

Malaysia's economy is expected to contract between 3.5% and 5.5% in 2020, after a severe contraction of 17.1% in the second quarter ended June 2020, the worst quarterly contraction since the fourth quarter of 1998 during the Asian Financial Crisis (-11.2%). The economy, however, is expected to rebound in the growth range of 5.5% to 8.0% in 2021. The unemployment rate was recorded at a high of 5.3% in May 2020, with 826,100 unemployed persons. The unemployment situation improved to 4.7% in July 2020, with unemployed persons reduced to 745,100 ("Economy to contract", 2020). In light of the deteriorating economic condition, SMEs in Malaysia have been hit hard by the outbreak of Covid-19. Being vulnerable with limited cash reserves, many SMEs in Malaysia have pulled down their shuttles. If the market remained slow due to recurring of Covid-19 cases, many Malaysian SMEs are expected to face the consequences of diminishing sales and recurring operating costs. They require various needs - not just financial support, but also coaching and technical support to overcome the near term challenges and further sustain their business. What could the SMEs do in reviving their business when this pandemic ends in the future? What are the available and practical options for SMEs to consider and act upon in normalising their business growth in the new normal? What else do they need to also work on in achieving business sustainability in the long run? These are the questions that SMEs need to seriously think through attaining sustainable business growth in the future.

The Covid-19 has, on the bright side, forced many businesses, including SMEs, to reassess and rethink their business strategies in charging ahead. This pandemic has also accelerated the implementation of specific vital initiatives like digital transformation. Leveraging on the right and strong leadership, SMEs can implement various enhanced and new business strategies to emerge faster and stronger from this

pandemic. The changing business environment and pressure to outlive the pandemic, however, may have caused some SMEs to abandon certain ESG practices during this period. SMEs, however, must embed ESG in their business strategies and operations to stay relevant and continue their pursuit of sustainable business growth in the long run.

Figure 1 illustrates the integrated relationship between the resolutions of challenges faced by SMEs, leading to sustainable business growth that is guided by the ESG principles. The highlighted components reflect the core variables that influence the business outcomes to remain relevant and sustainable in the new normal.

Figure 1. An Overview of Sustainable Business Framework that Covers the Environmental, Social, and Governance (ESG) Principles



METHODOLOGY

This chapter draws upon the literature on sustainability of SMEs with further deliberation on the significance of business sustainability in the context of the Covid-19 pandemic, highlighting their implications for the public interest. The chapter is solidly based on accumulated evidence and arguments by critically

assessing the impact caused by the Covid-19 pandemic together with the critical challenges faced by the SMEs, with a specific focus on SMEs operating in Malaysia.

KEY CHALLENGES

Like any other businesses, SMEs face various challenges in different areas during the Covid-19 pandemic. Many SMEs have since ceased their business operations, with many hanging on tightly attempting to revive their businesses when lockdown measure is lifted. Some of the challenges are not new but aggravated due to the added impact of the pandemic. Hu (2017) emphasised four critical and common problems faced by the SMEs, namely gaining access to financing, expanding the market, attracting and retaining talents; and embracing technology. With the prevailing Covid-19 pandemic, these challenges are intensified, making SMEs suffer even more in managing their businesses. Most SMEs suffered a financial impact, resulting in severe problems in the state of business operations. The breakage of supply chains brings additional issues to the supply and demand of products and services. The changing consumer behaviour has deepened the threat to SMEs. On top of this, the SMEs need to face unprecedented consequences in conducting their business in the new normal. OECD highlighted supply chain disruption and liquidity gap as the critical issues faced by SMEs during the Covid-19 pandemic (OECD, 2020). The Department of Statistics Malaysia (2020) reveals the top five issues faced by the Malaysian SMEs during the Covid-19 pandemic as employee pay-out (76.6%), lack of customers (65.5%), business premise rental payment (61.4%), bank loan payment (37.5%) and lack of working capital/cash flow (35.6%). These issues form the basis of the core challenges faced by SMEs as compiled below:

• Financial Impact

The lockdown measures to contain the spread of Covid-19 infections almost brought the economy to a standstill. Unlike the economic crisis in the past where business transactions declined sharply, the lockdown this time eliminated business transactions for most businesses. The impact on most companies, including SMEs, has been significant. Only SMEs involved in essential goods and services managed to capture some sales during the lockdown period. This situation resulted in serious financial difficulties for SMEs.

Cash flow was severely impacted due to the suspension of business revenue. Despite the slowdown in business, the main operating costs like staff cost, rental of business premises, and other maintenance expenses continue to recur. Besides, the collection of sale proceeds was delayed as this pandemic also impacted most other businesses. This event added more significant stress to the cash flow position. If this crisis is not contained soon, many SMEs are expected to close down their business operations. Many SMEs have already undertaken various cost-cutting exercises to minimise their operating costs in bridging over this challenging period.

A survey among business enterprises in Malaysia revealed a significant drop in CEO Confidence Index to 26.9 in the early 2nd Quarter of 2020, by far the lowest level since the inception of this survey in 2003. The index was 88.4 in the 1st Quarter of 2020. Most of the respondents were concerned about their cash flow, with only 24% maintained cash flow sustainability of more than six months. 36% estimated their cash flow to last for 4-6 months, with another 34% less than three months. These responses reflect the severity of businesses. Many of them are on the brink of bankruptcies if the Covid-19 pandemic is

prolonged beyond six months (CEO Confidence Index, 2020). A similar situation prevailed in most other countries where many SMEs are at risk of business closure due to the pandemic.

SMEs that are in debt with banks for financing of assets and working capital will be facing added pressure on interest servicing and loan repayments. With a significant drop in business revenue and limited capital reserves, most SMEs will likely default in their financing with banks during this period. In Malaysia, as part of the economic stimulus packages, the government has demanded the banks to grant an automatic moratorium on loan repayments for six months from March 2020 to September 2020. Upon maturity of this moratorium period, enterprises facing cash flow problems can seek a further extension on a moratorium of loan repayment from banks for another three months. This proactive measure by the government and banks has allowed businesses a breather to reshape their financial position during a difficult period. Many SMEs use the “savings” from loan repayments during the moratorium period into areas that can save the business from collapsing. With minimum revenue, SMEs could not even cover their company operating costs. Many have to fork out internal cash in keeping the business afloat. SMEs that could not service their financial obligations after the loan and interest moratorium may have to close down their businesses.

Despite financial assistance offered by governments to SMEs, many SMEs failed to capitalise on the schemes. They find it challenging to secure financing from the banks during this time. SMEs should understand and leverage on various economic stimulus packages launched by the governments in strengthening their financial position. There are other financial reliefs in different forms that SMEs can consider and work on. With a proper application of funds, this could drive SMEs to normalise and eventually grow their business post-Covid-19 pandemic.

• Supply Chain Disruption

With many countries in lockdown mode during the Covid-19 pandemic, the global supply chain is severely disrupted. China, the European Union (EU), and the United States are the most significant trading hubs that collectively responsible for 63% of world supply chain imports and 64% of supply chain exports. The International Trade Centre (ITC) estimates that the global disruption of manufacturing inputs will amount to US\$126 billion. Factory shutdowns in the EU will have the most significant repercussions for the supply chain exports of other countries. The EU is highly integrated into global supply chains and is the top importer of industrial inputs and the largest market for both Africa and Asia. Separately, China is the leading supply chain exporter globally (SME Competitiveness Outlook, 2020).

Broadly, the supply chain covers a wide range of transactions – ranging from the supply of raw materials or traded products to demand products and services. During the lockdown period, many manufacturing companies operated at partial capacity. Impaired labour mobility due to lockdown and transport restrictions between different states created a massive disruption to the supply chain. When shipping lines started to breakdown, the supply chain across borders is significantly affected. Without mobility in moving goods, businesses do not have sufficient products to sell. And for the manufacturers, the shortage of materials would affect the overall production of goods. This situation leads to a loss of business opportunities. When this cycle continues, the entire country and global economies are impacted.

On the demand side, it was affected by a significant decline in consumer spending during the pandemic. Many people lost their jobs or impacted by cost-cutting measures undertaken by businesses, resulting to lower take-home pay. Also, mobility restriction among the consumers and drop in income due to actions taken by various companies in addressing cost issues forced many customers to cut down spending on

non-essential items. Some goods which are non-essential like clothing, decorative items, sporting attires, among others, are hardly sought after by the consumers. Some retailers, however, registered higher business transactions through online platforms. When people are forced to stay at home with little things to do, they resort to online shopping to buy products and kill time. Even so, online shopping in Malaysia was also affected to a certain extent due to the disruption of the supply chain (Hasanat et al., 2020). The Malaysian market is dependable on imported products, particularly from China; hence the transportation restrictions during the lockdown measures have impacted most SMEs in Malaysia.

Investment growth that forms part of the supply chain is also affected during the Covid-19 pandemic. With the economic slowdown and restriction on various business activities, investment growth has become weaker. This event indirectly affected the long-term growth opportunities for the SMEs. Based on research, the impact on average real GDP downturn due to the Covid-19 crisis is expected to be 31.5%, of which 10.7% is due to transmission through global supply chains (Bonadio, Huo, Levchenko, & Nitya, 2020). This significant percentage reflects how critical is supply chain disruption on the global economy.

The shrinking of the market due to the lockdown of business, leading to downsizing and reduction of workforce added pain to the SMEs. The disruption of supply chains due to breakdown in logistics and shutting down of production activities caused additional challenges on sourcing of goods for business operation. Despite the importance of the digital platform in driving business revenue during the Covid-19 pandemic, many SMEs failed to initiate digital transformation due to a lack of expertise and funds. Businesses that depend solely on the conventional approach in reaching out to the customers would be in a disadvantaged position. Companies that embarked on e-commerce and delivered goods to customers stand an advantage in garnering business under the new normal.

• Changing Consumer Behaviour

The highly infectious nature of Covid-19 has indirectly changed the daily life of people in general. Physical distancing, restriction of movement, the lockdown of businesses, and concern of Covid-19 infection forced people to behave differently during the pandemic period. People have become more cautious about their wellness and health. This situation has led to changing behaviours among the consumers as well. Many consumers, particularly the elderly group who are more vulnerable to Covid-19 infection, prefer to stay at home to be safe. Many others choose to remain safe at home in minimising the risk of contracting Covid-19 disease. They opt for delivery services for food, daily consumables, and other stuff. Many of those were using the online channels for transactions for the first time. They have never carried out any purchases from the online platform before the Covid-19 pandemic. This activity represents a new group of online customers. Many have become accustomed to this channel that they continue to order products from the online platform, even after movement control. This changing consumer behaviour in Malaysia is evidenced by the significant surge of online retail sales by 28.9% when the nation was experiencing lockdown measure in April 2020 (“Malaysia’s online”, 2020). This pandemic required businesses to work on digital channels of delivering their products and service with minimal physical contact and safely to their customers. (Seetharaman, 2020). The need for the new delivery channel has provided a firm push to the SMEs in embracing digital transformation. Many SMEs were initially hesitant to invest in digitalisation under the natural business environment. With digitalisation, SMEs can achieve performance improvement over time.

The surge of transactions through an online platform during the Covid-19 pandemic has caused a shift in demand for specific products. There was a renewed and significant demand for wellness products, in

particular. Face masks and hand sanitisers were short of supply during the initial stage of the pandemic. The consumers highly demanded health supplements. Market demand had simply overwhelmed the quantity, which was disrupted by the lockdown.

The change of consumer behaviour has also indirectly attributed to unemployment that affected the livelihood of many people and families. Most countries recorded the highest unemployment rates during this period. Unemployment has led to a drop in income for those who lost their jobs. The unemployment rate in Malaysia reached a height of 5.7% in April 2020, resulted in 826,100 unemployed persons in the country. Loss of income has reshaped the spending pattern of consumers. Consumers have generally reduced their spending by prioritising purchases of necessary and essential items. They become more selective in spending their money. Besides businesses involved in critical products like food and basic necessity, other companies experienced a profound impact from this pandemic. The change in demand for specific products while neglecting other non-essential ones, has forced many SMEs out of business.

• **New Normal**

Never before that businesses and consumers are adopting new approaches in their daily lives by donning a face mask and observe physical distancing. This is crucial to minimise the risk of Covid-19 infections. The elderly group is getting even more concerned about the risk of disease. Many choose to remain home to be safe. This situation indirectly created a barrier between customers and businesses. Business transactions are significantly reduced when people become more cautious and go out less for shopping. SMEs need to find new ways to reach out to customers who choose to remain at home. One effective way is to embark on an online platform where customers can practically buy things from their homes. The goods will be delivered to their home. However, this could lead to other obstacles when the SMEs are not ready digitally. SME Corp and Huawei Technologies (Malaysia) Sdn Bhd (2019) identified multiple challenges that hold back Malaysian SMEs from digital transformation in elevating their business performances. The top five challenges related to financing (49%), employee skillset (48%), technology (48%), business planning or strategy (46%), and networking (40%). The impacts from these challenges are likely intensified amid the Covid-19 pandemic.

At the enterprise level, working from home has fast become a norm for most businesses. Employees are encouraged to work from home in observing physical distancing in the office. Some companies also allow their employees to practise flexi-hour in their work. Face to face interactions is vastly reduced. Meetings are conducted through video conferencing. This will be the new normal post-Covid-19 pandemic. In Malaysia, 33.5% of survey respondents allow their employees to work from home, with another 35.6% provided full-paid leave to employees amid the Covid-19 pandemic (Department of Statistics Malaysia, 2020). Working from home, however, created new issues for the business. Staff productivity is affected due to a lack of discipline when delivering work from home. It is difficult to control and monitor the effort put in by employees when they work remotely from home. If this situation is not managed effectively, the lack of productivity will be translated into the cost of doing business.

Furthermore, there could be other distractions at home that take away the focus on tasks in hands. People, however, can be a tough challenge to handle. In light of declined market demand and recurring operating costs, many businesses have to down-size or retrench their workforce. They have to release some of the talents, which would be a loss to the company in the long term. The progress of this new approach of working from home and leveraging on video conferencing with employees and customers can be difficult if internet connectivity is not available or at low speed. This situation likely occurs in

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rural areas where access to the internet can still be an issue. Enterprises that operate in urban areas would pose fewer problems in internet connectivity.

Business needs to adopt and adapt to new approaches in managing the employees, tasks, and customer expectations under the new normal. Moving forward, the way of doing business will never be the same after the Covid-19 pandemic.

PRACTICAL SOLUTIONS

When the government started to relax on movement control, hence allowing SMEs to resume their business operations with restrictions and conditions, SMEs face a new set of issues. The market condition has changed, obviously with lower human traffic on the streets. Many people remain cautious of the pandemic and choose to stay put at home. Even the government is encouraging people to stay safe with their face masks whenever possible, stay hygienic, and observe physical distancing to minimise infection of Covid-19. Many countries continue to impose strict standard operating procedures to control and reduce the transmission of Covid-19 infection. Businesses have little choice but to adhere and accustom to the new rules. Compliance cost becomes an additional expense to the company. The downsizing of operating space due to physical distancing reduces business opportunity, added burden to businesses as it indirectly limiting business volume, hence revenues. This minimum requirement of standard operating procedures is a must for a company in the new normal.

SMEs must urgently identify and implement practical solutions to address any critical issues in regaining business momentum and performance to pre-crisis level in the immediate term. Business normalisation needs to be speeded up to contain any further financial impact to the business. In the long-term, SMEs must build business resilience to remain relevant and profitable in achieving business sustainability in the future. These are no simple task. SMEs must be diligent, driven, and discipline in embracing changes to perform in the new normal. Nevertheless, SMEs in Malaysia have expressed their needs for the assistance in various critical areas amid the Covid-19 pandemic, namely financial assistance/subsidies (83.1%), reduction in company tax any related taxes (67.0%), deferment of loan repayments (39.1%) (Department of Statistics Malaysia, 2020).

Following are the key and practical solutions that SMEs can implement to remain relevant and sustainable in their business growth:

• Transformational Leadership

Change must start from the top – a very true statement when implementing transformational changes in any organisation. Changes take place for various reasons. Enterprises that are performing well may make changes to scale new heights. Businesses that strive for aggressive growth may make changes to beat the competitors in gaining more customers. During a crisis, enterprises need to make changes to stay relevant and, more importantly, to be able to withstand the impact caused by the disaster. In light of massive changes in the business environment during this Covid-19 pandemic, businesses can no longer operate in the same old ways. There is an urgent need for SMEs to change its operational and management approaches.

Leadership plays a critical role in determining the success of the transformational process in a business. Practically, various leadership styles serve well under different circumstances and the business

environment. A leadership style that works well in one situation may not display good results in a different context. Therefore, the right leadership style must be deployed in addressing issues due to the Covid-19 pandemic.

Based on studies, transformational leadership was one of the key contributors to entrepreneur orientation (Rose & Mamabolo, 2019). This leadership style is critical and essential as it possesses the necessary dynamism in driving changes during the Covid-19 pandemic. Bass (1999) linked a transformational leader as someone who could move people beyond self-interest through idealised influence, inspiration, intellectual stimulation, or individualised consideration. Team dynamics are equally important in driving SMEs to a greater height. Effective team communication, cohesion, and conflict management would be the critical success factors in delivering a shared vision, team commitment, an empowered team environment, and functional team conflict (Dionne et al., 2004).

SMEs in Malaysia need to adopt a transformational leadership style when driving changes within the business to emerge stronger from this pandemic. This task is easier said than done. Leadership cannot be built overnight. SMEs that possess this leadership are fortunate. They can immediately drive changes in enhancing the overall efficiency of their business operations. In the longer term, they can drive strategic moves that would place them in stronger footing to leverage any growth opportunities that may arise in the future.

For SMEs that are lacking in transformational leadership, they may have to look out for external help. They can hire professional guidance in manoeuvring the transformational process. This approach, however, incurs additional costs to the business. If the company has the financial strength and willingness to take on the charge, this approach is worthwhile. It provides the business with an immediate solution. The other option which may be more challenging but offer long-lasting benefits is to learn and acquire the critical traits of a transformational leader. As mentioned, this route will take a longer time, but it is good for the business in the long run.

The transformational leader needs to first work in resolving the immediate issues faced by the business. What are the critical issues that companies need to address when they restart their business operations after lockdown? How could they overcome the core challenges they are facing at the moment? Which are the issues that require immediate attention? And who will do what? These are the crucial questions that SMEs need to ask before embarking on any action items. Over time, SMEs must place intense effort and sufficient resources in building business resilience, which is key to sustainable business growth in the long run (SME Competitiveness Outlook, 2020).

Transformational leadership, when applied rightly and effectively, will speed-up business normalisation for SMEs in the new normal. With this, SMEs can charge forward with the implementation of strategic plans in achieving business sustainability in the long run.

• **Government Financial Assistance**

Securing financing even during a typical business environment has already posed a challenge to most SMEs. Applications for bank financing were often declined due to lack of collateral, insufficient documents, brief business track records, weak business plans, and inexperienced management team (Hu, 2017). Without external financing, SMEs will not have adequate financial resource to expand their business - by volume and geographically. The difficulty in securing finance from banks would increase many folds in crisis time, including the Covid-19 pandemic. Banks are more stringent in managing their risks during

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a difficult time. They only lend to customers whom they know and comfortable with or customers with robust bankable applications. At this rate, not many SMEs will gain access to bank financing.

It is fortunate for SMEs in countries where the governments are fully aware of the financial difficulties faced by them during this trying time. More so, the compounded difficulties for most SMEs in securing bank financing to beef up their business operations during the Covid-19 outbreak. Governments can pursue various measures in assisting SMEs in financial aspects. The governments can provide specific grants to support SMEs that are severely affected by the Covid-19 pandemic, like those involved in the travel and tourism sectors. Grants are special relief funds offered to businesses with the aim of bridging financial difficulties during a crisis. Grants are often not repayable.

Alternatively, the governments can provide direct loans to SMEs at special interest rates to minimise borrowing costs. It is also common for governments to issue credit guarantees to banks as security for financing offered to SMEs. This option is useful and has helped many SMEs in getting credit facilities from banks. The other initiative that the government could do is to defer loan repayment by SMEs during this period. This deferred repayment can help SMEs to ease their cash flow and channel their financial resources to other urgent and critical areas. Practically, government financial assistance helps SMEs improve performance over and above the effects of conventional financing. A business that receives government financial assistance is more likely to obtain non-government finance in the future (Xiang & Worthington, 2017).

In Malaysia, for instance, the government has taken a proactive stance in providing credit guarantee to secure up to 80% of the financing extended by banks to SMEs. The total guarantee sum announced under the multiple economic stimulus packages during the Covid-19 pandemic amounted to RM13.3 billion (US\$3.20 billion). As of 18th September 2020, a total of 15,597 SMEs benefited from government-assisted loans worth RM871.71 million (US\$210.05 million) (Ministry of Finance Malaysia, 2020). Besides, the government has also instructed banks to grant a moratorium on loan repayments for businesses for six months from April 2020 to September 2020. This moratorium, with a possible extension of another three months for deserving borrowers, offers much financial relief to the SMEs when they do not have to service any loan repayment for six months. This moratorium period can be extended by another three months if the banks grant an extension. As of 11th September 2020, the blanket value of loan repayment moratorium for both businesses and individuals amounting to RM89.6 billion (US\$21.59 billion). The portion utilised by the business sector was RM31.4 billion (US\$7.56 billion) (Ministry of Finance Malaysia, 2020). This moratorium has been beneficial to SMEs in managing their cash flow. In addition to credit guarantee schemes and loan repayment moratorium, the government has also offered grants to promote targeted business sectors and functions. The tourism and travel industry that was severely impacted by the Covid-19 pandemic is one of the beneficiaries of government grants. The travel restrictions have caused severe damages to their businesses, resulting in a massive loss of business. Grants were also extended to SMEs that plan to accelerate digital transformation during this challenging period.

Besides, government assistance can also come in the form of financial subsidies to lighten the expenses of SMEs. This assistance includes unemployment benefits, wage subsidies, tax relief, deferment of tax payment, delay or reduction of contribution to statutory bodies, discount on utility bills, among others. As of 18th September 2020, a total of RM11.93 billion (US\$2.87 billion) has been approved under the wage subsidy scheme programme, benefiting over 2.6 million employees and 323,583 employers. Some 1.4 million business enterprises have also received discounts worth RM181.7 million (US\$43.78 million) in electricity bills since April 2020 (Ministry of Finance Malaysia, 2020). This assistance aims to relieve SMEs from financial difficulties caused by this Covid-19 outbreak.

SMEs should leverage financial assistance extended by the government. In addition to relieving economic challenges during this period, SMEs should also review and realign their long-term financial needs in achieving their business goals. This is also the time to optimise their financial strengths through government financial assistance in the form of financing and grants. This, however, does not construe to excessive and unnecessary leveraging that may jeopardise financial standing in the future. SMEs need to be clear with their future business plans and financial projections, enabling them to achieve their business goals.

• **Supply Chain Management**

The global supply chain was significantly affected by the closure of borders in various countries due to the Covid-19 pandemic. This has caused numerous disruptions to the movement of goods between nations. Businesses dependent on materials from overseas for production activities or businesses that trade imported goods are significantly handicapped. They simply do not have sufficient products to transact. Movement restriction at the domestic level has also impacted the supply chain within the country. When the local supply chain is broken, the supply of goods to retailers will be affected as well.

SMEs that trade with overseas either as importers or exporters must start to rethink and find a new solution in mitigating any potential breakage of the supply chain in the future. What is the supply chain option available to them? One of the essential strategies is to localise their supply chains. This means, instead of buying from abroad, SMEs can reduce or eliminate imports by relying more on local supplies. However, this action may not be practical for all SMEs, as some materials may not be available locally. By localising the supply chain, SMEs can shorten the entire end-to-end process, hence can shorten the duration throughout the supply chain. The supply of materials and goods from the local chains can also be more reliable and consistent. In light of global supply chains and manufacturing diversification exercises by the multi-national corporations, particularly from China to South-east Asia region, including Malaysia, SMEs should seize the opportunity to be part of the new supply chain's ecosystem (Mahalingam, 2020). SMEs in Malaysia can form strategic partnerships with these new ventures in Malaysia, hence expanding their supply chains for greater business performances. On the other hands, SMEs can also diversify and localise their procurement activities by sourcing raw materials or traded products from these multinationals in Malaysia. This will speed up delivery of goods, reduce procurement costs and minimise transportation risks in the event of a crisis.

In addition, SMEs can reconfigure the supply chain flow for cost optimisation. This can be achieved by forming a strategic partnership with a specific friendly business. Kim & Chai (2017) found that information sharing and strategic sourcing play a decisive role in improving supply chain agility. When SMEs work in partnership to consolidate their purchases, the combined purchase of enlarged volume is entitled to a bulk-purchase discount. This will help to lower down the cost of materials, which can be translated to enhanced profitability. By virtue of bulk purchase, the suppliers would likely provide preferential treatments to the strategic partners. They would offer better after-sales services and possibly longer credit terms.

Meanwhile, SMEs need to establish a digital supply network to connect all stakeholders along the supply chain, namely suppliers, logistic providers, bankers and insurers, and customers. Communications and sharing of information through the digital channel can simply go borderless. When this end-to-end connection is dynamically interlinked, SMEs will be able to operate seamlessly and smoothly with all the stakeholders, within a shorter time. Besides, digital technology and AI are practical tools in handling

adversities and strengthen the resiliency and preparedness of manufacturing and supply networks in the future (Wuest et al., 2020). The entire supply process can become more efficient and effective.

• Digital Transformation

One positive contribution that the Covid-19 pandemic brings to the business community is the drive towards accelerating digital transformation. It is time for businesses to incorporate and implement digital techniques and procedures in elevating their business performances to the next level (Marianne & Delaney, 2020). Before the pandemic, SMEs were slow and hesitated to a certain extent to digitalise their business operations. The critical factors for the delay and hesitation are cost and lack of talent in driving the initiative. The situation improved slightly when the government started to provide financial incentives in promoting digital transformation among SMEs. However, the response was not up to expectations. Many SMEs chose to operate in conventional ways. Many were stuck with an old mindset on changes. They would think, “why to fix it when it’s not damaged?”. It did not work during the Covid-19 pandemic when the old ways failed to deliver results in the new normal. Digital technologies, in a way, have forced SMEs to rethink and reconsider their business model in enhancing their business performances (Bouwman et al., 2018). The implementation of digital transformation can be even more pertinent during a challenging time.

Amid the Covid-19 pandemic, a new generation of entrepreneurs has resurged to lead the next industrial revolution and invent new ways of doing business, utilising cutting-edge technology (Akpan et al., 2020). SMEs can carry out digital transformation in stages, depending on the availability of crucial resources like funding, people, and leadership from the top. SMEs can start by enhancing the internal processes followed by external business interactions with other stakeholders like customers, suppliers, and service providers. The phased implementation provides SMEs with the focus and control in ensuring proper execution of plans for the benefits of the business. Like all major business initiatives, a digital strategy is of the utmost necessity for the success of the digital transformation programme. A well thought and structured plan with clear objectives, action items, and the timeline for completion would ensure proper execution. The progress of the transformation exercise can also be carefully tracked and monitored. The latest study by YCP Solidiance (2020) recommends Malaysian SMEs to overcome their main barrier of digital competency by upskilling and reskilling existing talent through training or attracting new digital talent externally. The same publication reveals that 62% of SMEs operating in Malaysia reckon the lack of digital competency as one of the critical barriers of digitalisation. The other vital obstacles are integration with external stakeholders (65%), cost (55%), and low priority (53%). Besides, the Malaysian government has allocated RM550 million (US\$132.53 million) smart automation matching grant to 1,000 manufacturing and 1,000 services companies in accelerating digital transformation in their business operations. The government has also allocated an additional RM140 million (US\$33.73 million) to encourage SMEs to shift towards business digitalisation. This financial assistance aims to promote digitalisation among SMEs in Malaysia.

Internally, digitalisation initiative can simplify work processes by cutting down wastages and procedures. This will lead to improved process efficiency and business performances. A dynamic and digitalised operating system would also assist SMEs to control better and monitor the overall work performances of the employees. Some of the critical internal functions like human resources, finance, sales, and marketing, should be prioritised. A comprehensive strategy framework outlining the overall digitalisation development plans is essential and can be included in an Industry 4.0 framework for the

respective business (Ghobakhloo, 2018). This framework will serve as a roadmap for the execution of the digitalisation plans.

Next, connect with the external stakeholders can be enhanced through digitalisation. As experienced by most businesses, the online platform worked well during the Covid-19 pandemic. SMEs have to engage in video conferencing - many were doing it for the first time in communicating with the suppliers, customers, and employees. This is reflective based on the number of Zoom users that rocketed from 10 million in December 2019 to 200 million in June 2020. Data traffic soared as much as 60% during the lockdown, which is equivalent to a full-year increase in just one month. The adoption rate was stunning. Companies that had already embarked on digital transformation have been better equipped, hence fared better during the crisis than the others. In light of changing customer buying behaviour and business environment, the online platform will stay an essential channel for SMEs to connect with their customers. An online platform can do more than just selling products. It can be used as a platform to educate customers on product knowledge and customer service. In Malaysia, e-commerce contribution to the nation's digital economy is expected to grow significantly by 20% in 2020. This positive progression despite the weak business environment is possible due to active intervention of various ecosystem partners in promoting and driving digital adaptation among the businesses ("MDEC expects", 2020).

Besides customers, suppliers are the other important stakeholder that SMEs need to manage sensibly. A digital supply chain would allow SMEs to communicate effectively with the suppliers, both located domestically or abroad. Exchanges of information and response can be expedited easily and speedily through the online supply chain platform.

Digital transformation cannot be implemented fully without the precise implementation of a reliable cyber-security system. When connecting with the external world digitally, SMEs will be exposed to various security risks. Their operating system may be hacked and damaged. There are so many untoward incidences that happened to businesses, both the SMEs and large corporations. Put merely, cyber-security cannot be ignored. SMEs must include this important factor as part of their digital transformation initiative. Depending on the complexity of the digital framework and availability of resources, SMEs can either build-up their security system or outsource the function to external security firms. The critical imperative is to ensure proper protection of their digitalised system.

Lastly, SMEs should, by all means, leverage on any incentives offered by the government for the implementation of this initiative. In Malaysia, the government offers both grants and government-assisted financing to assist SMEs in implementing digital transformation for their businesses.

• **Organisational Agility**

Organisational agility is critical and essential for businesses to sense better, seize, and transform when they face deep uncertainty and associated threats and opportunities during a challenging time (Teece et al., 2016). In this context, organisational agility is particularly relevant and crucial during the Covid-19 pandemic. It enables the organisation to respond swiftly, flexibly, and effectively to the changing business environment and its dynamism. Agility is thus an imperative factor for a business to remain relevant and continuity to strive in times of difficulties. Organisational agility includes core competency, competitive advantage, and differentiator that allow companies to be adaptable and proactive. (Harraf et al., 2015). When businesses suffered significantly due to lockdown measures, many of them started to realise business concentration risk in operating within a narrow scope of products. With this, many opted to diversify their business activities. Instead of putting all eggs in one basket, they see the need

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to expand their business activities. By diversification, they can better spread their risks over different products and market segments. This strategic plan can be a game-changer for financially stable businesses with substantial financial resources. They can pick and choose the right companies to acquire. This could be an excellent opportunity for these businesses to expand their scope of business. They can now diversify their business risks.

Building organisational agility is no longer an option when SMEs in Malaysia want to keep their business relevant and sustainable in the long-term. Organisational agility plays a vital role in influencing business success (Wageeh, 2016). Agility allows SMEs to stay flexible, move fast, and decisive in developing and executing business strategies to overcome challenges and capture new opportunities. This will lead to enhanced business resilience, which is the utmost necessity for businesses today. The new normal post-Covid-19 pandemic is so vibrant and uncertain that SMEs can easily succumb to its impact if they remain vulnerable. Therefore, SMEs need to build their organisational agility and business resilience in charging forward in the new normal.

SUSTAINABLE BUSINESS GROWTH

In achieving sustainable business growth, SMEs must first adopt the three key pillars of sustainable entrepreneurship, namely social, environmental, and economical (Clarke-Sather et al., 2011). The adoption of ESG by businesses has displayed a positive relationship with the overall financial performances of the companies (Friede et al., 2015). It is, therefore, crucial that SMEs place sufficient resources and emphasis in achieving a balance between three criteria in business. Arend (2104) reaffirmed the significance of firm commitment and clear policies towards social and environmental activities for SMEs in maintaining their competitive advantages. It is only by striking a balance among these three aspects that SMEs can achieve sustainable business growth in the future. The measures that SMEs acted on in addressing impact from the Covid-19 outbreak are mainly related to the economic factor. By merely fulfilling the economic criterion will not likely bring sustainable business growth the SMEs. The same requirements apply to SMEs in Malaysia. They must proactively work on the other non-financial aspects of the business which is ESG:

• Environmental

Environmental factor denotes the importance of conservation activities in preserving the nature and healthy environment for future generations. The critical criteria that relate to this ecological factor are climate change, carbon emissions, water, and air pollution, biodiversity, deforestation, energy efficiency, waste management, and water scarcity. SMEs in this aspect need to raise awareness on the importance of conserving the environment. More importantly, they need to adopt good practices by taking the necessary steps in preserving the environment. SMEs can contribute effectively by adapting the 3R concept – reduce, reuse, and recycle, in their business operations. When this application is appropriately carried out, SMEs will be able to raise its resource efficiency. SMEs can also place greater emphasis on sources of energy generation, which should be renewable. By consciously adopting actions that can be impactful to the environment, the SMEs are making reasonable progress in supporting the environmental factor.

• Social

Social factor refers to the relationship between SMEs and the major stakeholders like employees, customers, and suppliers. SME must treat all these stakeholders fairly, responsibly, and satisfactorily. Employee engagement and community relations are equally important in ensuring proper social conformity. Hu (2019) denoted “People Before Profit” as one of the critical success factors for family-owned SMEs. This same principle is equally essential for the other SMEs. People, be they employees or family members who work in the business, must be treated with respect and reasonably according to labour standards and human rights. SMEs must maintain proper policies in dealing with people issues in the companies. SMEs should practice diversity and gender equality in their business conduct as part of their business sustainability goals.

• Governance

Governance covers the right and responsibilities of management of the business. It dwells about professionalism and ethics of business operations. SMEs must adhere to the rules and regulations when carrying out their business operations. Internally, they must be fair and transparent to the employees, directors. This means SMEs must conduct their business operations professionally and ethically. They must embrace accurate and transparent reporting about their business activities. Importantly, SMEs must not involve bribery and corruption activities. This is one area where SMEs are lacking; hence they must spend adequate resources in addressing this governance factor.

By attaining sustainable business growth in the long run, SMEs will remain not only relevant and operational but also be able to address the global challenges identified by the United Nations positively. The United Nations has identified 17 sustainable development goals (SDGs) that, by achieving them by 2030, would make the world a better and more sustainable place for future generations. In this context, by adopting ESG in their business operations, SMEs will help drive towards the achievement of SDG 8 (decent work and economic growth), and SDG 9 (industry innovation and infrastructure) set out by the United Nations.

RECOMMENDATIONS

In achieving sustainable business growth, SMEs, including those operating beyond the Malaysian shore, must first resolve the immediate problems faced by them at this juncture when the market is reopened for business after the lockdown measures. In the new normal, SMEs must stabilise and normalise its business revenue through the implementation of tactical steps in reaching out to the customers. This would involve a digital transformation in streamlining business processes, enhancing connectivity with the stakeholders, and shortening the supply chain. At the same time, SMEs must work on cost-cutting measures in bringing down the overall operating cost of the business. This measure is essential to close the gap between revenue and expense. SMEs must proactively leverage on financial assistance provided by the government in bridging cash flow requirements and enhancing their overall financial position to capitalise on any possible business opportunities. In achieving this, SMEs must stay agile, forceful, and driven in driving the changes. SMEs must aim to emerge faster and more robust in the new normal.

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In the long run, SMEs need to identify and execute the right and appropriate business strategies in strengthening their overall business operation to be future-ready. This includes the realignment of supply chain and close adaptation to the way of doing business in the new normal. They need to build their organisational agility and business resilience in enhancing their competitiveness and growth prospects. It is by achieving this milestone that SMEs unlock the growth opportunities for their business. SMEs must not leave out ESG practices in their pursuit of business sustainability. It is by sharpening their business strategies and management system that they will be positioned for sustainable business growth.

FUTURE RESEARCH DIRECTIONS

SMEs represent business enterprises that can be further classified into micro, small and medium sectors. This chapter discusses the overall performance of SME, with a specific focus on Malaysian SMEs. The outcome may be different for SMEs that operate in a different region or other parts of the world. The findings are likely to be varied for SMEs working in a different field. In light of this, researchers may want to explore the effect of the Covid-19 pandemic on activities and explore the key challenges and measures that this particular segment can take in achieving sustainable business growth in the future.

Separately, researchers may want to explore and identify additional challenges faced by SMEs in the new normal. They can research in findings practical solutions enabling the SMEs to overcome these other challenges, hence accelerating their business growth in the future. Researchers may uncover resolutions that may drive SME performances to a new height.

CONCLUSION

Safe for a few sectors that have benefited from the Covid-19 pandemic, most other businesses, including SMEs, are significantly impacted by the crisis. Many SMEs were caught unprepared by the series of measures implemented by the government in containing the spread of the Covid-19 pandemic domestically and globally. The lockdown of business leading to movement and transportation restriction is unprecedented and caused numerous difficulties to the SMEs. Many SMEs in Malaysia have to close down their business with many others on the verge of bankruptcies. Understanding the challenges is essential, though, but it is the implementation of action plans in addressing these challenges that could save the business from going down. SMEs in Malaysia and other parts of the world need to be proactive and receptive to new approaches in raising their resilience when they restart their business in the new normal. Starting with firm transformational leadership, SMEs can then embark on various essential and practical solutions to reshape and strengthen their businesses for continued progress. They need to emerge faster and stronger after the Covid-19 pandemic. It is by embracing ESG practices in business operations that SMEs can be successful in their pursuit of business sustainability in the future.

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KEY TERMS AND DEFINITIONS

Business Sustainability: Relates to the creation of long-term value within a business by taking adequate measures in ensuring the processes, products, and manufacturing activities are operated well within an ecological, social and economic environment while maintaining a profit.

COVID-19: An infectious disease caused by a newly discovered strain of coronavirus, a type of virus known to cause respiratory infections in humans.

Digital Transformation: Integration of technologies across business functions and processes in enhancing operational efficiency that leads to improved organisational values and customer experience.

Government Financial Assistance: Government initiatives in providing financial aids in assisting the recipients to overcome financial difficulties or implementing specific targeted projects. This financial assistance can be extended in the form of cash pay-out, subsidies, grants, or credit guarantees, among others.

New Normal: New routines or way of life due to changes brought by the COVID-19 pandemic.

Small and Medium Enterprises (SMEs): Businesses that are smallish by capital, business turnover, and the number of employees, and operate in various industries. The quantum of each criterion varies by countries globally.

Supply Chain Management: A structured effort to effectively manage the active integration and coordination of activities along the supply chain in ensuring the smooth flow of goods and services.

Sustainable Development Goals (SDGs): Refer to the shared blueprint for peace and prosperity for people and the planet. This blueprint was adopted by all United Nations member states in 2015 to achieve a better and more sustainable future for all.

Transformational Leadership: Refers to a leader who could move people beyond self-interest through idealised influence, inspiration, intellectual stimulation, or individualised consideration. The transformational leader engages, inspires, and motivates employees to be creative, envision the future scenarios for the organisations, leading to improved teamwork and business performance.

Chapter 17

SMEs and Entrepreneurship Development Determinants in Practice: Case of Uganda

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ABSTRACT

The dawn of the global pandemic has prompted more need to pay attention to entrepreneurship development because it is profoundly important to find ways of stimulating the economy towards sustainable development, especially during this difficult time, and this is through SMEs. This chapter focuses on the determinants of SMEs and entrepreneurship development as an integral part of bigger picture-entrepreneurial sustainability in the post-COVID-19 era. This chapter identifies different triggers of SMEs and entrepreneurship, and it brings forth contextual evidence and views that are currently in place. The chapter further highlights different strategies that SMEs can use to cope and provides some recommendations for future development.

INTRODUCTION

Entrepreneurship is an important element for the economic growth and development of nations worldwide, and it also serves as an engine for promoting innovation and sustainability. Small and medium enterprises (SMEs) have played a big role in the creation of employment and the alleviation of poverty in many different sectors of economies globally. Therefore, deliberating on the determinants of SMEs and entrepreneurship development is crucial as a step towards understanding fundamental aspects of entrepreneurial growth. Generally, SMEs put in an extra effort to survive, especially during the first five years of their life. This has become more crucial during the post pandemic era, because it presents greater risks and a more competitive and tougher business environment which complicates the existence

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of entrepreneurship and SMEs. Since the outbreak of the Corona Virus (Covid-19) in late 2019, most sectors of developed economies like the United States of America, China, the United Kingdom, Italy, France and Germany, have been adversely hit, with some lives lost and a lot of economic disruptions having taken place. SMEs have especially been affected, with severe business disruptions due to enforcement of lockdown restrictions. A big percentage of SMEs are counting losses, others are fighting hard to recover, while a considerable number of these companies have totally shut down operations, leading to massive job losses.

The global airline industry for instance, is facing a severe financial crisis due to Corona virus travel restrictions, airlines across the world are grounding planes, laying off workers and scrambling to preserve cash, as measures to contain the Corona virus outbreak prompt flight bans. This has led to a total reduction in travel demand and those airlines still operating are reducing seat capacity to allow for social distancing measures. This has come with serious financial implications and a ripple effect has been felt by SMEs that were relying on the airlines for products and services (British Broadcasting Corporation News, 2020, Cable News Network, 2020). In other parts of the world like India, researchers such as Mishra and Mishra (2020), note that other than the essential service sector providing health related products, utilities and telecom services, all the other sectors are affected by the pandemic in one way or the other. This whole situation brought by the pandemic has caused massive unemployment and crippled economies which are struggling to cater for the well-being of their citizens.

In Africa, the fate of SMEs and entrepreneurship is not any different. For example, PEP stores, one of the leading clothing discount retailers, is winding down its operations in Uganda. PEP started its operations in 2016 and it served as a strategic platform to enter the east African market with plans to expand. This however, has not been feasible because of the current and future operating environment. One of the main reasons for closure is the pressure from Coronavirus disruptions and adverse market conditions in the retail industry (Daily Monitor, 2020). Thus, most of the SMEs are re-thinking their business strategy in order to stay afloat, and others are badly affected because of supply chain disruptions and a drastic drop in market demand. Currently, SMEs in Uganda are tackling uncertainty because of curfew and lockdown measures which have severely affected sales and performance. For instance, shopping arcades, part of public transport, private and government owned academic institutions, and other businesses considered to be non-essential services have been caught up in this situation. As a result, a sizeable percentage of entrepreneurs are now changing from their core businesses to providing essential services so as to stay relevant. According to Kuratko (2006), it is the entrepreneurial persistence and tenacity that revives the economy back to normal after an economic downturn with time.

The field of entrepreneurship started many centuries ago, Smith & Chimucheka (2014) describe entrepreneurs as people who take up risks by selling a good or service to earn a profit. An entrepreneur plays the fundamental role of driving development and growth by accepting to take risks and putting together factors of production (Drucker, 2015). An entrepreneur is also one who manages to see an opportunity, puts together resources and ensures good performance. According to Scarborough and Cornwall (2016), through innovation and focus on profits, entrepreneurs achieve sustainability and growth. All these scholars highlight the importance of innovation and risk taking that act as the main driving forces behind an entrepreneurial mind-set. An entrepreneur therefore is an innovative person driven by the urge to make a profit, who takes up risks by trading, creating new products and services or modifying an already existing good or service.

Therefore, it is crucial to understand the determinants of SMEs and entrepreneurship so as to accelerate economic development in the world, and importantly, so as to reduce the impact of adversities

brought about by the Covid-19 pandemic. This study used a qualitative research approach backed up with secondary data sources to collect data through telephone interviews. This strategy was chosen because it enables observing of Covid-19 social distance measures. Twelve (12) owner-managers of SMEs that have been in business for at least five years and employing a minimum of five people were selected through purposive sampling method. The chapter aimed at exploring the determinants of SMEs and entrepreneurship development, and it also suggests strategies for enhancing SMEs and entrepreneurship development during the post Covid-19 era in Uganda.

BACKGROUND

A plethora of studies have continuously stressed the paramount contribution of entrepreneurship and SMEs towards economic growth and development. According to Global Entrepreneurship Monitor (2011), the development of economies needs a holistic approach of both entrepreneurs and a supportive environment. In this regard, entrepreneurship is not a courageous act of a handful of people but an endeavour of a united group of people who relentlessly chase their dreams in a bid to improve their state of life and to bring sustainable change. Entrepreneurs are involved in different kinds of businesses, and the majority are operating SMEs. In Africa, SMEs constitute a big percentage of firms and contribute to development and growth by employing more than half of the people employed within the SME bracket (Organization for Economic Corporation and Development, 2010). Therefore, focus on the growth and development of SMEs represents a positive move towards employment creation and improved standards of living (Africa Commission, 2009). However, the growth levels of SMEs in developed countries is far greater than those in developing countries (Okpara, 2011), and this is attributed to issues such as lack of finance, innovation, corruption and poor infrastructure, which have continuously frustrated the progress of SMEs and made the continent to lag behind.

In Uganda, Vision 2040 aims at transforming the country into a modern and prosperous society by strengthening the fundamentals of the economy so as to harness the abundant opportunities around the country (National Planning Authority, 2020). In light of this, the Ugandan government for years has been working towards achieving these goals, and one way is by prioritising the improvement of the investment climate by attracting more foreign investment to boost entrepreneurship and to provide the much needed jobs. However, these efforts are still far from achieving the desired outcomes. Just like foreign investors, local enterprises need to be given the same level of attention, as only then can there be a holistic and impactful change (Arinaitwe & Mwesigwa, 2015). Uganda's Total Entrepreneurial Activity (TEA) index is at 29.2%, which is relatively high compared to countries like the USA, Germany, France and Italy (Global Entrepreneurship Monitor, 2003), and this implies that Ugandans are much easily inclined towards starting a business. However, this is frustrated by several factors besides dealing with a tight business environment that does not allow for fair growth. Despite different government strategic plans, initiatives and programmes to support the implementation of entrepreneurial goals for SMEs, there are still gaps that need to be filled in order to steer entrepreneurship forward.

With a population of over 43 million people (World Population Review, 2020), Uganda is a low income country characterised by relatively high levels of poverty and unemployment like many developing countries. A higher percentage of Uganda's population is still young, with 78 percent under the age of 30, and the agricultural sector is the backbone of the country, contributing to 21 percent of the Gross Domestic Product, and employing about 41 percent of the total working population. Most of the

people are in subsistence farming, with less than 30 percent in formal employment (Uganda Bureau of Statistics, 2013). Uganda's national unemployment rate is 9.2%, and although lower than the global averages, a big percentage of those employed are under-employed or in unpaid work (International Labour Organization, 2020). When the global pandemic started, it made a bad situation even worse by crippling almost all sectors of the economy that were contributing to the welfare and continuity of the population. With lockdown restrictions that limit the physical movement of people, social distance measures and all other standard operating procedures (SOPs) in place, even those SMEs that had better chances of survival are struggling every day. SMEs are at the centre of this scenario as the most viable way to tackle issues that come with unemployment. Therefore, putting more focus on determinants of SMEs and entrepreneurship can accelerate positive steps towards tackling these problems and a quick recovery from Corona virus disruptions.

According to the International Labour Organization (2020), Uganda's labour force growth rates are at 4% and still rising every year. Higher institutions of learning keep churning out qualified young graduates that are ready to take up jobs, however, there are hardly available jobs to match the high demand for jobs. This has increased the youth unemployment rates, which has in effect also soared the national crime rates, and presently most of these issues have now been amplified by the global pandemic. According to the Uganda Investment Authority (2020), the most highly hit sectors in the country are tourism, transport, manufacturing and agro processing. The hospitality and tourism industry for instance in most countries is one of the sectors that provides readily available jobs, with most of them operating under the SME umbrella. Gica, Nemes and Moisescu (2014) assert that, in developing countries, the financial benefits from tourism SMEs can be spread out to local communities, consultants, tour operating agencies, investors, the government and the population at large. Therefore, SMEs contribute tremendously by offering speedy solutions in this crunch time by pushing the economy towards a steady but reliable recovery.

SMEs AND ENTREPRENEURSHIP DEVELOPMENT IN UGANDA

Understanding Small and Medium Enterprises

In order to better understand SMEs, it is important to shade some light on what constitutes an SME. Definitions of SMEs vary depending on the context and country; for instance, the World Bank defines an SME as an enterprise employing up to 300 people with total annual sales of 15million US Dollars (World Bank, 2011). On the other hand, Mbaguta (2003), defines SMEs as enterprises employing up to 50 people with a turnover of 10-50million Uganda shillings. The Uganda Investment Authority (UIA, 2019) separates small firms from medium ones and defines them as individual entities, thus, small enterprises are those employing between 5 and 49 people with total assets of 10 million Uganda shillings to 100 million shillings, medium enterprises are those employing between 50 and 100 people with total assets worth 100 million to 360 million. For this chapter, an SME is defined as an enterprise employing between 5 and 100 people, with a turnover of 30-300 million Uganda shillings or 8,100-81,000 US Dollars.

SMEs in Uganda are of utmost importance in providing employment opportunities, there are over 1.5million SMEs in Uganda (Mbabazi, 2012) which are scattered all over the country with the biggest number in the central region, specifically in the capital. By 2013, SMEs were estimated to be employing more than 4 million people in the country (Okello & Okello, 2013). These enterprises are involved in various activities including agricultural production, fishing, mining and quarrying, manufacturing,

utilities, construction, whole sale and retail trade, hospitality (hotels, restaurants and bars), transport and communication, education, health and social work, community, social and personal services (Uganda bureau of Statistics, 2002). However, more than half of the SMEs in Uganda close down before they make their first birthday (Nangoli, Turinawe, Kituyi, Kusemererwa, & Jaza, 2013). This can be attributed to many factors, and according to Mbabazi (2012), some of the major limitations affecting businesses in Uganda are lack of access to finance, high taxes, poor infrastructure, corruption, poor work ethic and government bureaucracy. Taxes in Uganda, for example, have indeed become a big problem to businesses, despite the importance of the growth of the tax base to the economy as a whole. The Ugandan tax system has been widely mentioned by SMEs as unfair to businesses because of high taxes charged, yet these enterprises are not making profits. This is perceived to be one of the reasons why most businesses choose to remain informal. For entrepreneurship to contribute to the growth of the tax base, there must be a favourable business environment and vice versa. Entrepreneurs in Uganda also tend to jump into businesses without thorough knowledge of the business environment, usually without assessing potential customers, demand and a reliable supply for products. Chittithaworn, Islam, Keawchana and Yusuf (2011), add that because of the absence of proper supervision, commitment and financial discipline, the majority of businesses in Uganda fail.

This chapter notes that currently, Covid-19 disruptions have frustrated the state of entrepreneurship in Uganda, as the prices of products and services have drastically dropped down because of limitations of trade across borders. The global food supply chain particularly is dealing with quarantines, shortages of labour, freight and shipping interruptions (World Food Program, 2020), leaving countries with excess food stuck with low prices. Before this, Uganda was exporting mainly agricultural products (80%), that is; coffee, tea, cotton and other products like copper, oil and fish to countries such as Sudan, Kenya, the Democratic Republic of Congo, South Africa, the Netherlands, Germany and the United Arab Emirates (Ministry of Trade Industry and Cooperatives, 2020). However, since global cereal prices declined in the first quarter by close to 6 percent due to large food supplies and good agricultural conditions (WFP, 2020), there has been a drastic decline in Ugandan food exports and all other commodities.

Entrepreneurship Theory of Economic Development

Sustaining SMEs and entrepreneurship has become more urgent now more than ever. Frank (2009) draws us back to Schumpeter's theory of economic development that dates back to the late 1920s that is still offering valuable lessons to learn from. According to this theory, economic development happens in the process of creative destruction. This can happen through rigorous modification of the old economic structure that paves way for a new wave of innovation birthed by an entrepreneur. Recent times have been characterised by a move towards innovation and the latest technology, and large companies and SMEs alike are striving towards the improvement of systems and processes to optimise profitability especially in developed countries. The theory of economic development (Schumpeter, 1934), paints a picture of entrepreneurs as ideal and brave people who fight all odds to push the economy to greater achievements (Frank, 2009), by assuming risk and initiating development hence ensuring the sustainability of systems (Langroodi, 2017).

This theory brings to light the reality that innovative reactions in the face of a global pandemic for instance are the most paramount determinants of economic development. In order to achieve the bigger picture, one has to start with the small things, and a focus on understanding the determinants of SMEs and entrepreneurship may lead us to comprehending the more complex phenomena which are all part

of the big picture - entrepreneurial development. The post-pandemic era needs more of these typical entrepreneurs with a mind-set to achieve the almost impossible things. The economic development theory also emphasises the importance of explicit or technical knowledge that an entrepreneur can apply to manage factors of production or initiate new products and services. Entrepreneurs that achieve unique explicit knowledge which increases their competitive advantage and ultimately reduces the impact of uncertainty grow at a faster pace than those that do not. When entrepreneurs try to exploit new opportunities, they disrupt the old system while paving way for a new one; however, this disruption can be caused by unforeseen circumstances like a global pandemic. Entrepreneurs then have to courageously strive to achieve organisational growth and find ways of moving forward towards sustainability.

Determinants of SMEs and Entrepreneurship

Entrepreneurship and SME growth are triggered by several factors, among them political, economic, social, technological, environmental and legal (Figueiredo & Brochado, 2015). It can also be socio-economic, demographic or supply and demand driven (Kadam, Rao, Kareem, & Jabeen, 2019, Thai, 2013).

Access to Finance

There is an overabundance of studies that have continuously covered the issue of finance in an enterprise because finances play a central role in the existence of businesses. SMEs in Africa are constrained by lack of access to finance from formal financial institutions, thus they start their business from their own savings, friends and family or with funds borrowed from informal institutions. According to Baporikar and Akino (2020), a high percentage of women entrepreneurs start businesses using their own savings and financial help from family and friends. Because of the absence of collateral needed by the banks, they are not able to borrow, and this affects the growth of their enterprises. In Uganda, close to 50% of SMEs close down annually because of lack of funding (Uwonda, Okello & Okello, 2013). Bank loans are offered to SMEs but with very high interest rates, and although there have been government interventions in controlling lending rates through the central Bank of Uganda, there are still some uncovered gaps. SMEs in Uganda face difficulties in raising finances because they do not possess the collateral that is needed to secure loans, and they also do not have access to the right information regarding alternative sources of funding (Turyahikayo, 2015). According to Caton (2019), an important factor of production is the availability of finance, and yet, close to half of small and medium enterprises in Africa point out lack of finance as the main factor hindering their business growth compared to other parts of the world (World Bank Enterprise Survey, 2009).

In Uganda, the case is not any different, as for instance, according to the Uganda Development Bank Report (2020), the government of Uganda has allocated about 1 billion Uganda shillings for Covid-19 relief aid, and this will be offered as loans to SMEs in sectors such as agribusiness and manufacturing. However, these loans are given with an interest rate of 12% per annum and subject to eligibility criteria, including the possession of collateral which most businesses do not have. In a bid to improve access to finance, the government of Uganda also made efforts through the passing of the Chattels Securities Act 2014, which allows interested parties to use movable property as collateral for credit (Uganda Legal Information Institute, 2014). However, much as these efforts are in place, there are still many obstacles that SMEs face including long bureaucratic processes and corruption.

On the other hand, Arinaitwe and Mwesigwa (2015) note that micro finance institutions have gained popularity over the past decade for pursuing inclusivity for all stakeholders, reaching out to enterprises that are under privileged. However, according to Nangoli, Turinawe, Kituyi, Kusemererwa and Jaaza (2013), less than 10% of businesses benefit from this because of high interest rates and the collateral that is needed. The present chapter has found that, informal funding schemes have tried to give quick solutions to problems of funding, however, on the flip side they are much worse than banks because of the way they aggressively chase for loan repayments in the case of delays, with threats of repossession of property or any items used as collateral. There are other channels that have been introduced to ease access to finance, one of them is agency banking. This is an extension of services traditionally offered by bank branches geared towards increasing financial inclusion especially in rural areas, whereby third parties (agents) offer these services on behalf of banks (The United Nations Capital Development Fund, 2019). Another channel is mobile money transfer that is done by telecom companies, however, they do not directly address the problems of lack of finance that SMEs face.

The present chapter notes that there is also a problem of embedded perceptions about difficulties in getting finance from banks that is scaring away SMEs from making the first step. In the end, they remain operating with the little capital that they have hoping that it will grow, and this keeps these companies within the SME bracket. This is mainly attributed to lack of information on how to go about getting funding. Baporikar (2018) sustains that information is perceived as imperative for every business model, therefore properly using this information to chase entrepreneurial targets will ensure the achievement of successful growth in enterprises. The global pandemic brought businesses to a standstill, and this has exacerbated the whole situation, and currently SMEs that were not operating during the Covid-19 lockdown are dealing with immense pressure from banks to pay up loans that were acquired prior to Covid-19, so instead of focusing on full recovery and growth, they are worried about survival.

Level of Economic Development

The level of economic development leads to a hike in resources and abilities, high Gross Domestic Product growth rates and a huge service sector that brings more lucrative opportunities and market for products (Thai & Turkina, 2013). Although entrepreneurship growth may lead to an increase in competition, it encourages innovation and more job creation, thereby increasing per capita income and affordability or spending power for goods and services. Currently, due to Covid-19 disruptions, Schmidhuber, Pound and Qiao (2020) mention that the expected food demand is likely to drop because of projected shrinkages in the GDP globally. Schmidhuber et al. (2020) note that the growth of economic development brings opportunities for business due to increased demand for goods and services. It also increases innovation and efficiency because of more pressure to meet changed tastes and preferences, often for better quality goods and services. Kelley, Singer and Herrington (2011) assert that, indeed the levels of innovation on average rise up as economic development increases. Studies by Gica, Nemes and Moisescu (2015) found that for most tourism entrepreneurs for instance, motivation to invest in tourism is majorly because of the level of economic development in that specific context and an increase in demand for tourism. However, for this to thrive, there has to be a positive growth in per capita income and the standard of living which allows for the affordability of these services other than meeting basic needs and wants.

Infrastructural development in terms of a good network of roads greatly improves access to resources, raw materials for production and the market for goods and services, thereby boosting entrepreneurship. In Uganda, however, the road network and commercial infrastructure still need a lot of improvements

SMEs and Entrepreneurship Development Determinants in Practice

(Global Entrepreneurship Monitor, 2012). Issues such as financial mismanagement, corruption and poor infrastructure continue to affect performance of SMEs (Abaho, Aarakit, Ntayi, & Kisubi, 2016). The present chapter has found that, despite improvements in the physical infrastructure over the past two decades, Uganda's road network still needs more attention as the current state of roads is not adequate enough to steer the country towards the middle income status that the country is aspiring to achieve soon. As an example, in the city, most of the roads take ages to be completed, and as such they remain dusty and on partial use for longer periods of time hence frustrating any business growth potential around the affected areas. According to the National Planning Authority (2020), Uganda Vision 2040 report (p.70) says;

Uganda must urgently attain an integrated transport infrastructure network to spur its own economic growth, this will entail development of a highly interconnected transport network and services, optimizing the use of rail, road, water and air transport.

In light of this, the Uganda National Roads Authority (UNRA) has made some remarkable strides by embarking on several infrastructural development projects, however, there is need for extra efforts to realise this dream.

Quality of Governance

The quality of governance can be looked at with different parameters, but commonly mentioned in different studies are indicators such as, ease of doing business, laws, political stability, freedom of speech and expression, democracy index and governance (Kaufmann & Kraay, 2007; Thai & Turkina, 2013; Hirst, 2000). In addition, a strong legal structure that is not tainted by corruption and is full of transparency stimulates emergency of businesses. Ease of doing business is paramount, because tedious bureaucratic processes for opening businesses in an economy act as a deterrent factor that limits aspiring entrepreneurs from venturing into entrepreneurship (Thai & Turkina, 2013). According to Teodorica (2015), improvements in ease of doing business indicators such as access to construction permits, getting credit, registering property and trading across borders have been found to significantly increase economic growth. Additionally, when regulations are simplified and foreseeable, it reduces transaction costs incurred by entrepreneurs, thereby increasing profits earned by entrepreneurs.

A study by Hossain, Hassan, Shafiq and Basit (2018), found that ease of doing business boosts foreign direct investment by improving contract enforcement, simplifying access to credit and reducing bureaucracy of the property registration process. In Sub Saharan Africa, Nketiah and Sarpong (2020) agree that ease of doing business indicators play a tremendous role in attracting foreign direct investment and boosting private sector development. The World Bank Report (2019) notes that currently, Nigeria and Togo top the list of ease of doing business because they have significantly improved reforms such as contract enforcement. According to Hartwell (2014), the entrepreneur's interest in opening a business varies in countries, but the level of ease of successfully doing it influences the rate at which enterprises are established. In Uganda, the Uganda Investment Authority Report (2019), notes that government agencies like the Uganda Registration Bureau and the Ministry of Finance have made efforts to ensure that there are systems in place to support the opening of businesses. The present chapter indicates that currently notable improvements have been implemented by setting up a one stop centre that brings all government agencies with investment interests in one place. Now it takes less than three days for an investor to have a company incorporated and licenced, if all requirements are in place. The ease of doing

business and political stability in Uganda are one of the reasons why there is an increase in businesses that are in existence in Uganda today.

According to GEM (2012), when governments focus on programmes that are aimed to boost infrastructure, institutions, health, and macroeconomic stability, there is a marked growth in entrepreneurial development. Political stability, for example, is a big stimulator of businesses that gives assurance of a future presence and growth (Hartwell, 2014). An environment full of uncertainty and ambiguity distracts entrepreneurs from focusing on the achievement of their entrepreneurial goals because they would have to first prioritise their own safety over business development. SMEs in particular cannot grow to their full potential amidst fears of insecurity and instability. According to Thai and Turkina (2013), there are other macroeconomic elements like capital controls which are usually introduced to influence the macro economy. Capital controls are a mechanism by the government aimed at reducing the movement of capital in and out of the country through direct or indirect, administrative and transaction based ways. However, these controls act as a deterrent to businesses growth because they interfere with capital flows. For developing countries that need to gain foreign funding, capital controls interfere with the flow of funding, thereby affecting businesses negatively. A study by Hartwell (2014), on capital controls found a strong correlation between capital openness and new firm entry. Although this tends to be more significant in developed countries, developing countries like Uganda have an abundance of labour but a scarcity of financial capital, therefore capital controls affect business growth in one way or the other.

Culture

A performance-based culture has a strong impact on entrepreneurship as it highlights the importance of the achievement of set goals and it breeds an atmosphere for competition (Hartwell, 2014). Thus, it is gender sensitive where both men and women are encouraged to pursue their entrepreneurial interests, and supports the growth and positive development on an individual basis. Culture brings together people of similar traits and aspirations who are ready to take risks to make a profit (Thai & Turkina, 2013). On the other hand, a socially supportive culture focuses more on communism and unity, with the aim of preserving societal norms, whereby too much confidence is frowned upon hence keeping community members within specific agreeable limits so as to feel a sense of belonging. Hartwell (2014) adds that often, cultural attitudes and expectations push individuals into radical decisions of starting their own enterprises. The cultural foundation of Uganda (2008) says that,

Culture informs all aspects of our lives as communities and individuals, it shapes our values, dictates how we relate to each other and shapes our dreams.

Culture shows in our language, beliefs, values, principles, skills and systems. However, positive aspects like communal responsibility and accountability, honesty, informal moral education, conflict resolution, and industriousness are hardly given the attention they deserve by development actors in Uganda. Instead, culture is associated with negative traditional rituals and practices and yet we can use this to harness social and economic transformation.

The Ugandan culture is regarded as being collectivist, high in uncertainty avoidance, short term oriented, masculine and low in power distance (Rarick, Winter, Nickerson, Falk, Barczyk, & Asea, 2013). This chapter observes that this impacts the way enterprises are managed, there is power sharing and equal involvement in work places, aggression and competition is valued, and the collectivist nature helps to

bring unity and organisation in groups and goal achievement. However, because of the high uncertainty avoidance especially among women, business growth is affected because a high percentage of people are not pushing their boundaries and taking bigger risks. This is partly the reason why most businesses remain surviving but not growing and expanding. According to Rwakakamba, Lukwago and Walugembe (2014), most people in Uganda start enterprises with the hope of making profits from potentially lucrative business prospects, but they eventually fail because there was no adequate preparation. The present chapter has found that indeed most entrepreneurs choose to open certain types of businesses because people they know have run them successfully, and not because they have passion for it. Usually, it is an outside assumption that the business is profitable when it might not be the case, thus they jump into the bandwagon and fail. Thus a common site especially among the trade sector is a cluster of businesses in one place all selling the same products, hence dealing with stiff competition. Overall, the existence of a performance based culture unifies all regions towards economic development through entrepreneurship.

Technology and Innovation

Technological advancement and innovation are positively related to national rates of entrepreneurship (Thai & Turkina, 2013). As economic development rises especially in factor driven economies such as Cameroon, Angola, and Botswana, the level of innovation also increases. Technology enables the production of products to suit new tastes and preferences. This partly explains why innovation-driven economies such as the USA, Canada, United Kingdom, Spain, Germany, Japan and Greece may report fewer entrepreneurs and yet they are the biggest contributors to employment growth in their economies (GEM, 2011). Technology and innovation trigger entrepreneurial development by increasing efficiency and speeding up production. Studies by Okewu (2015) on real time online exchange of information using an automated system indicates that the availability of up to date technology helps to close information gaps as entrepreneurs make proper decisions in their enterprises and motivate nascent entrepreneurs to invest.

However, in Uganda, SMEs are faced by a serious lack of modern technology and in effect there is little value addition being carried out, and this makes Uganda's products less competitive on global markets (GEM, 2014; Namasinga, 2008). The Uganda Vision 2040 report confirms that there is a low level of business automation and use of ICT in industrial development and a low level of local digital content. According to the Uganda Investment Authority Report (2019), the agricultural sector and mineral exploitation offers opportunities for investment, but there is more urgency to invest in value addition. This chapter asserts that easy access to technology and machinery for extraction, processing, packaging, labelling and all activities that add value to a final product for SMEs dealing in these sectors would go a long way in increasing growth and sustainability. The issues of lack of up to date technology are still so profound in Uganda, that it has affected the performance and profitability of SMEs so badly. For instance, throughout this Covid-19 period, Uganda has experienced a bumper harvest this season in the agricultural sector. However, because of lockdown restrictions, there is a drastic drop in the international markets for fresh goods because of border restrictions in most countries, and this has left a majority of farmers and traders counting their losses and selling goods at a giveaway price. Value addition using up to date technology for processing, packaging and storage would have increased the shelf life for these goods until markets stabilise. The agricultural sector is not the only one affected, there is a general lack of technology and value addition. According to Abaho et al. (2016), Ugandan products can hardly compete in international markets, and yet they are of high quality, but poorly packaged and the few companies that are trying are not meeting the demand.

Education and Skills

The importance of entrepreneurial education and skills can never be overstated, as the attainment of skills and information helps entrepreneurs to have the knowledge of resources available and to know where the right market is (GEM, 2003). In Uganda, the government's support in the implementation of entrepreneurial goals is just not having the needed outcome (GEM, 2000; 2003), yet entrepreneurship training, upgrading of efficiency in education and the attainment of the necessary skills contribute to SME and entrepreneurial growth. Kadam, Rao, Kareem and Jabeen (2019), sustain that the skills of top managers in organisations greatly influence the choices and decisions they make, which in turn impacts the effectiveness and growth of their organisations. According to Teece (2012), for the sustained growth of entrepreneurship, there is a need for dynamic managerial capabilities. This can be attained through commitment to education and skills transfer to entrepreneurs. GEM (2000) asserts that skills and education increase the awareness of resources and opportunities, therefore, in the absence of basic education, entrepreneurship impact will not create a positive difference even if it is aggressively pursued. Entrepreneurial competencies influence the performance of enterprises, and it enables proper management, strategic thinking and a mind-set that looks out for opportunities to exploit, which is highlighted in the skills, education, experience and knowledge (Sanchez, 2011, Vijay & Ajay, 2011).

Drawing back to Schumpeter's theory of economic development, the attainment of explicit and technical knowledge is fundamental because it is applied for the management of factors of production, increased competitive advantage and reduced uncertainty, hence impacting the enterprise's performance and growth positively. This chapter notes that the government of Uganda advocates for skills development, nurturing of talent and identification of aptitude, and in this regard, there have been plans to change the education system with more emphasis on skills, values and a more responsive approach to meet labour market demands. However, more efforts and attention directed towards this cause by the Ugandan government is needed, in addition, more emphasis on entrepreneurial education will help to produce dynamic job creators. April and Kadhila (2020), assert that moving away from the usual old system of education to a more circular entrepreneurial education approach will accelerate the achievement of sustainable economic development.

Strategies for SMEs and Entrepreneurship Growth

For factor-driven economies such as Uganda, GEM (2011) suggests that more focus should be on cultivating macroeconomic stability, public infrastructure, health, and basic education, as without improving these essentials, policies focused specifically on augmenting a society's entrepreneurial capability are less sustainable. Innovation-driven economies like the USA, Europe, Japan and others, already have well-functioning basic requirements, and even though they need to maintain these fundamental conditions, they can additionally look towards policies that facilitate entrepreneurship while valuing their embedded customs. ILO (2020), adds that education and training especially for the youth will help to equip them with the skills for growing SMEs, and this requires governments to rise up to this challenge by influencing policy changes to cater for this. A study by Baporikar and Akino (2020) found that financial literacy skills play a vital role towards the continuity and profitability of businesses because financially literate entrepreneurs can budget, keep records, track their expenses and save money, thereby benefiting these enterprises by improving efficiency, planning, tracking debtors and general credibility and reputation. Baporikar (2020b) sustains that in the current context, educating those to whom the future belongs means

providing them with solid knowledge and entrepreneurial skills for coping with the future challenges and generation of ideas, innovations and transfer to build a better world. The present chapter adds that there have been efforts to equip people with entrepreneurial skills in formal institutions of learning, however a more practical and applicable approach would help improve the effectiveness of these initiatives.

Thai and Turkina (2013) suggest that more government policies should focus on addressing macro-economic issues and access to finance which have continuously interfered with the growth of SMEs. Turyahikayo (2015), however, argues that even when these policies are passed, there is need to improve the communication strategies of new policies related to SME development. The present chapter asserts that there are indeed gaps in information dissemination that need to be filled as there is an abundance of information out there that does not reach the right audience. Most SMEs are interested in improving their businesses in all aspects including financially, but they lack the right information on how to go about this, thus more attention should be paid to inclusive information dissemination. Baporikar and Akino (2020) add that now it is a digital era where technology has profoundly advanced, so, leveraging on social media to reach out to all entrepreneurs would go a long way in getting the right information across. This is because a high percentage of people have access to internet connected phones and this can be used to access information that can aid in improving SMEs and entrepreneurship growth.

In a bid to address access to finance, the government has put up financing initiatives like the Uganda Youth Venture Capital Fund (YVCF) and the Youth Livelihood Programme (YLP) to enhance entrepreneurial growth (Economic Policy Research Centre, 2015). These ventures are aimed towards the growth of enterprises, creation of employment opportunities, and training and development of business skills. However, this has not been of significant help as the Economic Policy Research Centre (2015) notes that while there is a small percentage of enterprises that have benefited by growing their business ventures, there is no notable positive effect on the creation of employment opportunities and significant business growth. Therefore, the government should put more efforts to improve access to finance by addressing issues that are hindering its success as this will accelerate steps towards entrepreneurial development. Moreover, Abaho, Aarakit, Ntayi, and Kisubi (2016) suggest that the government should come up with a competency framework for quality assurance in SME business processes that can be used as a yardstick among the business community as this will improve performance and ultimately sustainable growth. From a policy standpoint, Hartwell (2014), is of the view that endorsing capital controls will do more damage to SMEs, so for governments seeking to stimulate entrepreneurship, improving the financial market dynamics and reducing on controls will help SMEs. Therefore, governments should push for entrepreneurship across all fronts by improving the investment climate, especially transparency in capital inflows and outflows.

More attention on innovation will help deal with Covid-19 disruptions, as according to Hartwell (2014), policies on innovation in the past have yielded targeted dividends in developed countries, therefore SMEs should aggressively pursue innovation. Studies by Abaho et al. (2016) reveal that for SMEs in Uganda to prosper and become more competitive, there is an urgent need for innovation and enough resource capacity. Currently in Uganda, the present chapter asserts that the few businesses that are flourishing during the Covid-19 lockdown were those that were implementing innovative ideas. For instance, a famous food chain restaurant in Uganda had to quickly incorporate food delivery in their business model which was not there before. Since restaurants were closed, to survive in business, they had to take the food to the customers if the customers were not able to come and get the food. They also embarked on aggressive online marketing and advertising, and that way, they were able to attract a niche market of customers who continued to buy from them. The present chapter also asserts that, currently people are

doing necessity buying of mostly essential goods because of the effects of Covid-19 which have led to job losses and a slow business environment. This has shrunk the per capita income among the population, hence SMEs have to aggressively adopt innovative ways to market their products, understand the customers' needs and pursue well planned sales and distribution strategies.

Networking is another strategy that can help SMEs to improve growth and development. According to Figueiredo and Brochado (2015), through networking, entrepreneurs can get access to the available market and information that may not be readily available on formal channels of communication. SMEs and entrepreneurs which sustain strong social networks have a bigger chance of raising funding for their business operations compared to those that do not. Abaho et al. (2016) add that because of the need for new markets in Uganda, strong interpersonal skills through networking and building relationships are entrepreneurial competencies that can help to create new markets, and lobby for government support. According to Baporikar and Akino (2020), networking can be in the form of entrepreneurship and financial literacy workshops, because through this, SMEs are able to exchange ideas and learn how others are coping in their businesses, they are also able to look for funding. On the other hand, Ahimbisibwe and Abaho (2013) assert that for innovative ideas to be profitable, they need to be carefully promoted and marketed to foster a business sense, therefore networking comes in handy.

Adelowo, Olaopa and Siyanbola (2012), stress the importance of setting up technology business incubation centres which will cultivate an environment of technology based SMEs. Through that, SMEs can profit from different systems of innovation and learn best practices from fellow incubators. This implies that they will be able to produce technology value added products which will lead to SME growth. Chege and Wang (2020) add that innovation in technology is vital in a competitive business setting by increasing the competitive edge for firms, and they help enhance production methods, improve sustainability practices, diversify markets and produce new commercial prospects. In Uganda, the Ministry of Science, Technology and Innovation has set up different incubation centres aimed at mentoring and supporting early stage entrepreneurs, enhancing growth, profitability and the performance of enterprises offering support for the development of innovations amongst SMEs, sourcing finance and market options to aid entrepreneurial growth (Uganda Industrial Research Institute, 2020). However, there is need for more effort in follow ups, implementation and continuous monitoring of these initiatives in order to achieve the desired outcome.

SOLUTIONS AND RECOMMENDATIONS

During this post pandemic era, entrepreneurship and SME development have been greatly affected, worsening the issues that they have been dealing with prior to the pandemic. Therefore, in order to stimulate a faster recovery of SMEs from the impact of Covid-19, the following important solutions and recommendations are suggested;

- SMEs and entrepreneurs must passionately embrace online channels for the sale and marketing of products. The global pandemic has highlighted the importance of the digital world, in a bid to reduce the rate of Covid-19 infections and to flatten the curve there are restrictions on physical movement of people and adherence to social distance measures, which has limited physical contact between people. The only way SMEs can get to customers is through online channels and

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social media, by online advertising and sales. At the click of a phone, one can also gain access to valuable information that can help boost business growth.

- Technology has become a necessity in the post pandemic times and as such the government's attention should be on availing up to date technology to boost the performance of SMEs. Extraction, production, transportation, processing, packaging and value addition all need technology to improve commodity value chains, however a majority of SMEs cannot afford such.
- Funding for SMEs should be addressed, and government policies on financial aid still need more improvement in terms of inclusivity and easy access. Only a handful of SMEs have benefited from low interest government funding options, therefore, in order to increase the scale of impact more efforts should be put in place and implemented.
- Research and development, and transfer of results should be aggressively pursued, through this we can grow as a nation and develop new products and systems that can help in fast tracking our economy to global standards and to achieve sustainable development.
- Now that virtual work places and meetings are taking precedence by becoming the new normal due to long periods of lockdown, SMEs can use apps like zoom meetings as leverage to cut on operational costs like rent for office space if they can conveniently maintain high performance within the confines of their homes. This applies to enterprises whose line of work is flexible enough and can allow for these kinds of reforms.
- Focus on innovation, to survive in the post Covid-19 era implies that SMEs need to adapt innovative ways of doing things by thinking out of the box. SMEs that are doing so well today attribute it to innovation.
- Entrepreneurship training and development should be done continuously so as to equip entrepreneurs with a better mind-set that can come up with innovative ideas, solutions or even business models that can be implemented and transformed into impactful projects that can help stimulate SMEs to a quick recovery from Covid-19 disruptions.
- The government should help by disseminating the right information to SMEs and entrepreneurs using all the available channels. There is also need to identify information gaps to be filled before implementation so as to achieve better and effective results.
- Networking is one sure way that entrepreneurs can grow their businesses through networks where vital information is passed around, great business ideas are shared and one can easily get the market for products.

CONCLUSION

The advent of Covid-19 has led to re-awakening of new systems, the way we do things and our general thinking. Covid-19 took the world by surprise and for some few months, it almost brought the world to a near standstill, and this has taken a toll on businesses, especially SMEs. This chapter explored the determinants of SMEs and entrepreneurship, and it was established that access to finance, the quality of governance, and level of economic development, technology, culture, education and skills acted as the main triggers for SME and entrepreneurship development. Therefore, addressing the issues that act as obstacles to these determinants will help pave way for SMEs and entrepreneurship growth. This chapter highlighted that one way to get used to the new normal is to adapt and be innovative. Through innovation, we are able to get solutions that meet the new challenges brought about by the Corona virus, so that

we can also fast track our economic development to catch up with other already developed economies. This chapter urges entrepreneurs to leverage on digital /online channels to reach out to a wider market while still observing social distance measures. This will continue to be sustainable even during the post pandemic times because of the convenience and visibility that online sales and marketing offers. It may take a little longer to recover back to where we were, but the future looks more promising if we put more effort towards recovery by modifying the new normal to be more sustainable for now and future generations. This chapter also notes that through equipping entrepreneurs with the right skills and training, they will transfer these skills and use them for growing their enterprises, whereas the government's focus on policies that address finance, technology and infrastructure would help to enhance entrepreneurial growth.

FUTURE RESEARCH DIRECTIONS

The study was limited by lock down restrictions and social distance measures that slowed down data collection, however the chapter managed to capture relevant insights. The study was specifically conducted in Uganda, thus further studies can expand to other countries especially in East Africa or Africa at large. Moreover, in carrying out the study, more focus was given to the macro determinants of SMEs and entrepreneurship development, hence there is need to do in-depth studies on individual determinants of entrepreneurship such as socio-demographic and perceptual determinants so as to shed some more light on this topic. Further studies can also focus on other strategies employed by SMEs to survive Covid-19 that have not been covered in the current chapter. This will guide in a comprehensive model formulation and help further stimulate SME and entrepreneurship growth towards sustainable development.

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KEY TERMS AND DEFINITIONS

COVID-19: An outbreak of a strain of Coronavirus (SARS-CoV-2) declared by the People’s Republic of China in December 2019, now spreading across the world.

Entrepreneur: An innovative person driven by the urge to make a profit, takes up risks by trading, creating new products and services or modifying an already existing good or service to earn a profit.

Innovation: Applications of better solutions that meet new requirements or unarticulated needs or existing market needs.

Pandemic: An increased and sustained propagation of an extraordinary infectious human disease that rapidly affects all parts of the world and a large part of the global population.

Small and Medium Enterprises: Businesses employing between 5 and 100 people with a turnover of 30-300 million Uganda shillings.

Sustainable Entrepreneurship: An enterprise that aims to increase both social and business value, entrepreneurship that strives to have minimal negative impact on the environment.

Chapter 18

SME Financial Inclusivity for Sustainable Entrepreneurship in Namibia During COVID–19

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ABSTRACT

The general reduction in the supply of labor, disruptions of supply chains, sudden loss of demand, and revenue by COVID-19 pandemic have negatively affected SMEs leading to their inability to operate normally causing liquidity constraints. Presumably, financial systems that reduce information asymmetry, transaction costs, ease external financial constraints, moderate market frictions, and ameliorate structural impediments limiting entrepreneurs and economic agents are instrumental. This chapter adopts an interpretive research perspective mainly employing documentary and secondary data analysis to explore descriptively the state of financial inclusivity and sustainable entrepreneurship in Namibia. Financial inclusivity explains entrepreneurship resilience through reduction of credit constraints embedded in irrecoverable start-up costs, limits operational innovations, hinders building production facilities and constructing distribution networks. Adopting SMEs' financial health framework, this study concludes that a multi-sectoral approach to SMEs' financial inclusivity is promising.

INTRODUCTION

COVID-19, also called SARS-CoV-2 has caused a twin crisis: First, the pandemic has placed an unprecedented burden on many health systems worldwide, second approved measures for infection control have caused an economic crisis by bringing a greater segment of economic activity to an abrupt halt (Kuckertz, et.al, 2020). There are several ways the pandemic has affected economies, especially SMEs

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featuring both supply and demand sides (Cusmano & Raes, 2020). On the supply side, there is a general reduction in the supply of labour, as most workers are unwell besides movements are restricted. On the demand side, there is sudden loss of demand and revenue for Small and Medium Enterprises (SMEs) that have severely curtailed their ability to operate leading to serious liquidity constraints. Concomitantly, consumers have experienced loss of income, fear of contagion and heightened uncertainty leading to reduced consumer spending and consumption. These factors taken together contribute to reduced business and consumer confidence. In this scenario, SMEs are likely to be more vulnerable to ‘social distancing’ than established companies (Cusmano & Raes, 2020) due to size related factors like scope and scale. Similarly from the public perspective, the pandemic came at a time when several years of neoliberalism policies had depleted state capacity to respond to public crisis (Saad-Filho, 2020). Governments have embraced strategies for superior market based efficiency; entrenched deindustrialization through the globalization of production and built fragile financial structures, all in pursuit of short-term profitability. These factors taken together suggest that Covid-19 pandemic causes challenges for businesses such as health and safety, supply chain disruptions, labour force morbidity, cash flow interruptions, decreased consumer demand and increased marketing costs. SMEs are particularly exposed to the COVID-19 pandemic’s economic effects due to their limited financial resources and borrowing capacity. These challenges suggest that the future and priority of businesses and their governance should instead be to achieve resilience and sustainability, and not efficiency alone.

In Namibia like many other emerging economies, a thriving SMEs sector is instrumental in ensuring economic development through job creation and economic growth, and therefore are agents for reducing poverty. The Ministry of Industrialisation, Trade and SME Development (MITSMED) (2016) reiterates this position by maintaining that a strong, independent and expanding Medium, Small and Micro-Enterprises (MSMEs), which for this study will only be (SMEs) to align it with the international literature is key in driving economic growth, innovation, economic development and job creation. SMEs are instrumental where the scale and diversity of large businesses is insufficient in meeting the demands for new investments and employment opportunities. In Namibia, an estimated 33,700 SMEs provide some form of employment and income to 160,000 Namibian citizens, which is about one third of the nation’s labour force; besides the sector contributes approximately 12% of Namibia’s GDP (MITSMED, 2016). This finding supports the view of Tetteh and Burn (2001) who argue that the role of SMEs in the economy need no more emphasis, in the UK for example at the start of 2002 SMEs employed 55.6 percent of the workforce, 99.8 percent of firms were classified as SMEs, and accounted for an estimated 52% of total business turnover. Featuring prominently in this statistics is the services sector which accounts for 71.8 per cent, and includes businesses in retailing, hotels and restaurants, transport and communications, financial services, business services, education, health and social work, and other services (Fitzgerald & Alonso, 2005).

Consequently, in pursuit of the prominent role of SMEs in the economy, a number of SMEs support programmes are in place to address their performance and developmental challenges in Namibia. These initiatives notwithstanding, entrepreneurs in Namibia still face a number of challenges in implementing their business ideas mainly arising from their sizes and diversity. The most important challenges feature the development of an entrepreneurial mind of the operator (innovativeness, competitiveness, aggressiveness, risk taking), the managerial abilities (long-term vision, activeness instead of reactivity) and financial management (Schultz & Schöneburg-Schultz, 2006). SMEs in Namibia are particularly constrained by lack of access to adequate finance, land, reliable and affordable utilities, lack of entrepreneurial skills, informality causing high crime, global competition, access to technology, research and development,

access to markets, lack of accurate information on SMEs, cumbersome administrative processes, besides lack of a structured and regulated business development services market (MITSMED, 2016). The success of the SMEs policy in terms of sustainable employment creation and income generation through training; improved access to finance, technology and markets; enhanced capacity to innovate; and finally improved entrepreneurial skills is still a distant dream in Namibia. From a public policy perspective, access to adequate finances for SMEs is critical for their establishment, growth and prosperity. In Namibia, limited access to financial products and services for SMEs is well documented and remains one of the priority areas not only within Vision 2030 (National Planning Commission, 2004), but also in the accompanying five-year National Development Plans (1995/96 – 2021/22), the Namibia Financial Sector Strategy: 2011 – 2021 (Republic of Namibia, 2011), and the Namibian Financial Sector Charter (2009).

The Namibian financial services sector comprising of the banking industry and non-bank financial institutions such as insurance companies, pension funds, stockbrokers and money market funds, as well as the Namibia Stock Exchange is well diversified (International Monetary Fund [IMF], 2007). The envisaged interventions for strengthening the financing ecosystem requires the cooperation between Government funding agencies, development banks, commercial banks, micro-finance institutions, micro-lenders and private equity to provide SMEs with timely and efficient financing (MITSMED, 2016). Arguably, these interventions are needed to offer sufficient and timely access to finance for SMEs to stimulate and reinforce economic growth, job creation, labour productivity, and social cohesion that are vital for national prosperity.

The above strategies notwithstanding, SMEs financing globally is unattractive to traditional financial institutions because SMEs are perceived to represent high-risk ventures that do not yield commensurate returns on capital. Besides, even if they promise commercially viable investment opportunities, still SMEs are often not backed by adequate collateral and proper business records. Consequently few SMEs access financial services resulting in the majority of SME entrepreneurs relying on their own financial resources and contributions from family members or friends. Exacerbating the already fragile financial situation for SMEs, the advent of Covid-19 intensified the adverse effects of Covid-19 Pandemic on small and medium enterprises (SMEs). These enterprises are more financially constrained compared to large firms accentuating negative impacts on their growth and survival (Chundakkadan, Rajesh Raj, & Sasidharan, 2020). Additionally, the limited use of financial services by SMEs correlates strongly with owners' poor financial literacy. As a result, 97% of Namibian SMEs are arguably non-bankable. According to the 2014 World Bank Enterprise Survey for Namibia (World Bank, 2015), 40.9% of small enterprises and 28.6% of medium enterprises identified access to finance as a major constraint to their operations, whereas only 1% of large enterprises see access to finance as a challenge for their growth and development. This situation runs counter the recently promulgated government policy expectations on SMEs development in the country as drivers of economic growth and recovery plan.

BACKGROUND

Past research on entrepreneurship and crisis management arguably depicts two research streams that could form a useful basis for responding to the COVID-19 pandemic (Williams & Vorley, 2015; Smallbone et al., 2012; Parker et al., 2012). The first stream highlights SMEs sustainability as underpinned by two concepts of crisis management and resilience; is central in understanding the relationship between entrepreneurship and crises. This stream labelled entrepreneurial crisis management, deals with how

businesses generally respond to crises to achieve resilience and sustainability (Doern, 2016; Doern et al., 2019). Similarly, the second stream which draws from institutionalism and how institutions crucially affect entrepreneurship; posits that through suitable institutional changes, policy-makers are able to respond positively to crisis such as Covid-19. This stream targets policies that could nurture firms' survival during a crisis (Alesch et al., 2001; Dahlhamer & Tierney, 1998) and what barriers exist (Runyan, 2006); this second stream potentially supports policymakers in identifying and developing appropriate policy interventions.

Available literature on entrepreneurship suggest that access to adequate capital is one of the biggest constraints to starting and growing new businesses (Kerr & Nanda, 2011). According to Moscalu, Girardone and Calabrese (2019) financing constraints appear to impede significantly SMEs' growth and this negative effect is much stronger for perceived rather than actual financing constraints. It is therefore not surprising that attempts at alleviating SMEs financing constraints for new and existing entrepreneurs is an emerging important goal for policy makers globally. The underlying premise behind these policies is that there are important frictions in the credit markets and institutions that preclude high-quality entrepreneurs with good ideas from entering product and service markets. Access to financing and therefore access to other resources has been touted with the advancement of the resource-based view of enterprise competitiveness within strategic management. This view elevates firms' resources as mechanisms for gaining competitive advantage. For example, Kostopoulos, Spanos and Prastacos, (2002) see firms' resources as either tangible or intangible assets embedded within firms underlying their perceived competitive strengths or weaknesses. Similarly, Carmeli and Cohen (2001) in Wällstedt, Grossi, and Almqvist (2014) argue that three resource-based systems fundamentally driver organisational crisis and therefore are focal areas where potential solutions may be deployed: the customer-oriented system, the human resource system and the organizational culture system. The customer-oriented system emphasises efficacy, effectiveness, and quality; while the human resource system acknowledges the importance of human capital in organizations; and the organizational culture system models the organization's behaviour. Accordingly Shane (2003) argues that financial resources may be in high demand due to its instrumentality for exploiting entrepreneurial opportunities that involve acquisition and reconfiguration of other resources before the sale of output from such innovations. In this context, Shane suggests that new ventures with more financial capital are more likely to survive, grow and become profitable because such capital provides a buffer that entrepreneurs need to respond to adverse circumstances. Moscalu, Girardone and Calabrese (2019) in support of this position argue that if capital markets are perfectly efficient then the availability or non-availability of internal finances would have no impact on firms' growth strategies, as it is substitutable by an equal amount of external financing.

SMEs financing has been studied from the life-cycle perspective of a firm's growth also called stage models based on the idea that organisations progress through a number of linear successive and identifiable stages (Gupta, Guha & Krishnaswami, 2013). The financial life cycle concept underpins elements of trade-off, agency, and pecking order theories (Mac an Bhaird, 2010), and helps identify sources of finance usually advanced by funders at different stages of a firm's development. Quantitatively enterprises' growth may be conceptualised in terms of revenue generation, value additions, and business volume; whereas qualitatively enterprises' growth features may include market position, quality of products, service delivery, and customers' goodwill (Randa, 2020). Generally, researchers tend to explain the growth of enterprises from two perspectives; some suggest that the growth path of enterprises is linear and therefore predictable, while others maintain that enterprises' growth is fairly opportunistic depending on prevailing circumstances and context. The life cycle perspective maintains that an enterprise's

growth is organic and that enterprises' growth happen over a period of time in a linear and predictable fashion. However, other researchers have countered this argument suggesting that it may not be the case with every enterprise to grow linearly (Bridge et al., 2003). Arguably, enterprises can grow, stagnate, and decline in any order and fashion. Besides, certain growth stages can happen more than once, even there are possibilities of path reversals in the process. As argued by Levie and Lichtenstein (2010), the stages model and life cycle theories of entrepreneurial growth do not provide ample and irrefutable evidence of the enterprise growth and development. Levie and Lichtenstein instead suggest the dynamic stage or evolutionary theory which argues that organizations are not like living organisms, and that their growth can be co-created and determined with the help of suitable adjustments in internal as well as external environments.

Entrepreneurship as a catalyst for facilitating economic development is a settled issue in the literature (Hagedoorn, 1996; Audretsch, Keilbach, & Lehmann, 2006); however the same literature suggests entrepreneurial process is better facilitated in a regime of robust financial system development. In the financing behaviour of firms, two capital structure theories; namely, the trade-off and pecking order theories are dominant (Moscalu, Girardone & Calabrese, 2020). However, these theories fail to explain SMEs financial behaviour under credit rationing. Conversely, financial intermediation theories that focus on the characteristics and nature of bank relationships and the role of signalling in reducing credit rationing have recently become significant in explaining SMEs financing behaviour and development (Moscalu et al, 2020). Financial intermediation theories presume a developed financial system that provides an intermediation process through which entrepreneurial activities are translated into successful economic enterprises (Ajagbawa, 2014). In supporting this point, Levine (2005) posits that better developed financial systems reduce information asymmetry and therefore transaction costs, ease external financial constraints facing entrepreneurs, moderate market frictions and therefore ameliorates structural impediments that limit entrepreneurs and economic agents. Therefore developed financial systems benefit entrepreneurs by enabling the transmission and encouragement of entrepreneurial behaviour, inculcates innovation and so enhances business investments. The existence of informational asymmetries, agency costs and associated risks between SMEs and providers of capital are key drivers of financial market imperfections and origins of extensive public policy interventions.

Extant research on the SMEs funding gap has been pursued extensively from two channels (Esho & Verhoef, 2018). The first channel attributes the cause of financial constraints primarily to *supply-side factors*. The main tenet of this channel is that information asymmetries and opaqueness of SMEs compromise financial institutions' supply of funding. As such even when funds are available, the same factors are bound to increase transaction costs making funds too expensive and consequently unprofitable for SMEs. However, from the alternative channel, demand-side factors relating to SMEs themselves such as owner's preferences and knowledge gaps on viable alternative sources of finance available are the primary factors that account for inadequate finance for SMEs. Therefore arguing from the dynamic stage or evolutionary perspective to SMEs financing; perceived needs and preferences for external financing may represent parallel explanatory mechanisms of changes in entrepreneurs' fund-raising intentions alongside external funding restrictions and selection pressures exerted by potential financiers (Grünhagen, 2008). Whereas the first, perceived needs and preferences for external financing can be resolved through financial system development and financial inclusivity interventions; the second external restrictions and selection pressures can be handled by achieving a level of organisational legitimacy.

In the light of organisational change approaches, the adoption of a single theoretical approach for understanding SMEs financing constraints arguably is not a viable solution. Therefore this chapter

proposes to pursue SMEs financing from systems and contingency based approaches that underpin the *evolutionary financing framework* in exploring SME funding mechanisms for emerging markets like Namibia. Consequently the objectives of this chapter are to descriptively explore the influence of financial inclusivity on Covid-19 induced sustainable entrepreneurship in Namibia. Secondly, the chapter proposes to identify a suitable framework for SMEs financing in a crisis regime similar to what is currently posed by Covid-19. Namibia, like most emerging economies where SMEs contribute up to 60% of total employment and up to 40% of national income (GDP)(Adams, 2017), is severely affected by the global Covid-19 pandemic especially the SMEs sector and therefore requires urgent policy and management responses to facilitate SMEs survival and sustainability. Existing studies on firm survival during economic crisis have mainly focused on innovation, intangible assets, skill developments and other macroeconomic shocks (Landini et al., 2018; Guerzoni et al., 2020; Bartoloni et al., 2020). However, this chapter tends to highlight the relevance of access to finance for SMEs survival in the context of recent COVID-19 crisis.

In expanding on the foregoing expositions, section one of this chapter provides the introduction and background of the study covering the effect of COVID-19 pandemic challenges to the general economy and the SMEs sector in particular. It also extends this coverage to other contextual matters including SMEs resilience and survival strategies leading to their sustainability. The section also covers SMEs roles and challenges in the Namibian economy leading to the identification of this study's focus which is about Covid-2019 induced financial constraints facing SMEs in emerging economies. Section two, covers the study methodology which includes the study design and strategy together with issues of validity and validity. Section three delves into the pertinent literature providing the foundation of this study and covers SMEs sustainability, financing constraints, financial inclusivity, and the conceptual framework for studying SMEs financial inclusivity. Section four covers the study findings and discussions, being the product of secondary desk-top research on SMEs growth and resilience in Namibia. Subsequent sections provide conclusions, recommendations and directions for future studies on the same subject in Namibia as an emerging economy.

METHODOLOGY

This chapter is based on an exploratory case study research strategy, aimed at achieving analytical generalizability reflecting on interactions between financial inclusivity and sustainable entrepreneurship in the Namibian context. This approach supports the twin purposes of this chapter as earlier articulated which includes firstly an exploratory investigation of the influence of financial inclusivity on Covid-19 induced sustainable entrepreneurship in Namibia based on documentary and secondary data; secondly based on the results of exploratory investigation phase, identify a suitable framework for SMEs financing in a post-crisis regime similarly to that currently posed by Covid-19. Since the purpose is to capture a deeper understanding and clarity of public policy proposals for SMEs financing especially in the context of a pandemic, the constructive conceptual analysis, aligned to qualitative research is considered appropriate (Baldwin & Rose, 2009). Similarly, because the study aims to identify a suitable framework for sustainable SMEs financing, achieving transferability becomes necessary. This supports the use of theoretical sampling for building interpretative theories from the emerging information and selecting new documentary samples to further examine and elaborate on emerging ideas and information (Marshall, 1996).

Financial inclusivity practices presume the existence of exclusionary approaches and practices by the financial system's agents as well as regulatory gaps that prevent inclusive access. Conceptually, therefore from entrepreneurial sustainability perspective, the stakeholder approaches embedded within the stakeholder literature promises overarching solutions. The implied constructive analysis broadens the conceptual theory of financial inclusivity, either by postulating new relationships or suggesting that some relationships already known seem to hold among previously unrelated parts of the discourse (Kosterec, 2016).

The study therefore adopted an interpretivist research perspective employing mainly documentary analysis in exploring the state of financial inclusivity and sustainable entrepreneurship aimed at determining possible interventions that can fruitfully be applied for sustainable entrepreneurship in Namibia. Using the Business Source Premier (EBSCO) Database and other related sources, resources on financial inclusivity and sustainable entrepreneurship were downloaded and the two terminologies sustainable entrepreneurship and financial inclusivity were comprehensively analysed, compared and interpreted.

LITERATURE REVIEW

Sustainable Entrepreneurship

At the confluence of three concepts of environmental, economic and socio-political sustainability is sustainable development, which is the foundation of Sustainable Entrepreneurship. This relationship features various streams of thought and literature such as ecopreneurship, social entrepreneurship, sustainable entrepreneurship and indirectly institutional entrepreneurship (Schaltegger & Wagner, 2011). Traditionally, entrepreneurial activities have been characterised with relentless environmental damage (York & Venkataraman, 2010) in pursuit of short-term profits, subsequently leading to negative social impacts. It is in this context that scholars and practitioners alike have coined the term sustainable entrepreneurship. There is evidence supporting the view that a business can be profitable while also pursuing sustainable objectives like preserving the ecosystem, counteracting climate change, reducing environmental degradation and deforestation, improving farming practices and the environment, transporting drinking water, and/or maintaining biodiversity (Muñoz, Janssen, Nicolopoulou, & Hockerts, 2018). Sustainable entrepreneurship highlights the role of entrepreneurs in developing non-economic gains to society that provides a broader framework for corporate social responsibility that balances economic health, social equity and environmental resilience (Konys, 2019). Conceptually sustainable entrepreneurship draws on traditional entrepreneurship knowledge and research, the emerging research into social entrepreneurship, and business as well as environment research, to mention a few. It represents a continuing commitment by businesses behaving ethically and contributing to economic development, while simultaneously improving the quality of life for the workforce, their families, local communities, the society and the world at large and future generations. Konys (2019) maintains that sustainable entrepreneurship is crucial for the achievement of a more sustainable economy since it leads to successful implementation of sustainable business practices through entrepreneurial activities. There is general agreement in existing literature in support of the relationship between sustainable development and sustainable entrepreneurship, and therefore acknowledging enterprises as one of the greatest engines for societal and economic progress, and hence a source of disruptive and radical change (Greco & De Jong, 2017). Thus by emphasizing social, environmental, economic responsibility, and sustainability (SEERS); businesses recognise that

economic and social value creation are not mutually exclusive, but integral (Global Entrepreneurship Monitor, 2018). Behaviourally, sustainable entrepreneurs continuously strive for business success by adopting sustainability solutions for the mass market.

Urbaniec (2018) summarises sustainable entrepreneurship definitions to encompass three attributes that include balancing environmental and social concerns with economic gains; creation of new value and innovation oriented processes; and transforming companies, sectors, or economies toward sustainability. These ideas are captured in the Triple-Bottom-Line (TBL) framework coined by Elkington (1994) explaining the main components of sustainability assessment that includes people, planet and profit. Considering these three elements in an integrative model, the TBL framework advances a perspective on the correlation between economic prosperity, social justice and environmental protection and posits the importance of pursuing long-term business goals (Soto-Acosta et al., 2016). However, the current economic slowdown as a result of Covid-19 has had direct impacts on the sustainable development goals (SDG's) and therefore business sustainability (Leal Filho, 2020), leading to severe increases in poverty levels, unemployment, health risks and a huge uncertainty of these effects on the environmental aspects of the global sustainability goals. COVID-19 provides a unique opportunity for companies to act responsibly and to make a long-lasting positive impacts on stakeholder's perceptions. It is proposed that innovation, cooperating with educational institutions, establishment of international networks and resilient organisational cultures are all important practices that potentially lead to sustainable business development and entrepreneurship (Urbaniec, 2018).

Broadly sustainable entrepreneurship describes an innovative, market-oriented and personality driven form of economic and societal value creation that is environmentally or socially beneficial either through markets or institutional innovations. There is evidence that smaller firms exhibit many of these characteristics putting them at the forefront in pursuit of radical innovation; however start-ups face the liabilities of newness and smallness (Gruber, 2004; Gruber and Henkel, 2006). This compromises their ability to be successful at radical innovations such as accessing innovation networks, which enables organisations to bundle resources from different organizations necessary for sustainable entrepreneurship (Gemünden et al., 1996; Lehmann et al., 2005). Mature, sustainably responsive and developed financial systems provide a conduit for filling this radical innovation gap.

Sustainable Finance Systems

Underpinning the new model of economic management and framing sustainability are elements of circular economy featuring low carbon emissions, resource efficiency, clean technologies, responsible consumption, social justice and equality (Ryszawska, 2018). In this context financial sustainability has evolved to signify a shifting ground from the erstwhile dominant neoclassical market economy's perspective emphasis on maximizing profits and shareholders value. The shift is towards finance systems that support sustainable development, the green economy, low carbon economy as well as adaptation and mitigation of climate change (Ryszawska, 2018). The dominant contemporary economic model as we know it is arguably unable to deal with problems of unlimited growth of production and consumption, devastation of ecosystems, climatic change and social inequalities; macroeconomic instabilities and imbalances; depletion of natural resources; and degradation of the natural environment (Jackson, 2009). The market oriented finance with its emphasis on profit and shareholder value maximisation is arguably at the centre of the destructive elements of economic activities. Accordingly the role of finance

can no longer be defined solely in terms of profits and economic efficiency (Sandberg, 2015), but must include increased elements of social and environmental responsibility.

Finance systems framing contemporary neoliberal economy concentrates on profit maximising behaviour emphasising short term perspectives in investment practices and rates of return is an inbuilt feature of modern finance. Contemporary finance typically depicts much shorter time horizons than that needed to address society's pressing sustainability challenges; besides the dominant conception of risk in finance is typically much narrower than that needed to effectively capture economic, social and environmental sustainability (Eichler et al., 2017). The dark secrets of capitalism and neoliberal economic practices embedded in this model encourages the privatization of profits, socialization of costs and generates negative externalities (Wallerstein, 2004). In a nutshell, the contemporary dominant model of finance is not aligned to the requirements of social, economic and environmental challenges and therefore is ill equipped to deal with sustainability issues.

Subsequently according to Ryszawska (2018), the new aim of sustainable finance is to improve the social, economic and environmental performance of the financial system. This sustainability requirement has implications for the financial system; sustainability for finance arguably has a dual imperative (Financing a Sustainable European Economy, 2017). Firstly, it ensures that environmental, social and governance (ESG) factors be at the centre of financial decision-making. Secondly, sustainable financial systems mobilise capital to help solve society's key challenges that require long-term finance perspective: creating jobs especially for young people, improving education and retirement financial planning for the workforce, tackling inequality, and accelerating the shift to a decarbonized and resource-efficient economy (Ryszawska, 2018).

A financial system that serves the requirements for sustainable development is one that: Incorporates sustainability factors into valuation and product design; productively and adequately serves its users in their projects and needs, notably households, firms and governments; resilient, that is withstands and recovers from a wide range of both externally and internally generated shocks; ensures accountability and transparency by aligning sustainability preferences of its users and outcomes of the decision-making process; and finally takes a long-term perspective (European Union, 2017; Zadek & Robins, 2015). Therefore sustainable finance is defined as the provision of financial capital and risk management products and services in ways that promote economic prosperity, maintains the ecological balance and protects community's wellbeing (Strandberg, 2005). The elements of such a system includes effectively recognizing the costs and risks of high-carbon and resource intensive assets; allocating sufficiently and attractively priced capital for low-carbon, resource efficient projects; and finally ensuring that financial institutions and consumers are resilient to climate shocks, including natural disasters (Ryszawska, 2018) comparable to Covid-19. In this context a financial system that excludes marginalised individuals and enterprises fail to meet these criteria.

Financial System Development and Entrepreneurship

Financial system development provides a conduit for translating entrepreneurial activities into positive economic development in the economy, that is creating value adding projects (Ajagbawa, 2014). Although the main causal mechanisms are still debatable, financial development is an essential part of economic development, thus their co-existence whether one precedes the other or reinforce each other, these concepts are intertwined (Ajagbawa, 2014). This is an extension of King and Levine (1993) argument that financial intermediaries provide three services commonly demanded from any financial

system – evaluation of investment projects, mobilization of resources to finance promising projects, and facilitation of risk management. In a supporting role, the stock market is expected to reveal expected discounted value of profits from engaging in innovative activities. A well-functioning financial system therefore serves vital financial processes in the economy such as offering savings, payment, credit, and risk management products for people with diverse needs and therefore is a pre-requisite of an inclusive financial system. Consequently, economists continue to embrace the idea that government policies toward financial institutions and markets have an important causal-effect relationship on long-run economic growth and development. Financial system development occurs when financial instruments, markets, and intermediaries ameliorate the effects of information, regulatory enforcement, and transactions costs and therefore effectively provide five major financial systems' functions (Demirguc-Kunt and Levine, 2008). These functions include ex ante production of information about possible investment alternatives; facilitation of investments monitoring and corporate governance implementation; provision of platforms for trading in financial instruments, diversification, and management of risks; support mobilization and pooling of savings; and promote exchange of goods and services. The relationship between financial system development and entrepreneurship has also been captured by Bayar, Gavriletea, and Ucar (2018), suggesting that banking sector and stock market development, foreign direct investment inflows, and trade openness positively affect entrepreneurship development. However, there are potential obstacles in the process of financing innovation, suggesting that inventors may be financially constrained (Giordani, 2015). Theoretical arguments suggest that financial market imperfections for innovation or emerging SMEs range from high transaction costs and tax advantages to agency costs due to informational asymmetries between innovators and the financiers. Although these constraints are common to any financing relationship, a number of additional elements suggest that these frictions are more severe for emerging innovative investments. These additional elements include uncertain and largely unpredictable levels of economic activity (Cozzi & Giordani, 2011), research & development expenditure that targets intangible assets often considered bad collateral for financiers (Almeida & Campello, 2004), and inventors' reluctance to signal the quality of their new projects to prospective financiers due to fear of competitors stealing their new ideas (Bhattacharya & Ritter, 1983). These issues therefore create opportunities where new inventors and SMEs find themselves excluded from the conventional financial market operations. Daszyńska-Żygadło, Bem, Ryszawska, Jáki, and Hajdíková (2020) maintain that a sustainable finance system enables the creation of values and transactions in financial assets, in ways that shape real wealth to serve long-term needs of an inclusive and environmentally sustainable economy.

Examining the effects of financial sector development on entrepreneurial activity in 41 developing and developed countries, Llussá (2009) established that financial system development positively affects entrepreneurial activity. Similarly financial inclusivity which is a key element of financial system development positively influences the level of entrepreneurship activity. Adding to this view, Abubakar (2015) argues that financial literacy and financial inclusion are the two major obstacles regarding the development of entrepreneurship in Africa. Similarly, Fan and Zhan (2017) exploring interactions between financial inclusion and entrepreneurship using data from 31 provinces and 19 industries in China over the period 2005–2014, revealed that financial inclusion positively affect entrepreneurship.

SMEs Financial Inclusivity in Namibia

Literature indicates that well-functioning financial systems provide valuable investment opportunities to as many participants as possible, and channel funds to their most productive uses (Fan & Zhang, 2017).

However, in the presence of financial exclusion that limits poor individuals and small enterprises from accessing financial markets for external finance, individuals and small enterprises often encounter severe financial constraints which manifest as barriers to entry and their growth. In its attempts to mitigate financial exclusion and hence improve socio-economic sustainability using institutions, the United Nations at the 2005 World Summit proposed the establishment of inclusive financial systems (Fan & Zhang, 2017). This initiative aims at facilitating the formation of inclusive finance systems by participating member countries for offering a wide range of financial products and services to all participants at reasonable costs, supported by corresponding policy, legal environment, and regulatory frameworks (UNCDF, 2006).

The extant literature is not conclusive about the conceptualisation of financial inclusion, albeit many useful definitions exist. For example Transact (nd.), comprehensively defines financial inclusion as the state where all people in a given financial system have access to appropriate, desired financial products and services in order to manage their money effectively. Financial inclusion, alternatively broad access to financial services implies an absence of price and non-price barriers in the use of financial services (Demirguc-Kunt, Beck & Honohan, 2007). Financial inclusion is achieved through financial literacy and financial capability on the part of the consumer and access to financial products, services and advice from financial institutions. This definition includes two other concepts that are closely connected and pertinent in understanding financial inclusion – financial literacy and financial capability. According to Grohmann, Klühs, and Menkhoff (2018) financial literacy plays an important role in furthering the goals of financial inclusion based on data from the Standard & Poor global financial inclusion literature survey. Similarly, Adetunji and David-West (2019) confirmed that financial literacy influences individual's savings patterns taking into account both formal and informal financial institutions. According to Sherraden (2010), financial literacy arguably makes people more capable in handling their finances during crises. However it is unclear, whether financial literacy alone has the potential to significantly reduce financial vulnerability for low-income households and SMEs if institutional barriers to beneficial financial products are not simultaneously identified and developed. Arguably the distinction between financial literacy and financial capability is that to be financially capable, not only requires people to be financially literate; they need also to have access to financial products and services that allow them to act in their best financial interests (Sherraden, 2013). Both the ability and an opportunity to act contribute to a person's financial functioning in ways that enhance their financial well-being and life chances. In other words, financial capability requires both the ability to act imbedded in financial literacy and the opportunity to act embedded in financial inclusion (Johnson & Sherraden, 2007). Therefore the concept of financial capability which is a component of financial inclusivity not only includes financial literacy but also addresses institutional barriers that exclude low-income households and SMEs from accessing suitable financial products.

Comparatively, the Namibian financial system which is dominated by non-bank financial institutions (NBFIs) is relatively developed in the sub-Sahara Africa (Popovic, 2016). There are about 30 insurance companies, 500 pension funds, a stock exchange, a number of asset and unit trust management companies, specialized lending financial institutions, and a large variety of micro-lending institutions. Pension funds and insurance companies form the largest component within NBFIs. Besides, the banking sub-sector has five (5) commercial banks, 1 microfinance bank, and a branchless E-bank. Namibia's total financial system assets is currently standing at about 170 percent of GDP. The Namibian banking sector is sound, profitable and adequately capitalized, featuring a low Non-Performing-Loan (NPL) ratio of less than 1.5 percent. Of these 5 commercial banks, three (3) are foreign owned branches of South African banks, one (1) which is domestically owned is private, and the only one (1) SME bank is owned by the

government. These four (4) main commercial banks between them hold more than 95% of assets and deposits in the sub-sector. The four (4) autonomous and specialized government deposit taking institutions exempt from Bank of Namibia supervision are designed to broaden access to specific financial products. Among these, apart from Postbank, the rest of institutions Agribank, Development Bank of Namibia (DBN), and the National Housing Enterprise (NHE) have not been operationally successful, challenges of economies-of-scale and relatively large NPLs are extensive.

In Namibia SME access to finance is limited due to commercial banks' preference for collateral, underdeveloped leasing and factoring services markets, the embryonic state of development of private equity and venture capital funds, and the ineffectiveness of specialized financial institutions and the Small Business Credit Guarantee Trust (SBCGT) (IMF, 2007). This situation is compounded by the majority of Namibia's smallest businesses being mostly informal, unregistered micro businesses, with many being mainly subsistence businesses (Sherbourne, 2012). That said, medium sized enterprises constitute a wide range of enterprises of different ages across a wide range of sectors, with a majority having the appropriate legal status. Operationally, a majority of medium sized enterprises depend on the public sector for business with only a few involved in the export sector. Inadequate access to finance features highly among informal enterprises as an obstacle impeding their growth and this is also aggravated by their having less access to credit from the financial sector (Stork 2010). In Namibia, the 2009 and 2013 Business and Investment Climate Surveys found that access and cost of finance remains a big obstacle for informal enterprises development. Whereas formal businesses usually have commercial banks as their main source of credit, informal businesses generally use own resources and take credit from friends and relatives. Contributing obstacles for the informal sector's lack of access to credit include shortage of skills and systems to generate the necessary data and business plans required to obtain bank loans, inadequate collateral and lack of credit history. Similarly, the World Bank report on microenterprises development in Namibia found that there were no financial products or business development services appropriate or affordable for microenterprises in the country (World Bank, 2011). Adding to the already fragile financial situation for SMEs, the advent of Covid-19 intensified the adverse effects of the Pandemic on the small and medium enterprises (SMEs), which are more financially constrained already compared to large firms thus accentuating negative impacts on their growth and survival (Chundakkadan, Rajesh Raj, & Sasidharan, 2020). Arguably sudden and prolonged lockdowns have quickly developed into widespread collapse of such firms, as they are typically financially dependent on internally generated funds and money lenders for working capital (Baldwin & Mauro, 2020). Evidence shows that during an economic downturn, it is more likely for lenders to deny loans for the small firms given the risky nature of such entities (Bakhtiari et al., 2020). According to North et al. (2013) in the context of UK technology firms, small firms encountered extreme difficulty in obtaining loans during the 2008 financial crisis as they appeared excluded from the financial system.

Conceptual Framework

According to Parker, Castillo, Garon and Levy (2016), whereas financial capability and behavioural interventions aim at improving generic financial outcomes for clients, it is still unclear which set of outcomes practitioners and policy makers look for in terms of improving SMEs financial performance. Therefore the issue is to identify channels or mechanisms through which easier access to external finance increases firm growth and ultimately economic growth (Demirguc-Kunt, Beck & Honohan, 2007). The debate on tangible outcomes of financial capability and behavioural interventions has generated another

concept, financial health for firms and individuals. According to Noggle, Foelster, and Johnson (2020), an SME is financially healthy if it breaks even or earns a profit over time and has practices and/or resources to manage economic shocks and returns to at least a break-even point quickly. Rhyne (2020) argues that financial health focuses on some minimum set of financial outcomes and includes optimal day-to-day cash flow management strategies, financial resilience, and long-term financial planning. There is literature articulating a conceptual framework on how SMEs achieve financial health (Noggle, Foelster, & Johnson, 2020). Broadly, the framework articulates two interrelated external or exogenous factors that drive SMEs financial health. Underlying the base of this framework are socio-political context factors with elements such as societal norms, form of government, and the capacity of local, regional, or national governments to offer adequate financial services and protection – these are elements of an inclusive financial system. Separate but supporting the socio-political context factors is the economic ecosystem which include sub-factors such as the state of macroeconomic stability, growing economic sectors, and the development of its financial sector. The second category of exogenous factors depict socio-demographic context of the individual owner's attitude. This category recognizes that there are different demographic characteristics which include gender, ethnicity, religion, or caste, among others driven by the socio-political context and therefore endogenously influence entrepreneurs' behaviours.

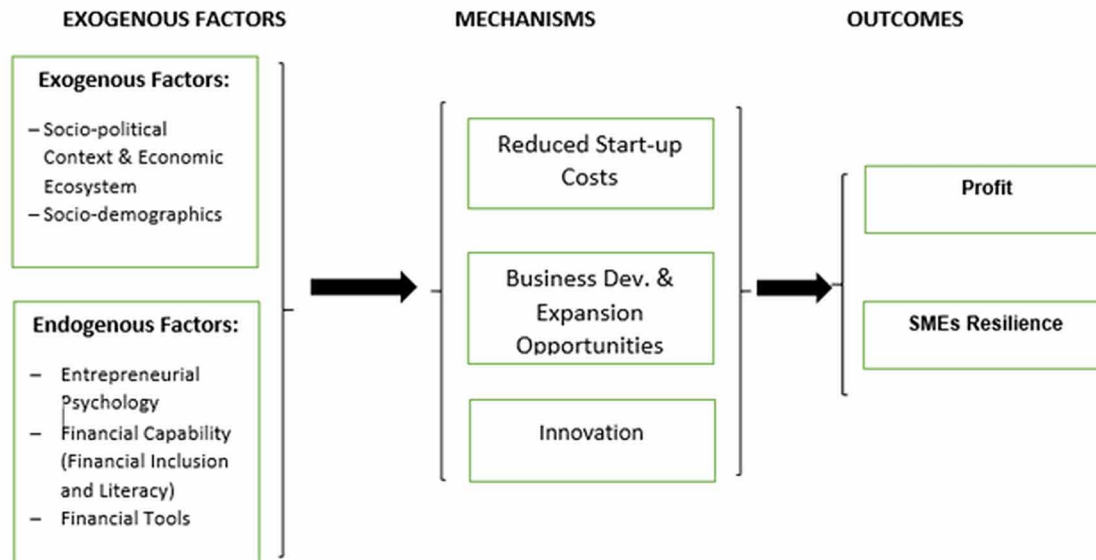
Reflecting on the endogenous factors, there are three broad categories of factors including entrepreneurial psychology, financial capability, and access to and use of financial tools. These factors taken together lead to SMEs profitability and resilience through reduced start-up costs for individuals unable to obtain either self-financing or external financing (Klapper, Laeven & Rajan, 2006); enables frameworks that support firms to make use of business development, growth and expansion opportunities (Beck, Demirguc-Kunt, Maksimovic, 2006); and allows firms to have a greater ability to make innovations (Ayyagari, Demirguc-Kunt, & Maksimovic, 2007). Thus availability of external finance is positively associated with the number of start-ups, firm dynamism and innovation. Existing firms use easier access to external finance to exploit growth and investment opportunities; besides where the infrastructures of external finance are in place, firms are enabled to choose more efficient organizational forms such as incorporation (Demirguc-Kunt, Beck & Honohan, 2007).

SOLUTIONS AND RECOMMENDATIONS

Leveraging on the evolutionary approach to SMEs growth and survival which are necessary conditions for sustainability; this investigation focuses on SMEs growth processes that are affected by the changing resource characteristics and the environment in which SMEs are embedded. A major finding of this investigation is that financial inclusion led entrepreneurial activities usually are transmitted via the reduction of credit constraints. These constraints feature irrecoverable initial start-up costs that raise entry barriers for obtaining essential skills training, limits operational innovations, restricts building production facilities, and undermines constructing distribution networks (Aghion, Fally & Scarpetta, 2007). Three major channels of transmission connecting financial inclusion to entrepreneurship include increased opportunities for financing start-up costs; enabled frameworks for supporting business development opportunities, growth and expansion; and supports greater ability to undertake innovations. These interventions effectively counteract the lack of scope and scale inherent in SMEs operations now made worse by Covid-19 pandemic.

Figure 1. Financial Inclusivity and Sustainable Entrepreneurship

Sources: Adapted from Noggle, Foelster & Johnson (2020)



The identified framework considers start-up costs as a limiting factor; implying access to finance is an alternative determinant for firm entry and growth. Klapper, Laeven and Rajan (2006) find that liquidity constraints hinder people from starting businesses suggesting that entry rates should be lower in countries with less developed financial systems and financial inclusivity. The authors argue that higher entry costs have dampening effects on innovation, risk-taking and therefore entrepreneurship. These barriers can include regulatory constraints that deter or even restrict individuals from signing up for formal financial services, as well as supply-side constraints that restrict suppliers from providing suitable financing products and services, thereby limiting market competition.

Robust and effective financial systems enable financial intermediaries and the legal system to provide alternative ways of accomplishing key growth and development opportunities that firms ordinarily accomplish internally (Beck, Demirgüç-Kunt & Maksimovic (2006); for example mobilization of resources for investments, monitoring of performances, and resolution of conflicts. Therefore in countries with less developed legal and financial systems, firms are constrained in their operations and growth by their inability to obtain external finance (Beck, et al, 2006). In this context, firm growth and development opportunities constraints relate to the design, delivery or servicing of specific financial products for target market segments. Therefore by targeting previously untapped markets, the providers of financial products should minimize the gap between financial needs and formal supply.

The importance of technological advances for entrepreneurship growth is well founded; however it is significant to ask whether financial development fosters new firm innovations and thus lead to increasing efficiency in developing countries (Ayyagari, Demirguc-Kunt, Maksimovic, 2007). Such effects would occur if financial systems have important roles in supplying capital to firms that are innovating or restructuring their operations in ways that make them more efficient. Innovation broadly defined include the introduction of new products and technologies, knowledge transfers, and new production processes

(Wyman, 2017). Constraints arising from the nature of regulatory oversight, coordination between different regulatory bodies and regulators' handling of emerging issues in data governance and customer protection affect innovation in start-ups.

The above findings are in agreement with widely accepted mechanisms supporting linkages between finance and economic growth including; finance-led growth, growth-led and bi-directional causal channels. The Finance-led Growth literature also known as the Supply-leading hypothesis broadly agrees that adequate supply of finance leads to economic growth. According to Fritsch (2017), well-functioning financial intermediaries improve technical innovation, support implementation of innovative products and services leading to a developed financial sector. The second possibility or channel is the growth-led perspective which maintains that the development of the financial system follows the expansion of the real sector (Chiwira, et al, 2016). Pioneering ideas on this channel were proposed by Kuznets (1955), and supported by Luintel, Khan, Arestis, and Theodoridis (2008) who posit that the expansion of the real sector stimulates the creation of the modern financial institutions, their financial assets and liabilities and related financial services which lead to economic growth. The third channel maintains that there is a bi-directional causal relationship between financial growth and economic performance. This perspective maintains that the causal link between financial development and economic growth changes over time as well-developed financial markets could promote high economic growth through technological changes; product and service innovation and the inverse can also be true (Stammer (1972).

In a nutshell, improving entrepreneurship through financial inclusion involves a full suite of quality financial services for entrepreneurs who possess financial capability, provided via diverse and competitive marketplace interventions (The Global Microscope, 2019). These interventions reflecting on the three transmission channels cover five elements including government and policy support, stability and integrity, products and outlets, consumer protection, infrastructure.

- The government and policy support perspective considers targeting the degree of coordination and incentives that the government puts in place to create favourable environments for financial inclusion. Initiatives designed to increase emerging entrepreneurs' financial literacy and capabilities, account uptake, and availability of specialised refinancing facilities are some examples.
- The stability and integrity element assesses existing regulations, supervision and monitoring of financial services providers serving the low and middle-income populations ensuring prudential stability and financial integrity. It prioritises risk-based approaches to ensure financial regulations do not unnecessarily inhibit market entry for products and services that advance financial inclusion.
- The product and outlets element considers the regulation on specific products and outlets that focus on low income populations and entrepreneurs such as opening savings and e-money accounts; regulations restricting excessive borrowing; digital financial services regulations; and an inclusive business insurance framework.
- The consumer protection element considers consumer protection, privacy regulation and enforcement capabilities for example the introduction of credit quotas and targets for workers in the financial sector.
- The infrastructure element considers the infrastructure for facilitating financial inclusion as well as policy and regulatory actions that governments take to improve financial inclusivity infrastructure.

RECOMMENDATIONS

In Namibia like in most developing countries, limited access to financial products and services is well documented and recognised as one of the main obstacles and therefore a priority area in enabling SMEs to access financial products and services. Strategies may include:

- Based on the findings, higher costs of compliance with a large number of legal and regulatory requirements which negatively affect SMEs operations are costs relating to tax and VAT, environmental regulations, labour laws, business registration procedures, etc. Hence there is need for Government to rationalise the legal and regulatory framework for SMEs to reduce their operating costs.
- In the context of stakeholder response to SMEs challenges and constraints relating to accessing finance; a diversified yet a cooperative SME financing ecosystem featuring cooperation between Government funding, development banks, commercial banks, micro-finance institutions, micro-lenders and private equity for timely and efficient delivery of financing is required.
- There is urgent need for an exploration of alternatives to collateral requirements; since the lack of collateral is identified as a key barrier to accessing finance for SMEs for example there is a need to create a regulatory framework for implementing a credit guarantee scheme for SMEs.
- More importantly, there is urgent need to ensure that all SMEs owners have access to basic financial management training through cooperation with the Namibia's national Financial Literacy Initiatives (FLI).
- There is need to encourage and stimulate traditional banking financial institutions to continuously identify strategies, operational and systems capabilities, products, and service offerings that are tailor-made for the SMEs to not only access funding but also manage them.
- Like elsewhere globally, SMEs rarely get funded from public stock exchange, recently private equity markets have become active, thus there is need to create a regulatory framework for implementing venture capital funds for high-growth-oriented SMEs in Namibia.
- Generally funding for SMEs start-ups are mainly from self-financing, family and friends, this is an area that requires specific financial vehicles urgently to support start-up companies, as the risks at this stage are usually perceived to be higher with a majority of these starts up facing the a spiral death.

FUTURE RESEARCH DIRECTIONS

This chapter is based on an exploratory case study research strategy using documentary and secondary data aimed at achieving analytical generalizability reflecting on interactions between financial inclusivity and sustainable entrepreneurship. Whereas this approach supported the goals of this investigation that identified three mechanisms through which financial inclusion is generally transmitted to achieve SMEs profitability and resilience, there is need to identify which of these three mechanisms offers a better policy intervention to conserve resources. Similarly, whereas this study wrestled with the issue of sustainable entrepreneurship from financial inclusivity perspective mainly there are admissible promising perspectives that could be studied together to offer better insights on SMEs sustainability and resilience

for example the comprehensive Global Entrepreneurship Monitor (GEM) dimensions could be considered for implementation in the Namibia context.

CONCLUSION

This chapter conceived two main goals, to provide exploratory analysis of the influence of financial inclusivity on Covid-19 induced sustainable Entrepreneurship in Namibia. Secondly, the chapter proposed to identify a suitable framework for SMEs financing in the Covid-19 induced environment.

Financial inclusivity explains entrepreneurship development and resilience through the reduction of credit constraints embedded in irrecoverable initial SMEs start-up costs that raise entry barriers for obtaining essential entrepreneurial skills training, limits operational innovations, hinders building production facilities, and undermines constructing distribution networks especially in the covid-19 context. Many factors seem to be at play for example socio-political context, economic eco-system context, sociodemographic contexts from the exogenous dimension to endogenous factors, which include entrepreneurial psychology, financial capability, and access to and use of financial tools. All these factors are reconstituted into three major channels of transmission explaining the link between financial inclusion to sustainable entrepreneurship development to include increased opportunities for financing start-up costs; enable frameworks for supporting business development, growth and expansion; and provide appetite for greater ability to undertake innovations.

This chapter adopted the Center for Financial Inclusion's (CFI) conceptual framework for understanding SMEs financial health whose intellectual roots connect back to financial education and financial capability initiatives supporting financial inclusion (Noggle, Foelster, & Johnson, 2020). The framework provides a comprehensive set of mechanisms for understanding and implementing financial inclusion initiatives for supporting SMEs development and resilience. This conceptual framework articulates that a set of endogenous and exogenous factors determine financial well-being of SMEs through increased opportunities for financing start-up costs; enables frameworks for supporting business development, growth and expansion; and also provides greater ability to undertake relevant innovation initiatives and interventions within the Covid-19 induced crisis in Namibia.

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Chapter 19

SME Sustainability and Growth in Emerging Markets

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ABSTRACT

The relatedness of the factors that slow down the sustainability and growth of SMEs in emerging markets is discussed in this chapter. The chapter further argues that even though the factors that have encumbered SMEs have gained traction in enterprise development and business management research, how their multidimensional interrelationship can harm the sustainability and growth of SMEs in emerging markets is yet to receive considerable attention. The entrepreneurial ecosystem framework of Mazzarol is used to present a novel approach in this review by attempting a richer explanation of the extent of the mutual connectedness of these factors and how they shape the entrepreneurial ecosystem. This chapter concludes that the factors that inhibit the realization of an impressive sustainable growth of SMEs are interrelated. For instance, the high cost of electricity significantly reduces the profit that can be made by a small business owner, and, in this case, the small business owner may have difficulty paying back a loan obtained in favor of the business.

INTRODUCTION

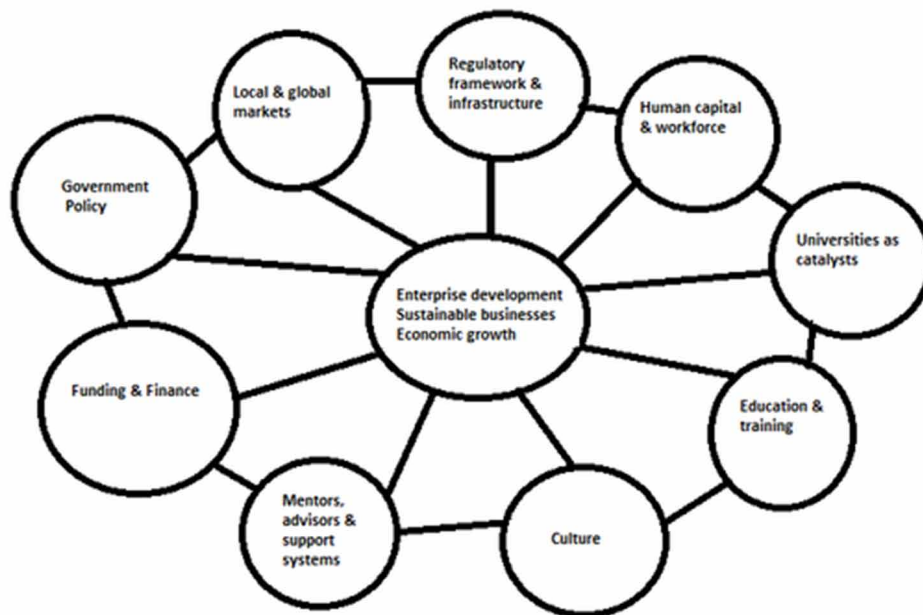
This chapter addresses the relatedness of the factors that slow down the sustainability and growth of SMEs in emerging markets. The chapter also shows how the interconnectedness of the factors considerably hinder small and medium enterprises from remaining in operation for longer periods.

This chapter further argues that even though the factors that have encumbered SMEs have gained traction in enterprise development and business management research, how their multidimensional interrelationship can harm the sustainability and growth of SMEs in emerging markets is yet to receive considerable attention. Understandably, the degree of impact of these factors varies from one region, country, and continent to another. Several research reports (for example Asitik, et al., 2016; Amoako-Adu & Eshun, 2018; Asah, et al., 2020) have indicated the massive debilitating influence of factors such as

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insufficient capital to start a business, the absence of requisite infrastructure, poor management skills of owners and managers of small businesses, poor and or inconsistent government rules and regulations, and the influence of culture. Specifically, this chapter explores a critical appraisal of the multifaceted connection amongst physical infrastructure, red-tape, access to finance, and business education. Drawing from the entrepreneurial ecosystem framework of Mazzarol (2014), this chapter presents a novel approach in this review by attempting a richer explanation of the extent of the mutual connectedness of these factors and how they shape the entrepreneurial ecosystem (Figure 1).

*Figure 1. Entrepreneurial ecosystem
Adapted from Mazzarol (2014)*



Mazzarol’s (2014) entrepreneurial ecosystem framework depicts a relationship that is shared amongst several elements that have a strong influence on the growth of SMEs. In describing sources of sustainability for SMEs in emerging markets, one can advance a nuanced analysis of the connection among the elements in Figure 1. For instance, drawing from Valerio (2015), the promotion of inclusive economic growth requires the prioritization of SME development which means that governments should encourage investments in SMEs through a funding practice that allows for easy access to finance, creation of networks that offer mentorship, and other assistance as well as instituting a culture that values entrepreneurship. In galvanizing entrepreneurial mindset, Mazzarol (2014) argues for a morally, ethical government that prioritizes the appointment of persons to portfolios that will meaningfully encourage fostering enterprise development and innovation. In other words, to expect meaningful economic growth through investment in SMEs necessitates some strategic elements such as the development of sustainable physical infrastructure, removal of unnecessary red tape which hampers the registration of business, sourcing finance, and access to business education.

BACKGROUND

Several reports suggest that owing to a host of challenges small and medium-sized enterprises (SMEs) do not survive beyond 2-3 years despite their popularity as an important solution to the three-pronged challenges - unemployment, poverty, and low economic growth - of emerging markets. These challenges necessitate not only the establishment of new business ventures but also the need to provide support to existing ones to ensure that SMEs remain important contributors to the development of economies and continue to provide jobs and improve citizens' livelihoods, thereby reducing poverty levels (Ahl, 2006). To speed up the realization of SME's potential, especially in developing economies, there is the need to encourage entrepreneurial activities to provide the much-needed jobs and creativity stimulus for economic growth (Herrington, Kew & Kew, 2010).

Simply put, even though SMEs are beneficial to a nation's economy, it is hard to consider their performance in emerging markets as satisfactory because of some reasons such as poor governance structures, dilapidated or non-existent infrastructure, insufficient finance, and financing systems. Aside from appreciable efforts to grow their economies, governments of emerging economies continue to experience high levels of unemployment, poverty, and low economic growth. BRICS, an influential contributor to the world economy has four of the largest emerging markets (Vadra, 2017; Giwa, 2020). South Africa, unlike other BRICS nations, for example, reported an unemployment rate of 30.1% (StatsSA, 2020). India, Brazil, China, and Russia fare better (see Table 1).

Table 1. Unemployment rate of BRICS countries

Name of country	Unemployment rate
*Brazil	12.9%
**China	5.9%
***India	11%
****Russia	6.1%
*****South Africa	30.1%

*Instituto Brasileiro de Geografia e Estatística. Online: <https://www.ibge.gov.br/en/indicators.html> [Accessed July 19, 2020]

**<https://www.statista.com/statistics/1109881/surveyed-monthly-unemployment-rate-in-china/> [Accessed July 19, 2020]

***<https://unemploymentinindia.cmie.com/> [Accessed July 19, 2020]

****Federal State Statistic Service. Online: <https://eng.gks.ru/> [Accessed July 19, 2020]

*****StatsSA (2020). Quarterly Labour Force Survey (QLFS) Statistics South Africa. [Accessed July 19, 2020]

The unemployment statistics for South Africa suggest that very few people are economically active. Interestingly, the fact that unemployment is on the increase in South Africa has not discouraged citizens of other nations from immigrating to South Africa in search of greener pastures.

Notwithstanding all the positive contributions of SMEs to economies, they confront numerous difficulties. A common difficulty that has emerged from several studies (Ladzani & Van Vuuren, 2002; Okpara, 2011; Schmidt et al. 2016) is insufficient capital. As a result of insufficient capital, the business owner is unable to fully fund the business leading to seeking financial support from banks or other sources. It is not uncommon that the prospective loan requires some collateral which the business owner may not have. Linked to this is the high interest charged on loans with the consequence that the business owner

is deprived of financial satisfaction that should come with owning a business (McDowell et al. 2019; Archuleta, 2017; Wong; Holmes, & Schaper, 2018).

Facing these challenges, the business owner is bereft of the capacity to grow the business. Insufficient capital as a major setback for enterprises in emerging markets has become the focus of many researchers. Other noteworthy setback includes a poor understanding of how to run a business including social, cultural, economic, and legal risks and requirements. Extant literature (Fedderke, & Garlick, 2008; Calderon, & Serven, 2014; Hegazy, & Van Zyl, 2016; Asitik, Sharpley, & Phelan, 2016; Christensen, Soyinka, Siu, Lawanson, & Adeniji, 2016; Soyinka, & Siu, 2018; Asah, Louw, & Williams, 2020; Khoase, Derera, McArthur, & Ndayizigamiye, 2020) has also reported how dilapidated infrastructure, red tape, and the absence of training opportunities affected the growth of SMEs.

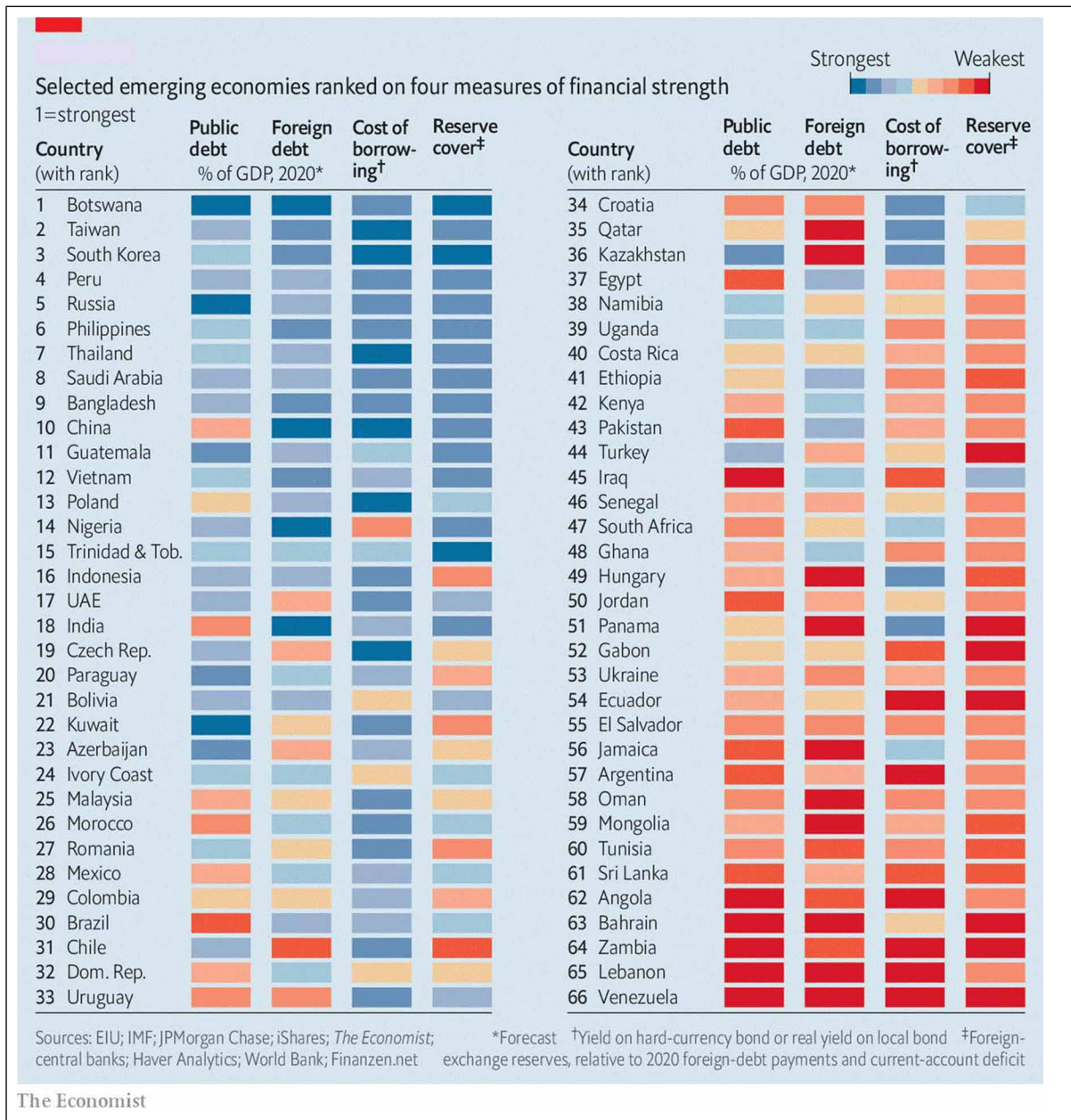
As the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) ravages global economies, there is no doubt that those who feel the pain of the virus are mostly emerging and developing countries. Table 2 below gives the selected countries in the emerging markets list.

Here, tourism is a significant enabler of economic growth. Indonesia for example has lost nearly USD6 billion in revenue since lockdown (Akhlas, 2020). Botswana, another country which depends on tourism as a major revenue source has also struggled since the COVID-19 crisis. As the second largest revenue earner in the country, the closure of tourist destinations – parks, game reserves – including hotels and restaurants (all small and medium enterprises (SMEs)) points to a major crisis in the economy (Hambira, 2020). In South Africa, a link has been shown to exist between being unemployed and social ills such as crime, homelessness, family tension, financial hardship, early pregnancy (Mchunu, et al., 2012; Thobejane, 2015; Rosenberg et al., 2015; Stoner, 2019) including the burden of physical and mental health (Ssewanyana & Bitanhirwe, 2018).

With the pandemic, most businesses are unable to function optimally. Limiting the movement of people and goods, isolating and quarantining of people including the requirements of social distancing no doubt has profound ramifications for emerging markets. Therefore, the imperatives faced by emerging markets as they seek to secure their future competitiveness not only as a result of SARS-CoV-2 but also their peculiar characteristics, can be better understood by examining SME sustainability and growth options.

The structure of this chapter proceeds in four parts. First, the concepts of sustainability and emerging markets are described. Second, the literature that uncovers significant areas of concern for the small and medium enterprise is explored. This will be done by linking the framework of the entrepreneurial ecosystem as posited by Mazzarol (2014). Within this premise the chapter also examines the role of funders. Finally, some future research directions are flagged.

Table 2. Selected emerging economies



UNDERSTANDING THE CONCEPTS OF SUSTAINABILITY AND EMERGING MARKETS

Sustainability

The concept, sustainability has remained difficult to define. Could the reason be found in its various characterizations or simply as a result of the various connotations that different scholars have linked it to?

In some cases, one finds the concept linked to the diverse but distinctively interrelated dimensions, which include social, economic, and environmental. For instance, one finds that in related environmental and socio-economic debates, sustainability takes center stage (Jenkins 2009; Kuhlman & Farrington 2010; Chichilnisky 2011). A common definition among environmental development scientists describes it as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987, p. 43). The term is also defined by Merriam-Webster dictionary (2006) as something that has the capacity “of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged.” Taking into consideration the various explanations of the concept, the chapter adopts Jenkins’ (2009, p. 380) reference to sustainability as the “capacity to maintain some entity, outcome, or process over time.” Therefore, drawing from Merriam-Webster’s definition and linking it to that of Jenkins, one can argue that sustainability refers to having limitless considerable resources to keep an entity, process, or outcome going. One gathers from that description that for something to be ‘around’ for a very long times it should have inexhaustible resources. By extension, therefore, it suggests that to sustain an entity, process or outcome entails the availability of the resources on which it relies for continued existence. Ultimately, to be sustainable entails accountability, pre-emptive, and introducing management practices that are innovative and able to positively influence society and those who live in it (Kuhlman & Farrington 2010; Chichilnisky, 2011). Hence, “the practical challenge of sustainability is to find specific ways to pursue those distinct goals that conform to their mutual relation” (Jenkins 2009, p. 380).

Emerging Markets

Finding a standard definition of an emerging market has also eluded scholars. Nonetheless, several descriptions of the makeup of an emerging market have been posited by researchers such as Khanna and Palepu (2000), Burgess and Steenkamp (2006), and Kuepper (2016). A broad description of an emerging market offered by Kuepper (2016) is that of a national economy that is fast improving both economically and politically and progressing towards industrialization. On the other hand, applying some World Bank indices, Burgess and Steenkamp (2006) characterize an emerging market as one whose economy is yet to reach the status of a developed one.

Bloomberg (2013) provides a list of top 20 emerging markets, one that is like Khanna and Palepu’s (2000) description of an emerging market. Specifically, an emerging market can be said to be one that has not achieved the status of a developed economy and saddled with poorly functioning institutions (Khanna & Palepu 2000). Following this characterization of an emerging market, therefore, is the shared notion in economic literature, that constant attention must be paid to nations with ailing institutions and socio-economic difficulties.

For this chapter, Iwu’s (2018) description of an emerging market is adopted as it ties well with other scholars (such as Burgess & Steenkamp, 2006; Khanna & Palepu, 2000; Kuepper, 2016) who suggest that emerging markets, like a developing economy, can achieve an advanced global posture if they provide innovative prospects for both local and international investment. In a sense, emerging economies must constantly pre-empt and introduce innovative solutions to their peculiar socio-economic circumstances.

METHOD

This chapter was written to uncover and offer a broad overview of the relatedness of the factors that impede the sustainability and growth of SMEs in emerging markets. To realize this aim it was prudent to first determine the factors that are core to the problem (Cochrane, 2015; Creswell, 2013). Therefore, following the methodological precedence of Dey (2005) and Mogalakwe (2006) led to the unraveling of the main actors in the sustainability and growth drawbacks of SMEs in emerging markets. Thus, only literature related to infrastructure, red tape, access to finance, and education was sought. This laborious documentary analysis permitted the selection of necessary documents for this chapter and resembles the pattern found in studies Calderon and Servén (2014), Tejideen, Raji, Abdullahi, and Akor, (2019) and Mutiiria, Ju, and Dumor (2020). Gratifyingly, the data drawn from secondary sources generated newer insights leading to a better understanding of the interconnectedness among the factors affecting SME growth.

CREATING THE NECESSARY ENVIRONMENT FOR SMEs

In discussing SME sustainability in an emerging economy, it is crucial to ask the following questions: (1) If SMEs are as valuable as they are reported in the extant literature and many other sources, why are not sustained? (2) With what should SMEs be sustained considering their relevance to society? keeping these questions at the center of SME discussions emboldens not only the entrepreneurial ecosystem but also SMEs in emerging markets.

Infrastructure

It is not uncommon to look at infrastructure as either a capital good (Kodongo, & Ojah, 2016; Goodfellow, 2020), and or as an economic or social means (Soyinka, Siu, Lawanson, & Adeniji, 2016; Kumari & Sharma, 2017; Muñoz et al 2020; Nugraha et al 2020). Fourie (2006) refers to economic infrastructure as transport, communications, power generation, water supply, and sanitation facilities, whereas social infrastructure consists of educational and health-care facilities. According to Tachiwou and Hamadou (2011), a better way to look at infrastructure is to use the two contexts that are common among economists which are physical and financial.

Financial measures simply calculate the depreciated value of the accumulated investment in a particular piece of infrastructures such as a road, school, or power grid. Physical measures vary across different infrastructure measures: total length of paved roads, number of classrooms, or the total number of containers processed by a port (p.132).

Infrastructure can also be a physical or tangible structure. In this respect, one draws from Asitik, Sharpley, and Phelan (2016) who refer to physical infrastructure as built capital consisting of road, water, and electricity. In the 2015–2016 Global Entrepreneurship Monitor (GEM) report, the infrastructure was identified as one of the major factors that reduce the accruable value of SMEs to South Africa's economy. This finding drives home the point that investing in infrastructure whether physical, economic, or social is an important means of promoting economic growth (Makhathini, Mlambo, & Mpanza, 2020). Insuf-

efficient investment in infrastructure will continue to debilitate the progress SMEs are likely to make in terms of reducing poverty and improving socioeconomic development (Asitik et al. 2016). Noteworthy though is the resolve of the South African government to spend close to 260 billion rands for the 2019/20 fiscal year (South Africa National Treasury 2019). In short, infrastructure must be available to support enterprise development, sustain a business, and generally improve economic growth. The shortage of and or presence of dilapidated infrastructure takes its toll on SME profitability, survival, and benefits of economies of scale.

Undoubtedly, investment in infrastructure is bound to achieve high-level socioeconomic benefits argue the pair of Fedderke and Garlick (2008) who found a link between infrastructure and growth. This justification, the authors contend, stems from the value of infrastructure as

A factor of production; a complement to other factors; a stimulus to factor accumulation; a stimulus to aggregate demand; a tool of industrial policy; and as a determinant of infrastructure spending (p. 1).

In other words, an important mechanism for sustaining and growing an economy is infrastructure because it facilitates “the production process, enabling access to basic services such as health care and education, and promoting government community relations through policy development” (Iwu, 2018, p. 216). Additionally, it is fair to conclude that investment in infrastructure stimulates job creation, unlocks business opportunities, and consequently local economic development.

Uncomplicated Business Formalization Process

Some studies (for example Nieuwenhuizen, 2019; Khoase et al 2020) have pointed out the growing frustration of new businesses wishing to formalize their operations. The frustration comes from amongst many other factors, the burdensome nature of formalization processes. For instance, to register a business may require spending long hours filling out forms and or in long queues. For most business owners, this amounts to a waste of time that can be used to do something more meaningful (Kaufmann, Hooghiemstra, & Feeney, 2018).

Even though the business owner may want to formalize the business, the prospect of spending an unreasonable amount of time on nonessential things can be unappealing and consequently discouraging. Complying with laws governing business registration including tax, and value-added tax is necessary conditions for business development and management. Honduras and Coduras (2019) argue in favor of complying with laws and regulations owing to its necessity for the governance of commercial activities in any economy - be it in trade or investment – with the caveat that such laws and regulations must be diligently administered. In support of this view, the International Labour Organisation (ILO) (nd) adds that ‘not all regulation is red tape’ suggesting that regulating businesses is useful for the formation of enterprises that promote growth and job creation.

Red tape can be described variously as troublesome and complicated especially with regards to business formalization. It can also be characterized as an unreasonable way of administering regulations that end up stifling the business because of its regressive and destructive manner. According to Robichaud (n.d.), red tape includes

...rules that are difficult for business owners to understand or implement in their businesses, duplication between government departments or different levels of government, difficulty finding proper informa-

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tion and obtaining service from government, and the time and money that can be spent complying with paperwork requirements that can be excessive (Robichaud n.d.p. 1).

In a study by Christensen, Hegazy, and Van Zyl (2016), the subjects identified water and electricity billing, high rates, and taxes on properties [which ordinarily should be paid] for as worrying. Could this be as a result of the absence of these services or because of their expensive nature? Could it also be because the subjects misinterpreted the need for the levies? In the same study by Christensen, Hegazy, and Van Zyl (2016), some subjects even considered worker compensation systems and other regulations including licensing as outrageous. Robichaud (n.d.) posits that with the perception of these regulations as bogus, the likelihood is that they are either poorly implemented or ridiculously presented.

Red tape, according to ILO (n.d), is

What makes life difficult for enterprises [...] often described as a collection or sequence of forms and procedures required to gain public/official approval for something, especially when oppressively complex and time-consuming.

It goes further to say that:

Red tape is a short-hand term for unnecessary or excessively complicated regulations and administrative processes that have financial as well as opportunity costs for enterprises when complying with national and local laws and regulations and administrative processes.

Overall, organizations across the globe are in one way or another affected by red tape. The idea of what constitutes red tape in some cases is derived from a variety of formal and informal mechanisms of administration and differs from one country to another. As Kaufmann et al (2018) posit, red tape perceptions are more pronounced in countries with an increasingly conservative political ideology and higher levels of corruption. What comes out here is that the way and manner in which rules are enforced may also play a part in one's perception of red tape. If the rules are effectively enforced to eschew the perception of the rule as excessive and or pointless, they are likely to be perceived as reasonable. Generally speaking, even though the administration of rules and regulations may be complex, yet they may be viewed as non-stifling if the citizens perceive the general administration of the country as efficient. So, in some emerging economies, the common perception is that governance systems are not that transparent (May, Nölke, & ten Brink, 2019). In South Africa, for example, despite the attempts of the government to support small and medium enterprises (Nxopo, 2014), it is noteworthy that red tape is stifling SMEs and consequently, they have been unable to, among many other factors, to realize their objective of poverty reduction, job creation, and improved standards of living (Iwu & Opute 2019).

Additionally, with the rate of closure (75%) of small and medium enterprises in South Africa, fingers point to the 'the stranglehold that regulatory burdens and red-tape have on entrepreneurs and small businesses. Businesses continue to struggle to operate in a highly inflexible and highly rigid regulatory framework' (Democratic Alliance, 2015). In strengthening the argument of transparency, an examination of Bloomberg's top 20 emerging markets (Bloomberg, 2013) confirms the perception that emerging markets do not quire fare well in terms of 'ease of doing business'. Therefore, it is necessary to eliminate excessive bureaucracy to encourage business formalization and subsequent improvement of government earnings.

Table 3. Economic factors, which influence the South African economy

Macro-economic factors	Micro-economic factors
Economic uncertainty	Bad business infrastructure
Extensive red tape	Bad pricing strategies
Frequent electricity outages	High levels of internal and external competition
High costs of credit	High overhead costs
High disruption in public transportation	Inability to deal with red tape
High electricity costs	Incompetent human resources
High inflation rates	Lack of business infrastructure
High-interest rates	Lack of business knowledge
High levels of crime	Lack of business planning
High levels of external competition	Lack of business skills
High taxation rates	Lack of customer relations
High water costs	Lack of external funding
Rapid changes to government legislation	Lack of financial knowledge
Rapid technological advancements	Lack of internal financial resources
Strict government legislation	Lack of mentoring
Volatile demands for products and services	Lack of proper marketing strategies
Volatile exchange rates	Limited knowledge of markets
Volatile market conditions	Non-payment of debtors and customers
Volatile supplies of products and services	Poor cash flow management
Weak service delivery by government	Substitute products and services
	Weak business location(s)

Source: Schmidt et al. (2016, p. 12)

Access to Finance

Considering the high poverty level in South Africa, it is not in doubt that a lack of financial resources poses a major hindrance to starting a business (Gwija, 2014). Imbued with a survival attitude, one also finds that even those who are gainfully employed seek out other income sources notably an entrepreneurial activity (Iwu & Opute, 2019). So, to seek ‘financial freedom’, it is not uncommon to find many unemployed people seek ways of getting by in the informal sector (Gwija, Eresia-Eke & Iwu, 2014).

Insufficient capitalization and to some extent lack of access to capital remains the bane of most businesses in emerging markets. Owing to the deficiency of capital and the means for acquiring it, small and medium businesses in emerging markets must contend with very little capital (often own savings) to survive and as a result resort to loans from friends and family. These loans, in some cases, come with stringent conditions such as high-interest rates and short periods of repayment (Okpara 2011).

To grow a business, capital is needed for stock replenishment, rent, and upkeep of the owner of the business (Gwija et al. 2014; Asitik et al 2016). Not only are these difficult to attain considering the large family networks that the average emerging market business owner has to contend with, but financial institutions are also known to require multiple collaterals, often including fixed property (Osano

& Languitone, 2016; Amoako-Adu & Eshun, 2018; Ngcobo, 2017; Asah, Louw & Williams, 2020). I argue therefore that without enough capital, it is unlikely that SMEs will make the requisite transition to growth. Several other factors, in concert with a lack of financial resources, stifle the growth of SMEs. These factors are listed in Table 3 below.

It is clear from the above that without proper capitalization and or clear sources to acquire capital, SMEs are likely to struggle. For instance, acquiring a vehicle may be necessary for distributing goods and services but unattainable owing to insufficient funds. Also acquiring competent human resources for assisting with the day-to-day running of the business may not be possible because of the absence of funds to pay salaries. Furthermore, it also depicts a close association between inadequate funding/access to finance and insufficient infrastructure, government regulation, and poor technological advancement.

Gaining Business Education and Training

Red tape, as alluded to earlier, can emerge from a perception that rules and regulations guiding business formalization are not effectively administered (Kaufmann et al 2018) or perhaps owing to governance systems not being transparent (May, Nölke, & ten Brink, 2019). There is a view that is shared by some researchers (such as Gwija 2014; Xesha, Iwu & Slabbert, 2014; Vadra 2017) that SMEs lack of awareness of what is required of them during business formalization is owed to a lack of business knowledge skills. Perhaps, a sound knowledge of business skills is required to appreciate the merit of formalization processes as well as better management practices to address business challenges such as business registration, bookkeeping, marketing, and human resource procurement.

Emerging markets require business education and training for meaningful contributions to their socio-economic development agenda. This way, their specific education and training needs are identified for the benefit of understanding how business is cultivated and managed. Understanding the business environment, therefore, requires substantial access to business education and training opportunities. In South Africa, access to business education and training is supposedly provided by government agencies. Curiously though, Gwija et al. (2014), affirming the presence of several government agencies that are responsible for providing business education and training in communities decry their inefficiency. Gwija et al refer to the unavailability of staff at these government agencies and warn that their unavailability does not bode well for businesses that need their services.

Regardless of who supplies business education and training, SMEs must be continually stimulated by way of business education and training to facilitate creativity and innovation, which most emerging markets in sub-Saharan Africa urgently need (Ladzani, & Van Vuuren, 2002; Vadra 2017). Mckenzie and Woodruff (2013, p. 1) provide the following account of the SME ecosystem in a developing country:

Walk into a typical micro or small business in a developing country and spend a few minutes talking with the owner, and it often becomes clear that owners are not implementing many of the business practices that are standard in most small businesses in developed countries. Formal records are not kept, and household and business finances are combined. Marketing efforts are sporadic and rudimentary. Some inventory sits on shelves for years at a time, whereas more popular items are frequently out of stock. Few owners have financial targets or goals that they regularly monitor and act to achieve.

Even though there are several other factors – such as the lack of and access to financial resources, poor access to markets, lack of support services, and low literacy levels - that impeded the sustainability

and growth of SMEs in emerging markets, the offering of business education and training to acquire necessary skills and abilities to grow a business represents a significant challenge faced by SMEs. Addressing this challenge is important, argue Ladzani and Van Vuuren (2002, p. 157) who state as follows:

Although a business may have the needed finance, without financial controls, its failure is probable. In the same manner, a business may have access to the markets, but ignorance about how to market products and services poses a serious obstacle to success.

The role of business education and training in emerging markets raises important yet complex economic growth and development issues both at the micro and macroeconomic levels. Firstly, the absence of business education and training means that small businesses will remain impoverished and unable to yield meaningful contributions to the economy. At a bigger level, the achievement of the economic goals of the nation is compromised by the inability of SMEs to achieve high levels of innovation performance and capability. Therefore, SMEs in emerging economies require the necessary environment which includes government support (Herrington, Kew & Kew, 2010); access to funding and accessible support agencies (Gwija et al. 2014); good support networks (Xesha et al, 2014); effective business development training opportunities (Iwu & Nxopo, 2015).

To enhance SME development in South Africa, Nxopo (2014) offers the following recommendations as given below in Table 4.

Table 4. Recommendations to improve entrepreneurship in South Africa

Category	Recommendations
Education and training	<p>Improve basic education, with special emphasis on numeracy, literacy, and vocational training. Improve education in business skills at the school level to stimulate entrepreneurial capacity in the youth including the extension of financial literacy and vocational training programs to the unemployed.</p> <p>Establish a wide-ranging apprenticeship system to provide artisan skills, especially to young people. Provide up-to-date training programs that focus on the entrepreneurs' needs, rather than outdated programs that cater predominantly to general managers.</p> <p>Entrepreneurial trainers and consultants must be well-trained and/or experienced in the specific area of expertise they offer. Enterprise support programs must be properly and regularly evaluated, and constantly improved.</p>
Government policies	<p>Introduce policies that reduce the cost of doing business.</p> <p>Simplifying business registration procedures.</p> <p>Simplifying tax regulations for start-up entrepreneurs; incentivize entrepreneurship through greater development of specialized economic zones, providing tax breaks for businesses below certain revenue thresholds, and lowering barriers to entry in certain industries.</p> <p>Liberalize the labor market, or introduce a two-tier labor market with increased flexibility for smaller companies. Refine the Preferential Procurement Act and institute better performance management of the implementers of the Act.</p>
Financial Support	<p>Simplify funding application processes to accommodate the reality of the majority of South African entrepreneurs.</p>
Others	<p>Create clusters/incubators/business hubs, including entrepreneurs and commercial and professional support structures, so that start-ups can be assisted in a more protected and supportive environment.</p>

Source: Nxopo (2014, p. 57)

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The clear challenge for sustaining and growing SMEs as shown above is that of creating the necessary environment for encouraging and providing access to a range of education and training programs such as financial literacy, a wide-ranging apprenticeship system in the form of business networks, incubators and or business hubs. Careful analysis of these challenges may reveal both social and economic levers favor simplified business start-up practices that promote a better understanding of government regulations as well as the achievement of business goals. The above further depicts a clear need for funders to be actively involved in the provision of financial support but also in making sure that those who receive funds are monitored regularly for early identification of challenges.

Role of Funders – Government and Private Institutions

The responsibility for enhancing SME sustainability and growth in emerging markets is not domiciled within the premises of government alone. It lies with both public and private agencies. According to Gwija et al (2014), the attempt by the government of South Africa to improve SME sustainability and growth has been let down by severe reputation allegations of financial impropriety, and instability of the agencies. The National Small Business Support Agency is mandated to “.... expand, coordinate and monitor the provision of training, advice, counseling and any other non-financial services to small business following the National Small Business Support Strategy” (Ntsika, 2003). If this agency was efficient, perhaps the result would be seen in the fewer number of closures of SMEs. Ntoyanto (2016), Khosa, Dube, and Nkomo (2017), and Odong and Kyei (2018) (2016) agree that a common criticism that has dogged government support agencies is that they fail to monitor recipients of funds. Substantial results can be achieved if the government not only provides funds but also monitors and evaluates the performance of the businesses it supports.

The National Youth Development Agency is tasked with providing oversight to the burgeoning businesses of the youth. Ntoyanto (2016) notes a lapse in surveillance, leading to the collapse of several business ventures. If a proper monitoring system is in place, it would then ensure that a recipient, for instance, who is struggling could easily be identified and the necessary mitigating action taken to rescue their business. In this case, the recipient may receive help timeously reducing the likelihood of collapse. Interestingly, the South African government has created a new department for small business development that caters to the needs of small businesses, including incubation hubs, networks, capital, and other forms of support. It is hoped that this department creates the necessary environment for SME sustainability and growth as well as mutually beneficial public-private partnerships.

RECOMMENDATIONS

The theoretical framing of this chapter relied on the entrepreneurship ecosystem framework of Mazzarol (2014). This theoretical framing is grounded on the rationality that to meaningfully encourage the fostering of enterprise development and innovation requires the perspective of understanding how the different elements in the ecosystem connect with one another. On this note, it is arguable that several options have emerged from this chapter on how to sustain SMEs. Looking at Mazzarol's (2014) framework, one observes ample opportunity for public-private partnership (PPP). Making a case for government's role in infrastructural development and acknowledging the deficiency of government in single-handedly providing enough infrastructure, Mutize, Mugobo and Iwu (2018) advised the necessity of public-private

partnerships in financing sustainable infrastructure that supports socioeconomic development. It is in line with this suggestion that this chapter recommends efficient and effective public procurement of infrastructure in association with private entities who will ultimately benefit from participation in decisions that pertain to their businesses.

Discussions leading to the enhancement of entrepreneurship in an emerging economy should include the role of universities. Questions that need unpacking in this regard will include whether universities are sufficiently equipped to train anyone to become an entrepreneur. Achieving meaningful answers to this question will likely lead to critiquing the teaching styles and philosophies of universities and colleges, the use of important sources such as the sustainable development goals (SDGs), statistics derived from the Global Entrepreneurship Monitor (GEM) to inform the development of case studies and teaching materials. In line with this thought is the value that must be placed on human capital for business development. Tarekegne, and Gelaneh (2019) advocate the inclusion of entrepreneurship models at all levels of higher education to sensitize students. Besides this, some authors such as Nchu (2015), Enombo-Pambault (2015), Fayomi, Fields, Arogundade, Ojugbele and Ganiyu (2019) have called for new ways of teaching entrepreneurship arguing that the conventional method of teaching [entrepreneurship] does not seem enough in addressing both the issues of creativity and innovation among graduates who end up with an entrepreneurial career and unemployment of those who end up without jobs.

It is noteworthy that owing to job losses, isolation, quarantine, and social distancing, Covid-19 has already impacted people's financial and psychological well-being. Post Covid-19 may even unleash new behaviors that may further induce much more stressful financial, psychological, and health problems. This suggests further pressure on the health infrastructure of emerging markets thus requiring adequate healthcare facilities.

This chapter further recommends proper knowledge management in the form of note comparisons and or benchmarking of GDP growth statistics to benefit from one another. This may be achieved by heeding the call of Mazzarol (2014) for the recruitment of men and women of integrity into government parastatals who are able to develop policies that enrich the development of the entrepreneurial ecosystem.

FUTURE RESEARCH DIRECTIONS

The economies of emerging markets need to continuously grow to take care of unemployment and other social and economic challenges. To assist with this, self-employment should be encouraged by the government and big corporations. It is suggested that with an effective public-private partnership, the burden may not rest only on the government to provide goods and services that promote SME growth and sustainability. It is against this background that future research could look at examining the extent of the influence of such partnerships in creating the necessary environment for this.

This chapter offers a new opportunity for researchers to empirically examine the extent to which the factors that have been discussed have a combined effect on the growth of SMEs. A significant research option may include intense scrutiny of how maladministration and governance can ruin an entrepreneurial ecosystem. As unprecedented as Covid-19 is, it equally offers enormous research opportunities such as assessing the cost of the lockdown on the mainstream revenue sources of emerging markets. Also, considering that almost every country is battling with how best to recover from the devastating impact of Covid-19 on lives, economies, political, social and healthcare systems, researchers can contribute by examining the current responses and recovery strategies, especially about small businesses so that na-

tions are able to build societies and economies that can survive future pandemics. In this regard, I argue that there is justification for a concerted interest in the growth of the SME sector in emerging markets. According to Hallberg (2000, p. 5), “it is enough to recognize that microenterprises and SMEs are the emerging private sector in poor countries, and this form the base for private sector-led growth.”

CONCLUSION

This chapter has brought to light the necessity for extra caution in dealing with issues related to sustainability of businesses especially in emerging economies. First, the chapter uncovers the relatedness of the reasons why the growth of SMEs in emerging markets is an important issue to consider in their socioeconomic growth especially when longevity is contemplated. Essentially, the chapter has shown that notwithstanding the numerous research that has dealt with the factors that make it difficult for SMEs to remain in operation for longer periods, a critical gap still exists in how these factors connect in harming the sustainability and growth of SMEs in emerging markets.

The literature review method employing arduous documentary analysis was used to select essential papers for the chapter. More importantly, the chapter made use of Mazzarol’s (2014) entrepreneurial ecosystem framework to shine a light on the extent of the mutual connectedness of these factors and how they shape the entrepreneurial ecosystem. Mazzarol’s framework was instructive in the sense that it offered an opportunity to describe not only the important players in any entrepreneurial ecosystem, but also how their connection matters in promoting an inclusive economic growth that prioritizes SME development in emerging markets.

The emergence of small businesses is often referred to as the innovativeness of entrepreneurs. That is why extant literature documents their importance in socioeconomic development especially because their creative processes – whether routine or advanced – result in creative products and services. Additionally, literature has indicated that SMEs will remain compromised unless the challenges they encounter – such as lack of finance, malfunctioning infrastructure, poor training and unnecessary red tapes – are tackled. In this regard, this chapter has affirmed that trusting SMEs to drive socioeconomic development would amount to nothing if, for instance, transportation infrastructure including a good network of roads, effective support systems including training and gratuitous administrative process (in the form of red tape) are removed.

Emerging markets are known to have marginal socio-economic development and, in many cases, negligible presence of public utilities such as electricity, water, roads, and transportation systems. Even where they are present, some of these utilities are either sourced privately while the public ones are available to only a few citizens. In South Africa for example, electricity supply, though reasonably widespread, is not accessible to every citizen. Regarding water, drought is a common occurrence in many provinces with very little intervention from the government. Unfortunately, even with a considerable good road network, transportation cost remains high owing to the constantly escalating cost of diesel and gas.

Broader economic growth leads to socio-economic development with entrepreneurs playing the pivotal role of creativity and innovation. Entrepreneurs’ creative and innovative practices emerge not only in the form of creative products and services but also in SMEs. SMEs, therefore, are critical to the economy and should be provided the necessary utilities such as efficient infrastructure, access to funding, education and training opportunities, and effective regulatory systems. The factors examined in this chapter are interrelated. For instance, the high cost of electricity significantly reduces the profit that can be made

by a small business owner, and, in this case, the small business owner may have difficulty paying back a loan obtained in favor of the business.

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KEY TERMS AND DEFINITIONS

BRICS: Within emerging economies are several groups of countries that have carved out a niche for themselves. One of such niches is the BRICS. BRICS is an acronym for Brazil, Russia, India, China and South Africa.

Coronavirus (COVID-19/SARS-CoV-2): Originated from Hubei Province in Wuhan, China, and has since killed over a million people around the world. Because of the virus, countries across the globe were on lockdown resulting in massive job losses and income as movement of people and goods was limited.

Emerging Economies: Are known as countries that have not fully industrialized but are pursuing those qualities that are synonymous with developing countries. Often with emerging economies, unemployment and poverty levels are high. There are several emerging economies with superpowers among them being China and Russia.

Enterprise Development: Is the one advanced by the University of Stellenbosch Business School (USB-ED, 2019) thus: “the act of investing time and capital to help people establish, expand or improve business. Enterprise development helps people earn a living or find a way out of poverty, and leads to long-term economic growth for themselves, their families and their communities”. It is therefore understandable why governments are pillars of enterprise development as they, along with the private sector, drive socioeconomic development by providing infrastructure (economic, capital, health, etc.).

Infrastructure: Refers to transport, communications, power generation, water supply, sanitation facilities, educational and health-care facilities. It is understood that the absence of these does not bode well for any economy. In fact, it is argued that the reason why there is no visible economic growth in some emerging economies and developing ones is because of the stark absence of these infrastructures. In the developing countries, funding constraints has necessitated the collaboration of the government with the private sector to finance infrastructure development for its growing population.

Red-Tape: Is normally seen as obstructive, unnecessary regulation of the business ecosystem. Red-tape may come in the form of excessive administration or too much paper work for registering a business. Researchers have written about the discouraging nature of red-tape and as such there is too little entrepreneurial advancement in nations where there is ‘too much red-tape’. There are some such as the International Labour Organisation (ILO) who think red-tape can be good as it helps to curtail the usurping of a process even though they agree that red-tape can be stifling.

Small and Medium Enterprises (SMEs): Are known variously as drivers of economic growth, agents of economic transformation of nations, the pillars of economic transformation of developing nations. SMEs are also characterized in terms of their size, annual turnover and size of workforce. What many know about them is that they contribute to job creation, reduction of poverty and the strengthening of standards of living. Interestingly, despite their avowed contribution to global economic growth, they encounter numerous challenging ranging from finance – access, collateral, etc. – to literacy, absence of supportive infrastructure, and frustrating government policies.

Sustainability: Term is described in many ways by many people. However, what stands out about the term is that everyone accepts the notion of avoiding the depletion of a resource that keeps something in existence. Basically, sustainability means ‘to maintain a process or something’. So, when one speaks about sustaining a business for instance, one is referring to keeping the business ‘alive’ for the purpose it was set up.

Chapter 20

SME Sustainability in South Africa Post-COVID-19

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ABSTRACT

COVID-19 has spread across countries throughout the world. This deadly virus has had devastating effects on government, society, healthcare, education, business, and the economy. As researchers and scientists throughout the world are searching for a cure, the virus remains deadly, and the infection rate is on the rise. SMEs throughout the world have been affected by this global pandemic. Since many countries imposed lockdown, SMEs were one of the most vulnerable in the business sector and suffered some devastating financial losses. During COVID-19, lockdown Stage 5 in South Africa occurred, where many SMEs that were non-essential were asked to shut down during this period.

INTRODUCTION

The COVID-19 pandemic brought on by the novel coronavirus, has spread across borders and reached countries throughout the world. This deadly and dangerous virus is a silent energy that has wreaked havoc on a country's society, schools, universities, business arena, medical fraternity and its law and order institutions world-wide. It has challenged society and cut at the very core of humanities ability to be social beings and wreaked havoc with people's lives. It has brought sickness, and overburdened medical care systems and has left death in its wake, as many people world-wide are dying from this virus. Scientists' and the medical experts throughout the world are working tirelessly to find a cure, and yet the human civilization even though threatened to extinction marches on, as the survival instinct within humanity continues to be strong, in spite of living in such deadly, tragic and uncertain circumstances.

The business arena which is a crucial component of a country's survival has also been exposed to the virus. As many countries businesses both large and small had to close down, to prevent the infection from spreading, as many governments championed Lock-down as a means to curb the spread of the virus. On the 15 March 2020, due to COVID-19 the South African government declared a National State of

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Disaster. According to COVID-19 Online Resource & News Portal (2020) on the 23 March 2020, the president of South Africa announced that the intention of the National Coronavirus Command Council (NCCC) to instate a national 21-day Lockdown, which was enacted in terms of the Disaster Management Act. This Lock-down was further imposed after three weeks as the country's infection rate was on the rise, till 30 April 2020. In South Africa, the president Cyril Ramaphosa, moved very quickly and has been commended by the UN and WHO, for taking steps to Lock-down the country and its borders. Various phases of Lock-down were put in place. South Africa commenced with Lock-down at stage 5. Here all citizens and people living in South Africa, who were not essential workers, were asked to stay home and only under special circumstances, go out for food or medical supplies. The different stages of Lock-down have followed in the preceding months from March, 23, 2020. At present in July- August 2020 the country is on Lock- down stage 3. On August 15, 2020 the country went to stage 2 in Lockdown, opening up more businesses and domestic travel in hopes of sustaining a badly falling business climate. Currently in October 2020 the country is on Lock- down stage 1.

The aim of the chapter is to explore one aspect of COVID-19, that is its' impact on SME's, with specific reference to the South African context and provide a way forward, post-COVID-19.

BACKGROUND ABOUT COVID-19

The biggest pandemic known to man is COVID-19. It is worse than the 1918 Spanish flu that claimed many lives internationally. According to Worldometers (2020) globally COVID-19 has claimed to date over more than a million peoples' lives. The world of small business as we know it has been changed by the COVID-19 pandemic that has encompassed businesses globally. In this section of the chapter the researcher will briefly look at what is COVID-19 and talk around its inceptions. The pandemic started in the Chinese Wuhan city. The outbreak of the case of chronic pneumonia cases in the Chinese Wuhan city of the Hubei province has been a center of attention globally. This has been where the virus first emanated from. The unknown virus was first detected in December 2019 and subsequently identified as the 2019 novel coronavirus (COVID-19), based on the symptoms and the laboratory test results (Huang, Wang, Li, Ren, Zhao, Hu, Zhang, Fan, Xu, Gu & Cheng, 2020: 497-498).

To date scientists and doctors and the best medical minds in the country are working tirelessly to develop a possible vaccine. However, since the virus has mutated so many times and the effects of COVID-19 on the different world populations are varied, has added to the strain on finding a cure or possible vaccine for this virus. At the moment various countries are working on possible vaccines, but they still in trial phase.

To cope with this pandemic, there has been a change in the way business, hospitals, schools, and all areas of society have to operate. To prevent infection and curb the infection rate, wearing of masks, sanitizing ones hands, practising social distancing and staying home and minimising contact with crowded malls and other public spaces is very essential.

This chapter will explore COVID-19, that is its' impact on SME's, with specific reference to the South African context and provide a way forward, post-COVID-19.

METHODOLOGY

The research displayed in this study is supported by a desk study methodology for collecting secondary data to establish the impact of COVID-19 on small business from global

(international level), and specifically South Africa (national level). The aim of the research is to explore COVID-19 on SME's, its' impact on SME's, with specific reference to the South African context will be presented and solutions and recommendations argued and put forward, post-COVID-19.

The chapters' main focus will include the discussions on the following key themes namely; COVID-19 and its' implications on the South African economy; Impact of COVID-19 on SME'S in South Africa; Consumer behaviour during COVID-19 in South Africa; How SME'S have adapted to the COVID-19 climate?

COVID-19 and its' Implications on the South African Economy

Amman, Haar, Ghoneim & Arabiyas (2019) argue that entrepreneurship is being recognized as the main solution for economic development and social welfare. The impact of COVID-19 had devastating consequences on the South African economy, which was already in crisis before the pandemic hit. The economy has been at an all-time low, as it was categorised as "junk status". Add COVID-19 to the mix and the country's' economy plummeted further into a recession. During COVID-19, South Africa like many countries imposed Lock-down. This resulted in many industries and business sectors being closed which sent further shocks being registered on the South African economy. Haleem, Javaid, M & Vaishya (2020) posit that COVID-19 has affected day-to-day life and is slowing down the global economy. They further argue that the economic effects of coronavirus include: the slowing of the manufacturing of essential goods, disruption of the supply chain of products, losses in national and international business, poor cash flow in the market, significant slowing down in the revenue growth while the social consequences include the cancellation or postponement of large-scale sports and tournaments, disruption of celebration of cultural, religious and festive events, undue stress among the population, social distancing with peers and family members, closure of hotels, restaurants and religious places, closure of places for entertainment such as movie and play theatres, sports clubs, gymnasiums, swimming pools and so on.

Lock – down in SA caused the closure of many small and medium and big businesses especially in the service sector like tourism, travel, airline industry, hotels, restaurants, bars, catering and entertainment sector businesses were forced by the SA government to be closed during Lock-down and in many phases of Lock-down. Kuckertz, Br€andle, Gaudig, Hinderer, Reyes, Prochotta & Berger (2020) state that the coronavirus (SARS-CoV-2) and the spread of COVID-19 led many governments to take drastic measures. They argue that the lockdown of large parts of society and economic life came as an exogenous shock to many economic actors and innovative start-ups. According to Arndt, Davies, Gabriel, Harris, Makrelov, Modise, Robinson, Simbanegavi, van Seventer, & Anderson (2020) four channels by which a lockdown and other efforts are expected to influence economic activity are distinguished. They are as follows: (i) the forced reduction in production as a result of a national lockdown and other restrictions on non-essential business operation, (ii) the impact of the lockdown on household demands for goods and, especially, services (e.g., tourism as a result of travel and movement restrictions), (iii) the effect of disrupted global production and supply chains on South African exports, and (iv) the effect of uncertainty on business investment. These four channels of direct impact will have knock-on effects that spread through the entire economy. Reduced activity in one sector has consequences both for the

suppliers of that sector, who face lower demand, and for the users of the output of the sector, who face supply disruptions. Thus, the shock spreads through the economy.

Lock-down impacted on the closure of many business sectors or slowing down in many industry sectors. In South Africa, this caused a fall in demand and supply as travel and non-essential services were banned during Lock-Down stage 1, 2 and some even in 3. Retail trade also was impacted, as they were seen as non-essential services during stage 5 of Lock-down. Many retail chains and outlets had to close, causing massive job losses country wide. The farmers were also hard hit as demands for their crops that were once exported slowed, due to many countries being cautious to bring in food supplies from a country like SA who is ranked number five, in the world in terms of COVID-19 infection rate. In the researcher's opinion, in South Africa due to the ban on cigarettes and alcohol the industry took a knock during Lock-down, as the cigarette ban had only been lifted recently in Lock-down stage 2. Alcohol was banned during certain stages of Lock-down, then unbanned, then banned again due to the massive strain it had on the health sector. However during stage 2 of Lock-down, the ban on alcohol has been lifted. The demand and supply for alcohol and cigarette products which also brings in great tax revenues to the coffers of the SA government in the form of tax levies were also impacted during various stages of Lock-down. Industries supplying clothes, shoes, clothing accessories, textiles were severely affected by Lock-down and will continue to be affected as many South African's are being frugal and spending money on food and medicine and basic necessities as inflation heightens. It is the opinion of the researcher that the common South African does not have money for luxury items like clothes and shoes or accessories and this will impact on VAT and the country's GDP as well.

The financial markets in South Africa were also severely impacted by the pandemic. In South Africa many people and investment firms took a hard knock during the COVID-19 pandemic. Loss in investments and savings hit many South Africans' hard. Zhang, Hu & Ji (2020) state that the coronavirus (COVID-19) affected financial markets all over the world. It created an unprecedented level of risk, causing investors to suffer significant losses in a very short period of time. Ozili and Arun (2020) added that the increasing number of lockdown days, monetary policy decisions and international travel restrictions severely affected the level of global economic activities and the closing, opening, lowest and highest stock price of major stock market.

If we look at China where the COVID-19 pandemic was first seen, a lot can be learnt from their experience. According to McCloskey & Heymann (2020) with the cities locked down, roads blocked and residential communities sealed off, many people found they could not go back to the cities in which they worked. While these stringent epidemic control measures inhibited the epidemic's spread, they also prevented employees from returning to work and interrupted the circulation of raw materials and products. The impact of the epidemic on the economy may further increase substantially if there are extended restrictions on movement and therefore trade and commerce within China.

In many countries in the world as reality about the uncertainty of the COVID-19 pandemic set in, people started to relook at their purchasing choices, even in South Africa. Holidays and travel were put on hold as the countries closed their borders and provinces in South Africa. Car sales plummeted as these were no longer a priority purchase as many South Africa's were unsure about their jobs and future income. Consumers focused on food, Personal Protective Equipment and prioritised safety. The purchase of masks, hand sanitizers and gloves became priority in many households across South Africa. Even small and medium term businesses were investing in Personal Protective Equipment for their employees and consumers where necessary, as this was authorised by law. In order for any business big or small to be operating they had to comply with the new COVID-19 health and safety regulations and provide

a safe environment for their clients and customers. Since many people were forced to work from home during Lock-down, the sale of data and computer related appliances increased.

Since South Africa is part of BRICS, its export and demand in metals has been slow due to the COVID-19 pandemic having economic implications on the countries GNP. South Africa also relies heavily on China and other BRIC countries for raw material and export commodities, and during Lock-down, the supply of these imports were low. Many of South African industries who rely on imports had their production and manufacturing impeded due to Lock-down. Whichever way one has to look at it, COVID-19 has had a disastrous impact on the South African economy. South Africa, however is not alone in this as the impact of COVID-19 on many of the world countries' economies of the world has been negatively impacted by the pandemic. With people being sick and absenteeism raising and governments in the world putting up Lock-down measures and curfews in place has created a ripple effect in world economies. It may take many years, for economies in many countries to get back on their feet and stabilise or yield a positive growth rate or lowering of inflation. However, the researcher is positive, that with the correct economic policy development and implementation, countries can slowly build and move forward in the small, medium and big business sector. It may take a bit o/f time, but even South Africa, can survive the aftermath of COVID-19 and can slowly take initiatives to open up more trade and business actives to stimulate the economy.

In the discussion that follows the impact of COVID-19 on SME's in South African will be outlined and discussed in detail.

Impact of COVID-19 on SME'S in South Africa

The biggest impact COVID-19 has had on SME's world-wide was that they have been forced to close their business activities if they were non-essential service providers. Many of these small business owners had to take drastic measures due to the great loss of income that was incurred during these COVID-19 times. Some business owners had to let go of staff, as they no longer were in a position financially to pay for their employees, when their business was forced to be shut down. Bartik, Bertrand, Cullen, Glaeser, Luca, & Stanton (2020) indicate that the results of the survey of over 5 800 small businesses in the United States, indicated that 43% of responding businesses are already temporarily closed. On average, businesses reduced their employees by 40%. Three-quarters of respondents indicate they have two months or less in cash in reserve. According to FSB (2020) the COVID-19 pandemic represents an external shock of unprecedented magnitude, affecting European SMEs on the supply and demand sides alike. For example, survey data from May 2020 suggest that 41% of UK SMEs had stopped operations and 35% feared they would be unable to reopen again.

The researcher asks that, if one has to look at Italy where Lock-down continued for months as the death toll and infection rate rose, this has had catastrophic implications on SME's in Italy. Their very survival and sustainability was threatened. According to CNA (2020) in a country like Italy, more than 70% SME's indicated they were directly affected by the COVID-19 pandemic which was a national crisis of unprecedented magnitude.

For many small businesses that have opened, although it is business as usual, the long months of forced closure imposed by the government of South Africa during Lock-down has had brutal consequences on their financial position. The SME's in the food industry that sell fruit and veg, meat and poultry and groceries are better off than the others as they were allowed to be opened, as they were essential providers of food to customers. SME's that were in the medical supply industry and those manufacturing/supplying

and selling Personal Protective Equipment also were in a better position, as they were selling products directly relating to the pandemic and these goods were urgently needed by people to get better. SME's in the medical supply industry like pharmacists, doctors, herbalists and stores manufacturing, supplying and selling Personal Protective Equipment, were not affected by COVID-19, in fact they benefited from the opportunities that arose during this time. Directives affecting small businesses (SMMEs)

According to People's Assembly (2020) the government in South Africa indicated on 6 April, 2020 through a ministerial directive the following important conditions necessary with respect to small business who are allowed to operate during COVID-19. They are as follows:

- corner shops, spaza shops and fruit and vegetable informal traders and langanas are classified as essential services irrespective of the nationality of the owners
- the same applies to every small, medium or micro enterprise operating a grocery store
- informal food traders must have a permit issued by the municipality where trading
- where a business owner is not a South African citizen, he/she is required to hold a valid passport and visa, or an asylum seeker permit
- minimal staffing, social distancing and sanitising/disinfecting protocols apply only 'basic necessities' may be sold
- nobody may 'stay overnight' in a grocery store

SME's selling technological devices and data and offering on-line products or services have shown an increase in their revenue due to COVID-19, as more and more people, especially in South Africa have had to work from home during many stages of Lock-down. People also are scared to go out and shop and use on-line service providers to acquire their goods and services.

Technology has had a significant impact on SME's world-wide. Since, the pandemic is spreading so rapidly, SME owners' had to change their business model and move some of their business activities on-line. For example, some SME owners' had to ask their clients to make on-line payments. Another change was that certain SME were selling, online, so customers could make purchases and have their good delivered to them. In South Africa, some small businesses like a butchery in Westville, Durban, South Africa, had customers call in and place order and when the order was processed, they could pick up the order and pay. This allowed customers to avoid unnecessary queues, or time spent in making the order in store. In this scenario, customers' just picked up their order and made payment at the local butchery. Many grocery shops and pharmacists also did something similar, where orders were called in or booked on-line and delivery was made at an additional fee or customer/ client could make pick-up's later on in the day once the order was processed. Doctors, mainly the GP's who ran their small business, had on-line consults via WhatsApp with their patients. Patients would send pictures of their conditions or did a video call, and explained symptoms and the doctors did, on-line consults with their patients. In this way, patients could feel safe and not enter a surgery where other sick people were being treated.

Another example of doctors running their small business practice during COVID-19 had the following scenario, patients went in to the doctors' practice, on entering they had to sanitize their hands first, and then they were subject to a temperature check. The patient then left their cell number and went and sat in their cars outside and were only called when it was their turn to be consulted. This was a way to keep patients safe during the pandemic who had to seek medical attention.

Many SME owners' also had staff work from home and installed technology and data so that they could conduct their duties and liaise with customers and clients on-line. This was very effective during

the Lock-down. However, within South Africa, depending on the business or type of service/product, working on-line was only conducive to certain businesses. For example, an attorney could draw up a will for a client and the work could be done on-line. A business consultant could advise their clients on-line. Small and medium business owners, who owned and managed Insurance brokerage firms could also attend to clients on-line.

SME's had to endure very high financial loss during Lock-down. This was also the case in South Africa. Some SME's were forced to retrench their staff because they had no money to pay them. This caused an increased unemployment rate in South Africa. This had an adverse effect on the economy and society. The poverty rate increased in South Africa during COVID-19 as more and more people could no longer work as they were sick or had to stay home and take care of young children, old parents and loved ones who were sick or had frail health. The South African government together with the business sector came together to raise funds in the form of the solidarity fund to offer financial aid to the poor members of society hard- hit by the pandemic. Various NGO's local and international, religious and charity organisations came together to provide food and masks for the poor. Even ordinary South Africans', rose to the challenge and pooled contributed money together that they raised as a community, and made food for the poor and provided food packages to the needy families in destitute communities. During COVID-19, the generous spirit in South Africa could also be seen within families, as they got together in certain communities and helped their siblings and other family members who lost their jobs due to retrenchments or were high risk and could not work anymore, by paying their rent or buying them food. This remarkable act of humility, kindness and care was seen in so many aspects of South African society, as COVID-19 raged unabated, increasing the infection rate and bring South Africa to number five in the world. These men and women in South Africa who took care of their families, communities and the poor needed to be saluted and commended for their generous human spirit during such a catastrophic even like the pandemic.

In some cases SME owners' were forced to close, due to the devastating financial effects the pandemic had on their business's leaving them in a state of bankruptcy. This could be seen in the tourist industry as small business owners 'who were tour agents were forced to shut down. Oruonye and Ahmed (2020) find that the outbreak and spread of COVID-19 disease in Nigeria led to rapid shutdowns in cities and states across the country which severely affected the tourism industry. In South Africa, this was one of the sad realities faced by small business owners who had to shut down their businesses' for good in the tourism industry. World- wide, as the COVID-19 infection rates rose and spread, it was so sad to see businesses close, especially some which were owned by families for generations. There was also those new start-ups that could not cope during Lock-down and became financially insolvent. Bankruptcy and financial losses can be seen in many countries, and many vulnerable businesses especially in tourism, retail, clothing, construction and child care which, were severely affected by the COVID-19 Lock-down. To date crèches, Montessori schools for pre-schoolers and other child day care facilities, are battling to get on their feet in South Africa, as the government opened up these businesses. The researcher is of the opinion that many people, especially those with young children are afraid to send them to pre-school, crèches or day-care centres for fear that their precious young children would get infected.

The use of masks, gloves, goggles, hairnets (in certain circumstances) and hand sanitizers to essential service workers like doctors, nurses, police officers and others are in high demand. When many countries borders were closed, imports and exports in many countries were prohibited, thus making the supply of these products very hard to come by. Many SME's, universities and other businesses rose to the challenge and started producing masks and hand sanitizers in South Africa to cater to the growing

demand for these essential safety supplies. This was an opportunity for SME's to either produce the masks and hand sanitizers or be in the forefront to supply them to the business sector and the community. The World Health Organization (2020) estimates that global production of personal protective equipment (PPE) would need to increase by 40% to be able to meet the surge in international demand stemming from COVID-19.

The section below will discuss consumer behaviour during COVID-19 in South Africa.

Consumer Behaviour During COVID-19 in South Africa

Covid-19 was a sudden and unexpected pandemic that is the biggest humanitarian crisis in recent history to create such pandemonium, sadness and death in our present history. The pandemic is seen as a silent killer that is taking casualties from all countries irrespective of gender, nationality race, age or ethnicity. Since there is no vaccine in sight, the COVID-19 pandemic is ruthless and is infecting millions of people in the world. During this pandemic customers behavior may have been driven by fear. Sneath, Lacey & Kennett-Hense, (2009), Arndt et al., (2004), Maheswaran & Agrawal, (2004), Smith, (2017) argue that fear is a powerful emotion that affects customers behaviour. Madakasira & O'Brien (1987) posit that research suggests that the most common psychological reaction to natural disaster reported retrospectively is fear. Izard (1991) is of the opinion that fear is an especially powerful emotion which can affect perception, thought, and behavior. Baker, Gentry, & Rittenburg (2005) comment that fear impacts how people experience and respond to consumption of products. Boyatzis & Akrivou (2006) adds that fear arouses defensive emotions.

During COVID-19 at the beginning, especially during Lock-down, the buying behavior of customers in South Africa was driven by fear and uncertainty. Just before Lock-down, retail outlets worldwide experienced mass buying behavior in preparation for the Lock-down. Since the COVID-19 was registered in South Africa as a natural disaster, Elmore (2017) adds that in times of natural disaster, buying frenzies in preparation for the upcoming event are to be expected. For example, a week before hurricane Irma's landfall compared to the same period a year earlier, spending at gas stations rose 63.2%, at grocery stores 41%, and overall retail spending rose 20% in six major metro areas across Florida. This phenomenon is understandable as the human beings will to survive drives them to prepare for times of hardship and uncertainty. In the case of COVID-19 people were actively involved in buying frenzies and stockpiling of food, water and other living utensils needed to survive in unpredictable circumstances of danger. According to BBC (2020a), Australia like many other countries in the world, experienced panic buying and stockpiling of PPEs, food items and general household supplies, despite there being no indication of an impending shortage of these products.

During Lock-down, as more information became available on safety, people in South Africa scurried around for face masks, gloves, eye- googles and hand sanitizers. SME's that were allowed to open during lockdown also had to comply with health and safety regulations and have limited people in stores to ensure social distancing, hand sanitizers had to be present at the entrance of shops and customers and store owner and employees had to wear face mask. As this new way of doing business evolved, many customers were also paranoid and fearful of contacting the virus whilst shopping and this drove down shopping patterns. Malls were empty or half full during Lock-down. The Guardian (2020) indicated that the food sector, including food distribution and retailing, has been put under strain as a result of people panic-buying and stockpiling on food. According to BBC (2020b) measures implemented by local stores include free delivery of food products to customers to avoid panic-buying, putting restrictions on the

number of customers allowed in at any given time to avoid overcrowding, and expanding on the number of suppliers whom they buy their products from to avoid food shortage. Since the buying behavior during COVID-19 changed, SME's had to adapt their business where possible to cater to the new needs of their customers. If customers demanded food and more face masks and hand sanitizers then SME's had to keep them in stock.

Wen, Sun, Li, He, & Tsai (2019) indicates that during a health crisis, people form risk perception about the situation. Yuen, Wang, Ma & Li (2020) adds that the degree of risk perceived by an individual is determined by his or her assessment of the threat of an outbreak, which can be measured by both the susceptibility and severity of the event. Both susceptibility and severity are sub-dimensions of the health belief model, which posits that people are motivated to undertake self-protection behaviour to minimise risk. Yoon, Narasimhan, & Kim (2018) comment that consumer stockpile upon detecting any event that can lead to upstream disruptions. This behaviour is anticipation of mitigating the risk of future shortages. According to Sheu and Kuo (2020) and Aliperti and Cruz (2019) hoarding behaviour prior to or during a disaster, which can be viewed as a form of self-protection behaviour, is considered as a self-interested, planned behaviour in an attempt to minimise risk. Another health preservation measure taken by shoppers during COVID-19 was on-line shopping. This was a safer option to shoppers who preferred buying on-line and having their goods delivered, than exposing themselves to the virus. Where customers behaviour moved to on-line shopping because they feared the contacting the virus by going to shops and malls, then SME's should now have catered to this new behaviour pattern and services this new market segment that evolved during COVID-19, by making on-line shopping available or providing deliveries for customers who called in orders and paid on-line,

The closure of many businesses also made people weary of shopping for unnecessary goods. Since they were unsure of their employment, buying behavior hit an all-time low in South Africa due to job losses during the pandemic. Customers during the pandemic only bought essential products like food, medical supplies and Personnel Protective Equipment and face masks and hand sanitizers. Many SME's that sold food and groceries and face masks and hand sanitizers were still receiving a steady income as customers demanded these essential products as opposed to luxury items, which were no longer in demand.

The focus of the discussion that follows, will highlight how SME's have adapted to the COVID-19 climate.

How SME'S Have Adapted to the COVID-19 Climate?

Within South Africa, many small businesses especially in the restaurant, hotels and bed and breakfasts, travel and tourism, auto-repairs, clothing manufacture, and many others that were non-essential businesses were asked to remain closed during Lock-down especially during its phase 4 & 5. Some small businesses that were allowed to be open during the various stages of Lock-down had to practice strict compliance to COVID-19 safety and health regulations. In South Africa, at present (after 15 August 2020) the country is in stage 2 of Lock-down where it's "back to business as usual", or more or less. Many SME sectors and industries are opened again. However, there is still curfew in place from 10pm to 4am. The using of masks in public spaces by all people living in South Africa is also mandatory.

As SME's had to adapt their business models to the new COVID-19 scenarios it has been noted that many SME's were going digital or on-line with certain of their services or business operations. Some SME's were offering on-line services to their clients or clients could pay them on-line for deliveries of goods made. Martinez-Lopez CintiaPla-Garciac, Gazquez-Abadd, & Rodriguez-Ardura (2014) are of

the opinion that consumers give importance to convenience while shopping online. Some SME's also opted to have staff work from home where possible. This meant these SME's had to invest in providing staff with technologies and data to work from home. These adjustments made by SME's in the face of COVID-19 was seen as "revolutionary thinking" by these business owners' who wanted to stay in business, in spite of the pandemic and changed their business model of some aspects of their businesses to adapt to the current COVID-19 climate. These SME's owners need to be commended for their quick thinking and superior emotional intelligence leadership qualities that saved their employees jobs, while still managing to serve their customers and clients in the current COVID-19 situation. These SME's could still stay afloat during these turbulent business times. According to the US Chamber of Commerce (2020) a survey they conducted in the USA on SME's that came out on 5 May 2020, showed an acceleration in digitalisation trends. Over April-May the share of small businesses transitioning some or all of their employees to teleworking increased from 12% to 20%, and small businesses that had begun moving the retail aspect of their business to digital means increased from 10% to 17%.

However, not all countries, especially, SME's within South Africa have moved on to the digital or on-line arena at all, or their transition has not taken place quite so smoothly. This could be due to a lack of finances to initiate such a move by SME owners'. The other reason could be a lack of infrastructure. In South Africa, there are load-shedding and net -work issues in many rural areas. To date even established areas in South Africa, are affected by many hours per day/ week of load -shedding, as during these times, the network is down, causing issues for SME's that have moved on-line to be reached by their clients during these times. Another area of concern for SME owners' in South Africa is the lack of technological skills present in their staff that makes moving their business on-line very challenging.

The researcher asks that the audience move their lenses, towards the personal grooming business sector, like hair salons, beauty parlours, nail salons, tanning salons and massage parlours. They were hard hit by COVID-19. These business during COVID-19 Lock-down period had to remain closed, to curb the infection rate, as they were deemed non-essential services. These small businesses lost a lot of income during this time. Some of them even became bankrupt. Although in Lock-down stage 3 & 2 personal grooming salons were allowed to be open under strict safety and health regulations. For example the business protocols present in the hair salon small business is as follows: the employee and clients have to wear their masks at all times during the service encounter. The chair, washing sink and combs and brushes used, has to be sanitized for each client. Fresh towels have to be used by each client or the client can opt to bring in their own to the hair salon. In the hair salon, a minimum amount of clients must be present, to maintain social distancing and avoid overcrowding. Clients can also take a number and sit in their car and they would be called in by phone or WhatsApp when it is their turn. This was done, to ensure social distancing is adhered to in the hair salon. Hand sanitisers must be set up at the front of the salon door, so that clients on walking in, can first sanitize their hands before entering the salon. Some salons also do temperature checks on clients to ensure they are not displaying signs of illness.

Governments have to respond to SME's in all countries of the world as SME's are major drivers of economic activity and job creation. Governments' have to assist in drawing policies that can help save SME's from bankruptcy or closure. They can do this, by providing tax incentives, preventing SME's from being thrown out of their premises due to them not being able to pay their lease. Providing funding in the form of loans so that SME's can get back on their feet during the pandemic. Providing tax incentives and assisting with paying staff of SME's that were laid off during the COVID-19 pandemic is a step in the right direction by governments' in the world. If one has to look at China, where the novel coronavirus emanated from, their government saw fit according to Zhang and Wang (2020) to provide

relief measures for affected SMEs that were rolled out to date that mainly emphasized cost reductions for idle enterprises, including reductions in rents, taxes, and fees, and exemptions for five types of insurance (endowment, medical, unemployment, work-related injury, maternity) as well as the Housing Provident fund. These measures have assisted SME's to survive during the COVID-19 pandemic. According to Ozili (2020) there should be stronger measures of strengthening protection for small and medium-sized businesses during crises. The survival of small and medium-sized enterprises (SMEs) is crucial during this pandemic. Policymakers should protect and support SMEs by providing guarantees to banks and micro-lenders so that lenders can provide liquidity to at least 50,000 African SMEs. The economic impact of coronavirus on SMEs will vary across industries and firms depending on many factors, including exposure to China. China is the largest source of primary and intermediate raw materials for most SMEs. Also, SMEs that have the greatest exposure to the global supply chain should receive more support than others.

The discussion below will unpack the way forward for SME's to remain sustainable post-COVID-19 and out forward solutions and recommendations.

SOLUTIONS AND RECOMMENDATIONS

COVID -19 and the devastation it has brought in its wake to countries world -wide is seen all around, all one has to do is switch on the news. COVID-19 has had a considerable impact on SME's world-wide, as well as in South Africa. As South Africa, like many other countries in the world, rush to develop policies to assist corporate business and SME's, an important note should be reflected in these decisions, namely that this pandemic, registered in South Africa as a national disaster is a humanitarian crisis of the highest magnitude known to man. When developing policies, the South African government has to think of SME's who are crucial to economic activity and job creation in the country. It has to ensure that proper funding and relief structures are present and made available to SME's to ensure their continued survival in the post COVID-19 scenario. SME's in South Africa have to count on this support from their government.

Within South Africa, interesting results were made public in a survey conducted on 707 selected businesses operating within various industries in South Africa that are registered for value added tax (VAT). The period the survey took place was 30 March 2020 – 13 April 2020. According to the Department of Stats SA (2020) the following key findings emanated from the survey:

- The majority of responding businesses (85.4%) reported turnover below the normal range.
- 46.4% indicated temporary closure or paused trading activity.
- 50.4% expected their workforce size to stay the same in the two weeks after the survey, while 36.8% reported that their workforce size is expected to decrease.
- 28.3% indicated that their workforce has decreased working hours and 19.6% reported laying off of staff in the short term.
- 19.1% indicated that prices of materials, goods or services purchased increased more than normal.
- Access to financial resources: 23.8% indicated a decrease while 52.6% indicated access to financial resources remained the same.
- 38.2% of businesses applying for financial assistance reported that they would use government relief schemes.

- 30.6% indicated they can survive less than a month without any turnover, while 54.0% can survive between 1 and 3 months.
- 46.3% of the workforce were able to meet business demands, and 43.0% of the workforce were not able to meet business demands (the rest reported 'unsure'), Department of Stats SA (2020).

This above survey is indicative of the state of business in South Africa and how the COVID-19 pandemic has impacted them. The reality is that COVID-19 has impacted the business sector and businesses are grappling to find their footing during this difficult time. They are looking to government for financial support. The job losses are unfortunate, but a necessity on the side of business in the short-term to ensure their financial survival. Increased unemployment rates in South Africa due to COVID-19 is seen clearly from the survey results. The increasing unemployment rate is placing pressure on the government as they must find ways to support these people who were retrenched during the pandemic. The price of raw materials raising has also placed pressure on businesses, maybe government intervention to prevent extremely high prices of raw materials can possibly assist businesses. As government slowly navigates and develops policies to assist the business sector they should recognise that many SME's are the most vulnerable and cash strapped during the COVID-19 pandemic. Emergency funding from the solidarity fund and other COVID-19 financial grants and loans that target SMEs could be an essential component of a response by government to keep these businesses afloat. In South Africa, the interest rates have been lowered to also assist SME's who have loans. The South African government could also defer or waive taxes since the COVID-19 period has a low market demand.

Another important way for SME's to survive and be sustainable post-COVID-19, is if they change their business model and become more digital. Hough & White, (2003); Jansen, Vera, & Crossan, (2009); Jiao, Alon, & Cui, (2011); Li & Liu, (2014); Li & Simerly, (1998); Priem, Rasheed, & Kotulic, (1995); Romme, Zollo, & Berends, (2010); Yu, Kwon, Lee, & Jung, (2016) argued that technology and market dynamism is an essential factors for SMEs to conduct their business and attain business performances such as revenue increase and employment growth. This however, cannot be possible for all SME's, but for those that can, going digital may be a big financial set back now but in the long-run it would have major positive returns. SME's can provide certain services or sell their products on-line. This will be convenient for customers who do not want to leave their homes during the pandemic and venture out. Here government can come in by providing digital infrastructure and assistance in training SME's owners and their staff to go digital. The researcher is of the opinion that SME's can move to add new avenues of business that are more lucrative to their present line of business to stay sustainable during COVID-19 and post-COVID-19. For example SME's that sell food and groceries can also offer them on-line and offer these added services like delivery at an additional cost to their customers.

SME's play a very important role in the progression of both historically and in the present form in developing nations. This is so, because the SME sector contributes significantly to the spurring of innovation and thus contributing to economic growth (Kim, 2011). Naidoo (2020) argues that it is also important to bear in mind that many SME's fail because they do not adopt new technologies fast enough to respond to the new demand by customers. New technologies are pivotal for sustainable entrepreneurs to understand and implement, since they can be instrumental in the spurring of innovative, new sustainable products and green products that are safe and environmentally friendly to the planet. According to Ngwenyama and Morawczynski (2009) the following are categories of barriers that prevent SMEs from adopting and advancing its technological capacity:

SME Sustainability in South Africa Post-COVID-19

- Lack of knowledge about the strategic use of technology
- Lack of necessary skills-base
- Perceived high setup cost
- Ever-changing technological environment
- Geographical factors

In spite of COVID-19, SME owners' have to adjust their mind-set and bring their business into the 4th industrial revolution by becoming more digital. The cost of changing over to the digital way of running a business has its challenges, but if SME owners' invest their money in this initiative they will reap the rewards post-COVID-19 and beyond.

SME's have to take risks and look for new opportunities in the marketplace that is brought on by COVID-19. SME's can cater to the market needs during COVID-19 by producing goods and providing services that are essential. For example, food should be packaged and sold to customers so as to avoid contamination, SME's can be involved in providing the packages to outlets so that the food can be pre-packed. SME's can also be involved in offering pre-packaging services to retail and food outlets. Another very good business opportunity to embark on, is if SME's are involved in making masks and hand sanitizers, as the demand for these products by health workers and other essential workers and the general public at large is unlimited, while the virus infection rate is on the rise and there is no cure to speak of. SME's can learn from large corporations who changed their business model to make products that were in demand worldwide. According to Smiedt (2020) and Smith (2020), for example, during the COVID-19 period, we have seen various manufacturers moved into the production of hand sanitiser. These included beauty and grooming manufacturers LVMH, Coty and Procter and Gamble, and breweries Carlton United Breweries, Bacardi and Bundaberg Rum.

SME's have to cut back on unnecessary spending, since customer demands are low during COVID-19 and slow economic activity is all around in South Africa and the world at large. SME's can rotate staff, so that staff can get paid only when they work. This can free up money to be used in other business activities, like buying raw materials for example. Also, staff that are unnecessary, or at retirement age or with chronic health conditions can take early retirement. This will place less financial burden on the SME.

Cutting back on middle- man services must be avoided at all times, as SME's no longer have extra finance at their disposal. Only if necessary, then only should the services of a middleman be utilized. SME owners' need to take a small pay check home. Extra monies then can be ploughed back into the business. Social expenditures are not crucial, so business lunches and buying clients' rugby tickets should all be unnecessary expenditure and SME owners' must focus on affordability and not extravagances to please their clients during the present COVID-19 times. The researchers believes that the financial crunch is felt by everyone, so SME's not providing these extras to clients will not be construed poorly by their clients, as these are very difficult times in the present business climate.

SME owners' have to create a safe and healthy environment for their employees. This business behaviour of maintaining safe and healthy business establishments is regulated and mandated in South Africa. This business practice of maintaining safety and health would go a long way in creating a positive word of mouth about the business if SME's continue to embrace health and safety at all times within their establishments. Such behaviour by SME owners' should continue even post-COVID-19.

SME's should close down unnecessary business units that are not performing well and this would improve their financial position post- COVID-19. A SME can sell off assets from the closing of a busi-

ness unit or department and the money can be ploughed back into the business to keep it afloat, thus ensuring its sustainability post-COVID-19.

SME's should merge or collaborate with other businesses in the sector, so that if one business has a large order for example and does not have the capacity or raw material or manpower at hand to make the order on time, they can outsource and bring in other smaller businesses to assist them in filling the order. This way all the SME's involved benefit from this arrangement. SME owners should value such collaborative agreements and benefit from them. They should also be honest and transparent and not try to undercut or try to steal the business deal from the initial company who has outsourced to them. Good business practice should be maintained amongst SME owners' who are involved in such collaborations to foster a healthy and productive climate for all parties concerned.

For SME's that require importing or exporting raw materials or their goods. These SME's could be involved in manufacturing sector, retail sector or construction or automotive sector. Since a container is very expensive and can hold tons of merchandise. The SME owners' can reach an agreement with one another to share container space for example. This way, costs can be saved all round. Once again, good business practice must be maintained amongst the SME business owners' who are sharing the costs incurred in this import/ export venture. A negligent SME owner, for example cannot transport illegal goods, as this would delay the transaction for all the SME owners' involved. Due to gross negligence, unlawful and unscrupulous behaviour by one SME business owner, can bring the other business owners' operations into disrepute. Therefore, when getting involved with other business owners, SME owners' must do their due diligence and make sure they are doing business with law abiding business owners' before they proceed with collaborative agreements with these parties.

CONCLUSION

As SME's try to navigate in these difficult times, it is commendable to see the amazing human spirit rise up and forge ahead. The sentiment is upward and onward in South Africa. The owners and employees in SME's are working hard and taking risk however, the risks they take and the hard-work and sacrifices they make will allow SME's to be sustainable in volatile COVID-19 times. These men and women who own small businesses are paving the way forward and setting the foundation in anticipation for post-COVID-19 scenarios. Are there guarantees proposed during these uncertain times? Definitely not! As the world sways in turbulent seas, accosted by high, dangerous waves brought on by COVID-19, the resilience of men and women in all spheres of public society, especially business will be tested. In these uncertain times, the SME's be it at informal or formal level in South Africa, are keeping the home fires burning, by getting back to work. Adjusting their business to COVID-19 scenarios is a must for all concerned. These brave men and women are making the small business arenas safe by practising social distancing, wearing masks and making sure all employees and people entering their businesses are also compliant in wearing masks and social distancing and providing hand sanitizers to make people safe. By complying in providing a safer environment for their customers and clients, SME's will slowly begin to get back on their feet and in the future, flourish and maintain their stability in a volatile business climate. It may take years for SME owners' to get back the lost income they had to contend with during Lock-down stage 4 and 5, where many of them were forced to be closed, because they were not essential services. However, there is light at the end of the tunnel, in South Africa in Lock-down stage 2 & 3, many SME's are opening and it is business as usual, except with strict conditions of wearing a

mask, social distancing, limited patrons in a small/medium business at a time and more money being spent on hand sanitisers and temperature screening devices. The SME owners', managers and staff are in a unique, first ever position, they are present and living in one of the worlds' most uncertain times. They are operating and working during one of the world's most deadly pandemics' ever known to man, and they may one day live to tell the tale about this devastating humanitarian pandemic.

FUTURE RESEARCH DIRECTIONS

The COVID-19 pandemic is the greatest humanitarian crisis that has been known to mankind in all its' years of inhabiting this planet. It has had devastating impacts on all areas of society, as it hit at the very core of our existence and threatened our health and wellbeing. Since, there is still no vaccine at hand, this pandemic is one of the most talked after and debated issues in the world. It has changed the very foundation of human existence and changed the way human beings do business and interact in society. To be safe, people are asked to use masks and sanitize their hands regularly to prevent the spread of this deadly virus. The SME sector needs research to be conducted on how SME's are implementing new safety and health measures during COVID -19 to comply with government regulations and maintain safe environments that customers and clients would feel comfortable in, in this uncertain business climate. Another areas that would be very beneficial to look at is how South Africa is developing polices to protect and sustain SME's in the COVID-19 climate. Comparative studies with other African countries on this area will also shed more light on this area of future research study. SME's changing their operations to a digital setting can also shed more light on challenges that SME's in South Africa face to make this change. Government training and initiatives in transitioning SME's change to digital platforms should also be explored. SME bankruptcy due to COVID-19 can also be a research area that needs consideration. Further to this, comparative studies on other African countries SME's that experienced bankruptcy during COVID-19 can also be explored. A study on SME's performance due to poor consumer's behaviour during COVID-19 in developed and undeveloped countries should be examined and investigated.

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KEY TERMS AND DEFINITIONS

Consumer Behaviour: Refers to the study of why customers choose to purchase, use or dispose of products or services. Consumers' behaviour is often regulated by their emotions.

COVID-19: Is the coronavirus that is causing the ongoing global COVID-19 pandemic of coronavirus disease that causes severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Economy: Refers to a dynamic interplay of the variables in production, distribution and business and trade, as well as consumption of goods/services.

SMEs: Refers to small and medium term enterprises.

Sustainability: This refers to SMEs remaining open and not shutting down and growing and evolving further post-COVID-19.

Chapter 21

State Support of Russian Small and Medium-Sized Business in the COVID-19 Pandemic and Development Prospects

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ABSTRACT

The chapter provides a retrospective analysis of entrepreneurship development in Russia from the 9th century to 2020. It highlights four periods in the development of SMEs in Russia and gives characteristics of each of the periods. It also highlights criteria for classifying enterprises as small and medium-sized businesses according to Russian legislation. A retrospective analysis of government programs to support SMEs from 1994 to 2020 was carried out. The state support program, effective since 2016, “Strategy for the Development of Small and Medium-Sized Businesses in the Russian Federation for the Period Ending 2030,” is considered in detail. Attention is paid to target indicators of SME development until 2030. An analysis of measures of state support for SMEs in the context of the COVID-19 pandemic has been carried out, highlighting the most affected industries. An analysis of SMEs by region of Russia was also carried out. An analysis of SMEs in effected industries in the post-pandemic period is carried out.

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INTRODUCTION

The COVID-19 epidemic froze dynamic economic activity in nearly all countries of the world, having a particularly strong impact on economically developed countries such as the USA, Great Britain, and the countries of the European Union. It stopped many processes and forced the Russian economy to develop in a new way. The coronavirus pandemic is a rare and unexpected event with significant negative consequences for many areas of life and has been figuratively called the “Black Swan of the Economy.” The Russian economy has already suffered massive damage, but small and medium-sized businesses will be the first to suffer.

The purpose of this chapter is to study measures of state support for small and medium-sized businesses, as the most vulnerable subject of a market economy. For a more complete understanding of the ongoing processes, it is necessary to conduct a retrospective analysis of the development of entrepreneurship in Russia, which will make it possible to critically assess the state of Russian small and medium-sized businesses and state support measures carried out in different historical periods. To assess the current economic situation of small and medium-sized businesses, attention is paid to the current legislation, the national project “Strategy for the Development of Small and Medium-Sized Businesses in the Russian Federation for the Period ending 2030” and state support measures introduced in the context of the COVID-19 pandemic.

Data of the Federal State Statistics Service of Russia, the Ministry of Economic Development of the Russian Federation, the Federal Tax Service, and the Federal Corporation for the Development of Small and Medium-Sized Businesses were used as the source of information for the study.

BACKGROUND

Small and medium-sized businesses (SMEs) are one of the forms of organizing the economic life of a society with its own characteristic features: functioning in the local market, prompt response to changes in market conditions, close communication with consumers, narrow specialization in the market and the ability to organize their own business with small capital.

Scientists from various countries of the world are engaged in the study of SMEs. Let’s assess some recent research.

Martí & Quas (2018) devoted their research to the problem of state support in the form of equity loans to Spanish small and medium-sized enterprises. After conducting an empirical analysis of 488 SMEs, they concluded that such support was more effective for enterprises operating in high-tech sectors of the economy.

Almost all SMEs want to achieve a stable competitive position and high efficiency, but there are the following factors preventing this: lack of resources, insufficient financial resources and lack of management experience, among others. A study by Songling & al. (2018) examines the impact of government financial and non-financial support on SME performance. The results of the study showed a significant impact of government support on the achievement of sustainable competitiveness of small businesses.

Research by Maher (2018) focuses on the important issue of state support for third-sector small businesses. This reference book covers topics such as government policies promoting social enterprise in the UK, legal issues and procurement policies. Improving the efficiency of SMEs in Nigeria through government support programs was explored by Peter & al. (2018). After conducting a case study of SME

owners, they found that financing is a highly effective means of increasing productivity. But bureaucratic barriers prevent access to funds.

Sustainable development of SMEs in the United States is the focus of a study by Lamoureux & al. (2019). Enterprises in areas such as the use of renewable energy sources, waste recycling, and reuse of materials are most common. Small businesses work with local a supplier, which contributes to the resilience of the local economy. But to promote sustainable SME practices in the United States, smarter and more targeted government programs are needed. Rohadin & Yanah (2019) analyzed economic growth in Indonesia and found that the impact of SMEs on the country's economic growth was small and amounted to 12.5%. To increase the role of SMEs in the country's economy, it is necessary to introduce government measures to stimulate and support the export operations of enterprises. A reference book by Rahman & al. (2019) provides guidance on how small and medium-sized enterprises can achieve economic sustainability through the use of marketing and effective customer service.

The COVID-19 pandemic is a serious public health emergency that has had a severe negative impact on the economies of all countries. To mitigate the socio-economic impact of the pandemic on EU member states, the European Commission has issued a press release on the package of measures being implemented (EU, 2020). The support will be provided in the following areas: flexibility of the state aid system; flexibility of the European fiscal system; ensuring solidarity in the single market, mobilizing the EU budget, reducing the impact on employment, investment initiatives.

Research into government measures, introduced and proposed, to support SMEs in the context of the COVID-19 pandemic is the focus of research by Sohn & al. (2020), Wang & al. (2020), Park & al., (2020), Welch (2020).

The main topic of the chapter covers the development of Russian small and medium-sized businesses, government regulation and the impact of the COVID-19 pandemic on Russian businesses, therefore, the studies of the following Russian scientists Batrakova (2020) are of interest, Litvinenko & al. (2020), Simen & Sheresheva (2020), Burdenko & Bykasova (2011a, 2011b), Orlov (2003), Volzhenkin (1999).

METHODOLOGY

In order to conduct a study of state support for small and medium-sized businesses in Russia, a retrospective analysis of the development of Russian entrepreneurship and state programs, legislation for the period from the 9th century to 2020 was used. The criteria for classifying enterprises as small and medium were determined and drawn up on the basis of Russian legislation, as presented in Table 1.

State Support of Russian Small and Medium-Sized Business in the COVID-19 Pandemic

Table 1. Criteria for classifying businesses as small and medium-sized enterprises (SMEs) in 2019-2020

N°	Criterion name	Small enterprises		Medium enterprises
		Microenterprise	Small business	
1.	Average number of employees at the enterprise for year, people	1-15	1-100	101-250
2.	Enterprise income for the year (excluding VAT), rubles	No more than 120 million rubles. (~\$1 640 thousand)	No more than 800 million rubles. (~\$10 900 thousand)	No more than 2 billion rubles. (~\$27 400 thousand)
3.	Authorized capital structure: - share of the contribution by individuals and / or small and medium-sized businesses; - share of the state, regions or non-profit organizations	51% 25%	51% 25%	51% 25%

Source: own elaboration on the basis of the Russian legislation

All small and medium-sized businesses are included in the special register of the Federal Tax Service and no separate registration of the company is required. The register data is open and posted on the website of the Federal Tax Service (www.nalog.ru, 2020).

The quantitative method was used to analyze the dynamics of the economic performance of enterprises. Presenting the data graphically made it possible to visualize the obtained data.

Stages of Entrepreneurship Development in Russia

The creation and development of small and medium-sized businesses is inextricably linked with entrepreneurship. Four large periods can be distinguished in the development of Russian entrepreneurship:

1. **Origin and formation of entrepreneurship stage:** from the 9th century to 1917. In Russia, entrepreneurship originated in Ancient Russia in the form of trade and crafts. Entrepreneurship developed most actively during the reign of Peter 1 (1689-1725), when manufacturing began and the mining, arms, cloth, and linen industries were distinguished. But the development of small and medium-sized businesses was restrained by the existing serfdom. Therefore, with the abolition of serfdom in 1861, entrepreneurship received a new impetus for development. By the beginning of the twentieth century, entrepreneurship was becoming a mass phenomenon. Cotton production, trade, financial and credit operations were most profitable at the time. 2/3 of industrial products were produced by enterprises of collective forms of ownership (joint-stock, share), and 1/3 fell on individual farms.
2. **Soviet stage:** from 1917 to 1991. The historical period in Russia from 1917 to 1921 is called “war communism”. At this time, large industrial enterprises, banks, railroad and water transport were nationalised. State monopoly on bread, textiles, oil, matches and other types of goods was introduced,

and private trade in food products was prohibited. In the 1920s the economy was characterized by a multi-structured one, where enterprises of different forms of ownership and production scales operated simultaneously. This prevented the construction of a command and control system. Therefore, individual peasant farms were combined into collective and state farms, and small enterprises were ruined or merged into larger ones. It was forbidden to engage in private business activities. All this led to a low quality of life, a shortage in the commodity market, and failure to meet the needs of the population in a variety of goods and services. But even during the Soviet period, there were several attempts to use entrepreneurship to revive the economy:

1. *Period of the New Economic Policy (NEP) from 1921 to 1928*: free private trade; exchanges, banks, syndicates, foreign trade joint stock companies were restored; share credit cooperatives were growing. In 1928, in the midst of transitioning to the first five-year plan (Stalin's five-year plan of industrialization 1928-1933), a struggle began against private entrepreneurship: shopkeepers, cooperatives, small forms of business;
2. *Post-war period from 1946 to 1950*, restoration of industrial cooperation; development of consumer cooperation; artels, handicrafts, and other trades; small businesses were developing;
3. *Reforms of A.N. Kosygin (1965-1967)* led to the development of consumer cooperation, support for personal subsidiary plots; individual (home) labour activity. This led to the development of not only legal entrepreneurship, but also to the emergence of the shadow sector of the economy. Such phenomena as misstatements, smuggling, speculation, criminality, currency fraud emerged. This is reflected in the Criminal Code of the USSR. The state regulated and controlled economic activity through repressive methods. For example, in 1986, criminal liability for private entrepreneurial activity, commercial intermediation, for engaging in prohibited types of self-employment was strengthened; criminal liability for petty speculation was restored. Concepts such as "market, business, and commerce" were made unacceptable for "mature" Soviet socialism;
4. *Reforms of M.S. Gorbachev (1987-1991)*. In 1987, the Law "On Self-Employed Activities" came into force, which supported individual and family private entrepreneurship. In 1988, the law "On Cooperation in the USSR" was adopted, which regulated the creation of cooperatives. During the period from 1988 to 1989, the number of cooperatives in construction, public catering, production of goods, provision of consumer services increased by 10 times, the volume of goods and services sold increased by 20 times. At the same time, the efficiency of economic activities of cooperatives was 5-6 times higher than similar state enterprises. But the successful development of cooperatives caused serious controversy and criticism among economists and party leaders, who demanded stricter control over the volume and circulation of cash.

In 1990, the Resolution of the Council of Ministers of the USSR No. 790 "On measures for the creation and development of small enterprises" was adopted. In 1991, the Resolution of the Council of Ministers of the RSFSR "On measures to support and develop small businesses in the RSFSR" was adopted. According to this document, it was allowed to create small enterprises on a state, municipal, private property, as well as mixed ownership basis for the implementation of any entrepreneurial activity not prohibited by law.

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The attitude towards the legislative consolidation of the right to private property and its protection was very cautious. At the time, the legislative framework and programs of state support for small businesses had not yet been created, which hindered development and created high risks for private entrepreneurship.

3. ***Stage of revival of entrepreneurship:*** from 1992 to 2005. In December 1991, the USSR split into separate republics that had previously been part of it. And the transformation of the economic system began in the Russian Federation. During the Soviet period, on the one hand, there had been a negative attitude towards private entrepreneurship; while on the other hand, people were afraid to do business. The transformation of the economic system could not be carried out with the “chimes”. Since the 1990s, elements of a market economy have been used and conditions have been created for the development of small and medium-sized businesses in Russia.

The first Federal Program for Small Business Support was adopted in 1994. Its implementation was planned for the period 1994-1995. The main aims were the formation of the infrastructure for support and development of small business; creation of preferential conditions for small enterprises to use state financial, material and technical, information resources, scientific and technical developments and technologies; simplified business registration; support for foreign economic activity, etc. Despite the announced support measures, they failed to be fully implemented.

Second Federal Program for Small Business Support for 1996-1997 was adopted in December 1995. The goal of the program was to ensure sustainable development of small businesses in production, innovation and other areas of activity. Particular attention was paid to supporting small businesses in crisis and depressed areas. At the beginning of 1996, there were about a million small businesses in Russia. Their main problem was survival. Many enterprises were liquidated several months after registration. This was due to high inflation, high taxes, and lack of available financial resources. All this led to a change in taxation for small businesses. In 1996, Federal Law No. 222-FZ “On the Simplified System of Taxation, Accounting and Reporting for Small Businesses” came into force (it was in effect until January 2003). Instead of several taxes, you can pay a single tax, the tax rate was reduced, and reporting was simplified. Despite the measures taken to support small businesses, they failed to implement everything.

The third Federal program of state support for small business for the period 1998-1999 was adopted in July 1998. The formation of general favourable socio-economic and legal conditions for the development of small business, the creation of an integral system of state and public support at the national, regional and municipal levels is declared. In August 1998, there was a default, as a result of which the crisis covered all sectors of the economy. The execution of the program becomes impossible.

The Fourth Federal Program of State Support for Small Business for the Period 2000-2001 was adopted in February 2000. The main goals were the same as in previous programs. The implementation of the program consisted of 2 stages: 1. Creation of all organizational structures and streamlining their interaction; 2. Implementation of activities based on the results of stage 1, taking into account sectoral, social and territorial priorities. The fourth program was extended to 2002. Not all set goals were fulfilled in this program, as was the case with previous ones.

The difficult macroeconomic situation in the country and a lack of funding led to low efficiency of the adopted programs. In 2005, only 59 out of 84 Russian regions adopted programs to support small business at a regional level. But on the other hand, the ongoing programs have laid the foundation for understanding the directions of state support for small business in the following years.

4. **Stage of modern development of entrepreneurship:** from 2006 to the present. By 2006, legislative acts aimed at protecting, supporting and developing Russian small business had already been developed and approved. The laws passed from 1992 to 2006 had been practically tested. This led to the development of new legislation and a change in approaches to government regulation of small businesses.

Table 2. Indicators of SME development in Russia in 2016

N°	Indicator	Indicator value
1.	Share of SME products in the country's GDP	19.2%
2.	Number of SMEs	5.6 million units
3.	Number of people employed at SMEs	18 million people
4.	Share of SME workers in the total number of people employed	25%
5.	SME size	microenterprises
6.	Labour productivity	\$12857 a year
7.	Share of SME products in total exports	6%
8.	Distribution of SMEs by region of Russia	46% in 10 regions

Source: own elaboration

In 2014, the Open Joint Stock Company “Non-bank deposit and credit organization “Agency of credit guarantees” was created to provide financial services to small and medium-sized enterprises. In 2015, it will be transformed into the Federal Corporation for the Development of Small and Medium-Sized Businesses (JSC SME Corporation). Thus, a state institute has been created to support and develop small and medium-sized businesses in the country.

In 2016, by the Order of the Government of the Russian Federation, the “Strategy for the development of small and medium-sized enterprises in the Russian Federation for the period up to 2030” (“Strategy for SMEs 2030”), as well as an action plan for its implementation, was approved. The “SME Strategy 2030” provides a brief analysis of the situation with regard to the development of small business in the country and analyzes its role in the country's economy. We will consider modern measures of state support for the development of small and medium-sized businesses in more detail in the following paragraphs.

State support program:

“Strategy for the development of small and medium-sized businesses in the Russian Federation for the period up to 2030”

World practice shows that small and medium-sized enterprises occupy an important place in the national economy of any state. Small and medium-sized businesses in the Russian Federation are now established and are the most important way of doing business. The main indicators of SME development in Russia for 2016 are presented in Table 2. The small business sector is concentrated mainly in the areas of trade and provision of services to the population. Medium-sized enterprises are more represented in areas with higher added value - manufacturing, construction, agriculture.

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Small and medium-sized businesses in the Russian Federation are primarily micro-businesses (95% of the total number of small and medium-sized businesses). The number of medium-sized enterprises is relatively small. In 2014, the share of exports of small and medium-sized enterprises in the total exports of the Russian Federation, according to the Federal Customs Service, was about 6%. In some developing countries, the contribution of small and medium-sized enterprises to the export of products was even higher: in South Korea - about 40%, in China - over 50%.

Small and medium businesses are developing unevenly in the territory of the Russian Federation. The distribution of small and medium-sized businesses by region is characterized by a high degree of concentration. The 10 constituent entities of the Russian Federation with the largest number of small and medium enterprises (legal entities) account for about 46% of the total number of SMEs. A similar situation can be observed in the context of individual entrepreneurs. Low effective demand and a weak level of development of infrastructure for businesses in some territories hinder the conduct of business in qualitatively new formats. This problem arises primarily in the territories of single-industry towns and municipalities remote from the administrative centres. In the Russian Federation, only 4.7% of working-age citizens are start-up entrepreneurs. The crisis phenomena of 2014-2015 had a strong negative impact on the small and medium-sized business sector. Rising interest rates and liquidity crisis - these and other related factors affected the cost of production and business profitability, investment plans and the financial stability of small and medium-sized enterprises negatively. Amid the economic crisis at the end of 2014 and in 2015, the situation with the demand for the products of small and medium-sized enterprises worsened.

In many ways, ensuring the functioning of SMEs can only be done with government support.

The main principles of state support for SMEs are:

1. Declarative order of appeal.
2. Availability of infrastructure for all SMEs.
3. Equal access for SMEs to participate in these programs.
4. Providing support to SMEs within the framework of Federal Law No. 135-FZ of July 26, 2006 "On Protection of Competition".
5. Openness of support procedures.

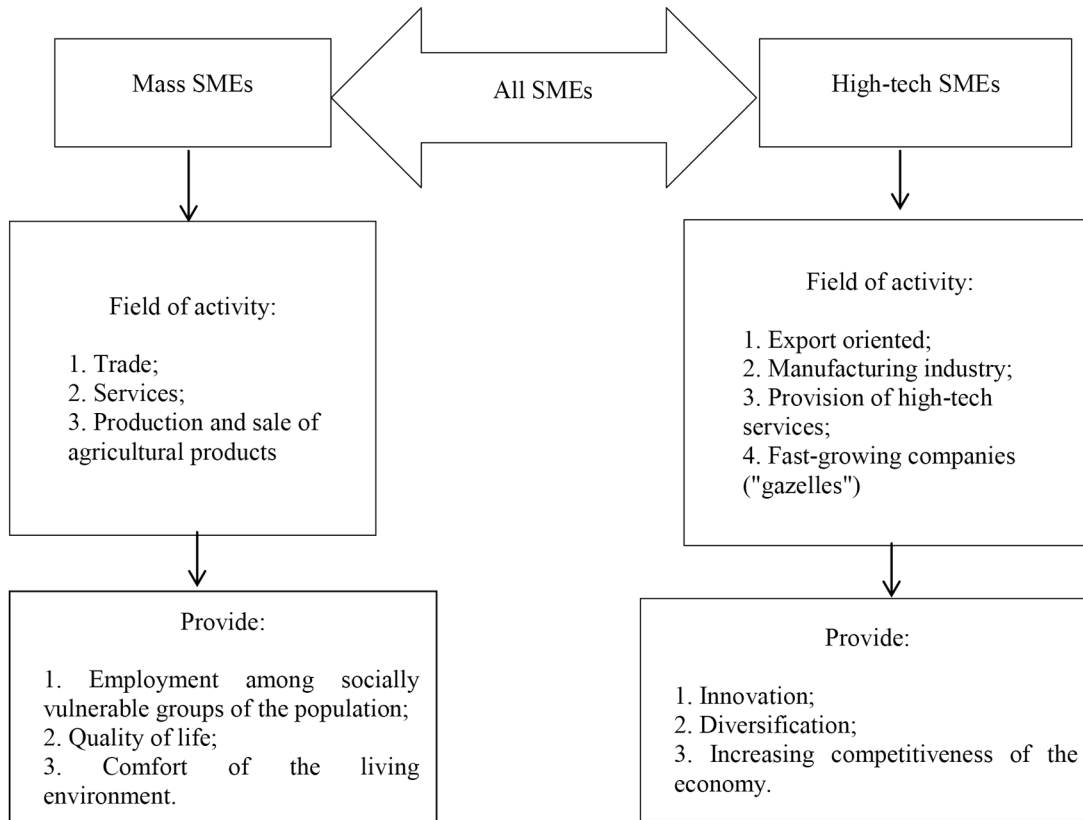
The structure of support for SMEs includes: property, financial, information support; support in the field of training, retraining and advanced training of personnel, consulting support, support in the field of innovation and industrial production; support of SMEs engaged in foreign economic activity in the field of craft activities, in the field of agriculture.

The strategic benchmark is to double the share of small and medium-sized enterprises in the gross domestic product (from 20% to 40%), and the annual growth of this share should be 1% or more (JSC "Corporation SME", 2020).

To achieve target indicators, all SMEs are divided into two groups: mass SMEs and high-tech SMEs (Figure 1).

Figure 1. Classification of SMEs to achieve the target indicators of the “SME Strategy 2030”

Source: own elaboration

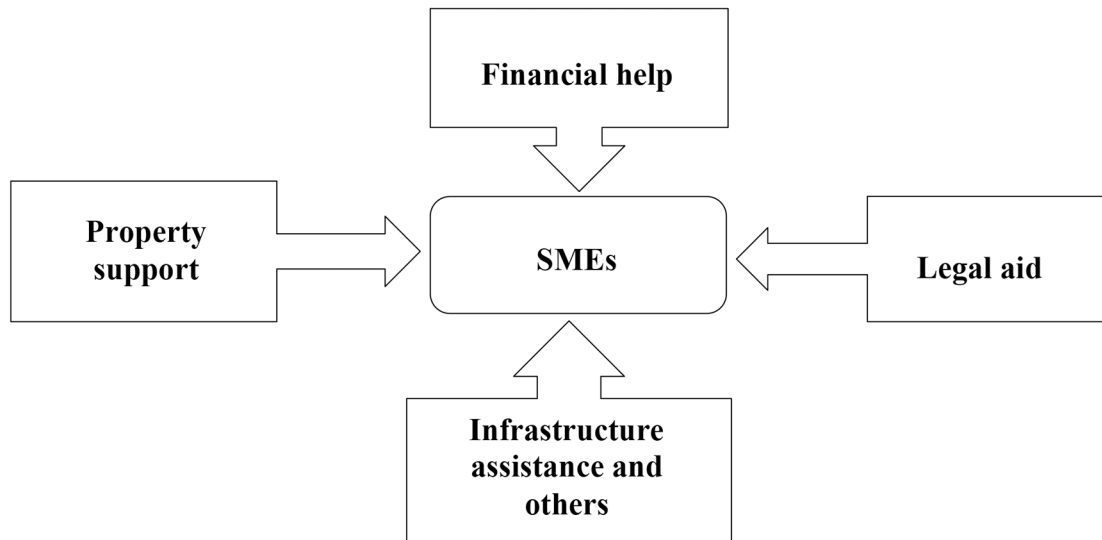


Mass SMEs include enterprises that carry out trade operations, provide services to the population, produce and sell agricultural products. This group of enterprises provides employment for different segments of the population in the region, as well as satisfies the needs of the population in a variety of goods and services. The activity of mass SMEs improves the quality of life and creates comfortable living conditions.

High-tech SMEs are companies that manufacture and supply products for export, provide high-tech services that are growing at an accelerated pace and are related to the manufacturing industry. At these enterprises, much attention is paid to innovations, business diversification, which contributes to an increase in the competitiveness of not only enterprises, the region, but also the country as a whole.

Integration of functions to support small and medium-sized businesses should ensure the provision of financial, infrastructural, property, legal and other tools to support SMEs (Figure 2). It also includes the organization of events aimed at increasing the share of purchases of goods, works, and services by certain types of legal entities from SMEs.

Figure 2. The main directions of state support for small and medium-sized enterprises in Russia
Source: own elaboration



The practical implementation of the integration of SME support functions is carried out by JSC SME Corporation, on the basis of which a single centre for financial and credit support for SMEs has been created; a system of information, consulting and marketing support for SMEs was organized; a set of measures is being implemented to increase the share of purchases of goods, works, services from SMEs; monitoring of the provision of support to SMEs and other activities. To ensure the availability of financial resources for SMEs, the following measures have been brainstormed: stimulating commercial banks to expand lending to small and medium-sized businesses, developing microfinance, and developing a national guarantee system for supporting SMEs. Developing the availability of long-term financing, leasing, factoring, and subsidies for SMEs are an important area.

Stimulating demand for the products of SMEs is aimed at expanding access to procurement of goods, works, services by public sector organizations, developing consumer market trade and stimulating it. Practical implementation is carried out in the following areas: development of a bank of “ready-made solutions” for effective business; introduction of electronic trading technology; development of fair trade; organization of modern agricultural and food markets; development of distance selling and electronic payment systems; development of franchising, automated forms of trade, etc.

When creating conditions for increasing labour productivity in SMEs, the state plans to further develop infrastructure (business incubators), stimulate cooperation between SMEs and large enterprises in manufacturing and high-tech services, develop support for technological development and import substitution, and improve the export support system.

The main guidelines of the state in taxation are the simplification and transparency of taxation, stability and predictability, as well as reduction of the tax burden in some cases.

In a number of regions of the Russian Federation, in order to implement an effective policy for the development of SMEs, stimulation of entrepreneurial activity, it is planned to allocate territories of advanced development for the creation of clusters of SMEs. Within the framework of the implementation

of the SME Strategy 2030, the following priority regions have been identified: the Crimean, Far Eastern, and North Caucasian Federal Districts. To align the development of SMEs across the regions of Russia, a comprehensive program for the development of small and medium-sized businesses has been developed for each single-industry city, and the creation of enterprises with high added value is stimulated.

Target indicators for the development of the implementation of the “SME Strategy 2030” are shown in Table 3.

Table 3. Target indicators for the implementation of the “SME strategy 2030”

N°	Target indicator	2018	2020	2025	2030
1.	Planned turnover of SMEs in 2014 prices, in% of 2014	118	134	185	250
2.	Planned increase in high-productivity jobs at SMEs compared to 2014, in thousand units	1250	1750	3000	4250
3.	Share of exports by SMEs in the total volume of Russian exports in 2014 prices, in %	7	7,5	9	12
4.	Forecast of the share of citizens planning to open their own business within the next 3 years, in %	7	7,5	10	12,5

Source: own elaboration

There are 3 stages in the implementation of the SME Strategy 2030:

Stage 1: Justification of all instruments of state support for SMEs. It was held from 2016 to 2018.

Stage 2: ensuring sustainable dynamics of SME development and stimulating the creation of new market niches. Held from 2019 to 2025.

Stage 3: providing leadership in certain areas of activity at the global level. Held from 2026 to 2030.

The overall management of the SME Strategy 2030 is carried out by the Government Commission on Competition and SME Development. The Ministry of Economic Development of Russia and JSC “SME Corporation” are responsible for coordination of activities.

Classification of small and medium-sized enterprises

On January 1, 2008, the Federal Law of July 24, 2007 No. 209-FZ “On the Development of Small and Medium-Sized Businesses in the Russian Federation” (Law 209-FZ) came into effect. This law determined the criteria for classifying business entities as SMEs, the procedure for the formation of the register of SMEs, support for SMEs, the main goals and principles of state policy in the field of SMEs, the specifics of regulatory and legal regulation of SME development, the powers of state authorities on SME development, the infrastructure for supporting SMEs. It defines the procedure and conditions for supporting SMEs in some sectors: educational, handicraft, innovation and industrial production, foreign economic activity, agricultural. On the basis of this law, a classification of economic entities was formed, in which SMEs are distinguished: business entities (BE), business partnerships (BP), production cooperative (PC), farms, individual enterprises.

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Small and medium-sized businesses can only be commercial organizations, consumer cooperatives or individual entrepreneurs. Organizational and legal forms of small business entities can be different, their subjects of the Ministry of Railways choose independently based on their own goals and objectives.

The most common organizational and legal forms that are chosen in Russia for organizing small and medium-sized enterprises are: Limited Liability Company (LLC), Individual Entrepreneurship (IP), and Production Cooperative.

Analysis of measures of state support for SMEs during the COVID-19 pandemic in 2020

The World Health Organization (WHO) declared China's new coronavirus (COVID-19) epidemic a "public health emergency of international concern" (PHEIC) on January 31, 2020. On March 11, 2020, WHO announced that the spread of COVID-19 has reached the stage of a pandemic, as most countries on all continents are affected. On the recommendation of WHO, a high alert regime is introduced in Russia in March 2020. Measures to contain the spread of infection were introduced gradually. Each region independently decided on the choice of measures, based on the epidemiological situation. Moscow was the first region affected by the pandemic and has the largest number of COVID-19 cases (258,430 people as of August 26, 2020). In Moscow, the following measures were introduced:

From March 10, 2020, a ban was introduced on mass events with the participation of more than 5,000 people;

From March 15, 2020, mass events with more than 50 participants are prohibited.

From March 16, 2020, free attendance in kindergartens and schools is introduced, Muscovites over 65 are advised not to leave their apartment and limit contacts with the outside world;

From March 17, 2020, free attendance applies to sports schools, state institutions of additional education;

From March 18, 2020, the employer recommended to transfer employees to remote work;

On March 21, 2020, state general education schools, sports schools and institutions of additional education were closed, the capital's universities switched to distance learning;

Since March 25, 2020, against the background of an increase in the number of people infected with COVID-19, city libraries, cinemas, children's entertainment centers, game rooms, night-clubs, discos have been temporarily closed. In addition, it was forbidden to carry out any cultural, entertainment, sports, entertainment and other leisure activities indoors and outdoors. Reduced travel on public transport for schoolchildren, students, pensioners and citizens suffering from chronic diseases was suspended;

From March 28, 2020, the work of restaurants, bars, cafes, canteens and other public catering establishments in the premises and on the street has been stopped, with the exception of take-out and remote delivery of dishes. The work of retail trade enterprises was temporarily stopped, with the exception of pharmacies, grocery stores and certain types of non-food essential goods. Leaving the apartment was only allowed on special occasions. The working organizations had to ensure maximum safety measures: social distance, wearing masks, gloves, ozonation of the air, treatment of premises with antiseptics, etc.

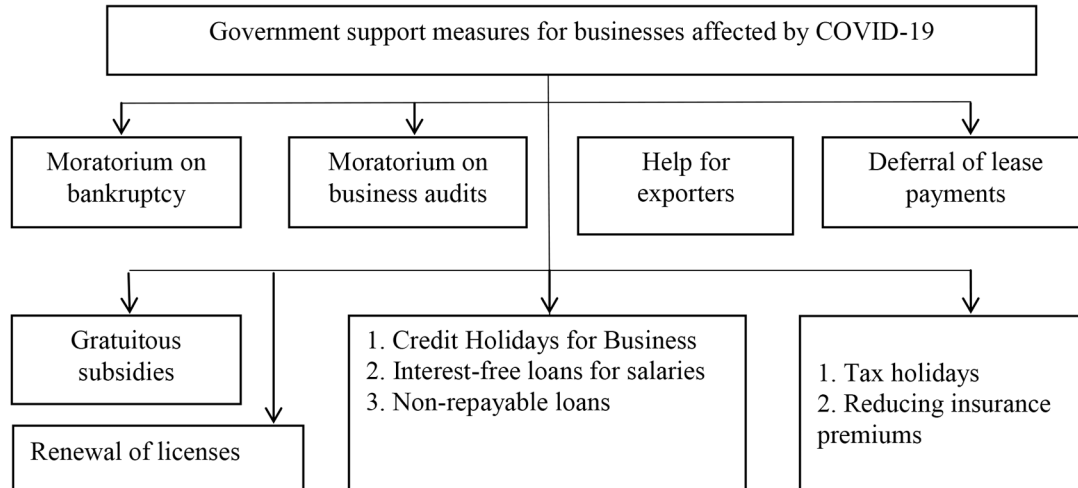
April 2, 2020 President of Russia V.V. Putin signed a decree extending non-working days until May 1, 2020.

Since April 13, 2020, the work of almost all organizations has been suspended in Moscow, with the exception of government bodies, medical organizations, food and medical industry enterprises, key defense

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enterprises, space, the nuclear industry, public transport services, etc. car sharing has been suspended. Digital passes were introduced to travel around Moscow by private or public transport.

Figure 3. Measures of the Russian Government to support businesses affected by COVID-19, 2020
Source: own elaboration



April 28, 2020 President of Russia V.V. Putin extended non-working days until May 11, 2020
 On May 7, 2020, the self-isolation regime in Moscow was extended until May 31, 2020.
 On May 12, 2020, stage 1 of the relaxation of the introduced restrictions began. More than 300 large industrial enterprises returned to partial work, and the construction site was resumed.

From June 1, 2020, the 2nd stage of easing restrictions began, within which many trade enterprises, service sectors, car dealerships, non-food stores, parks were resumed, residents were able to go for walks on schedule.

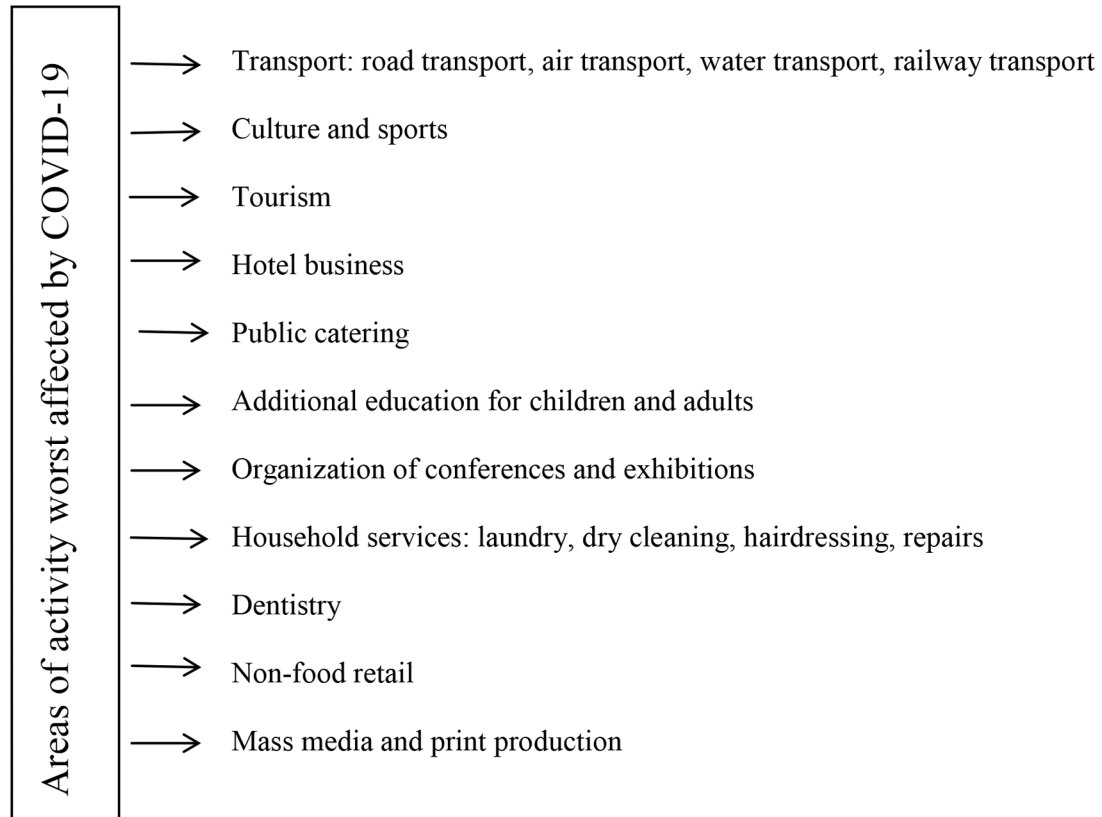
From June 9, 2020, the third phase of easing restrictions in Moscow, the regime of self-isolation, passes and walking schedules was cancelled. All Muscovites, regardless of age, were able to go outside without restrictions. Car sharing, hairdressing salons, beauty salons, photo studios, veterinary clinics, employment agencies, research institutes, film and sound recording studios, and public organizations have been resumed.

On June 16, 2020, the fourth stage of easing restrictions: libraries, rental services, advertising, consulting agencies resumed their work, museums, exhibition halls, a zoo were opened, summer verandas were opened near the cafe, and it was allowed to attend sports events.

From June 23, 2020, the fifth stage of reducing restrictions. Fitness clubs, swimming pools, kindergartens, cafes, restaurants are open. But there remained a mandatory mask regime when visiting public places and the strict recommendations of Rospotrebnadzor for all organizations.

Figure 4. Industries most affected by COVID-19

Source: own elaboration



From July 13, 2020, children's camps, children's entertainment centres are opening, full-time work of educational organizations is allowed. Schools, lyceums, colleges and universities are returning to normal work (Official website of state support for business in the context of coronavirus COVID-19, 2020).

Despite the gradual easing of quarantine measures introduced in connection with the COVID-19 pandemic, it is too early to talk about a return to normal socio-economic life. Therefore, in March 2020, the Government of the Russian Federation took a number of measures to support business in connection with COVID-19. According to the Ministry of Economic Development, as of August 19, 2020, the pandemic affected 6.7 million people in Russia, including 3.4 million people in the SME sector (rmsp.nalog.ru, 2020). In Figure 3 presents the main measures of state support for industries affected by the pandemic.

The main measures that made it possible to improve the financial situation are tax holidays and a decrease in insurance contributions from the wage fund from 30% to 15% (2 times) from 01.04.20, if the amount of payments to the employee exceeds the minimum wage (Minimum wage), equal to \$162.

Not all industries were equally affected by the pandemic, but SMEs were particularly vulnerable. During the pandemic, the state identified a list of the most affected industries, which is reflected in Figure 4.

If the company as of March 1, 2020 was registered in the unified state register of legal entities and has an OKVED code from the list of affected industries, then it has the right to take advantage of the measures proposed by the Government in the context of a pandemic.

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Table 4. Types of measures to support Moscow entrepreneurs in the context of COVID-19

Support type	Business entities SME	Number of organizations
Deferral of payment until December 31, 2020 payment of advance payments for 1 quarter. 2020 on corporate property tax and land tax	Cinemas, organizations of additional education, sanatoriums and rest houses, organization of exhibitions and conferences, public catering, tourism, culture, physical culture and sports, leisure and hotel business, trade, consumer services, private medicine	~ 4.9 thousand organizations
Compensation of property tax and land payments	Landlords renting out premises for accommodation of hotels, catering, trade, consumer services. Provided that they reduce rental rates by at least 50%	~ 3.9 thousand organizations
Compensation of 50% property tax and land payments	Owners using real estate to conduct business in the field of trade, catering, consumer services and hotel business.	~ 2.9 thousand organizations
Deferral of payments for changing the purpose of providing land plots and similar payments to the city budget	Construction and development business	300 thousand organizations
Transfer of second quarter redemption payments to the end of 2020.	Entrepreneurs who have entered into real estate buyout agreements are rented from the city	~ 3.2 thousand organizations

Source: own elaboration

Support measures for organizations and individual entrepreneurs:

Exemption from paying taxes, fees, insurance premiums for the reporting tax periods relating to the 2nd quarter of 2020;
 Suspension of tax audits;
 Extension of deadlines for submitting reports;
 Extended terms for submission of documents upon request;
 Suspended collection measures;
 No bankruptcy decisions are made.

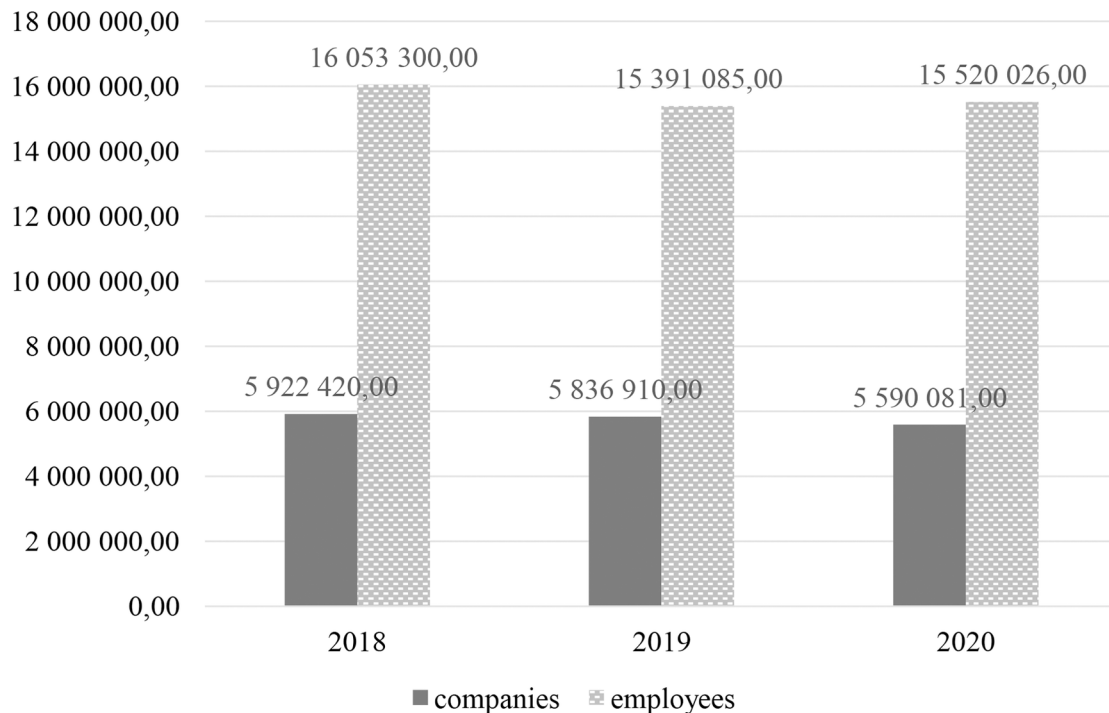
These measures are imposed on the categories of economic entities from the list of the most affected industries, namely:

Individual entrepreneurs;
 Legal entities included on the basis of tax reporting for 2018 in the register of SMEs;
 Legal entities included in the register of socially oriented non-profit organizations, which are recipients of grants from the President of the Russian Federation within the framework of special programs;
 Centralized religious organizations;
 Non-profit legal entities included in the register of NPOs.

These measures, which were implemented by the Government of the Russian Federation, are as convenient as possible for subjects affected by COVID-19. The tax authority has automated the generation of exemption notifications in response to the declaration for the following taxes: income tax, property tax, excise taxes, water tax, MET, ESHN, STS, UTII, personal income tax. In the taxpayer's personal account, the tax authority will independently recalculate the cost of the patent, notify of the exemption from the trade tax. On transport and land taxes, the tax authorities will independently apply the privilege

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Figure 5. Comparison of the number of companies and employees of SMEs from 2018 to 2020, in units
Source: own elaboration based on data from the website www.nalog.ru, 2020



for legal entities and individuals. Thus, there is no need for SMEs to apply for these benefits to the tax authorities, since the tax authorities will immediately identify and provide them to the taxpayer using the OKVED code.

For SMEs that are included in the register of SMEs from 01.03.2020, an extension of the terms for payment of insurance premiums is provided:

- for 6 months in terms of contributions calculated for March-May 2020; for 4 months in terms of contributions calculated for June-July 2020;
- for 4 months in terms of contributions calculated by individual entrepreneurs from the amount of income exceeding \$4000 (2020).

In addition, the Government provides subsidies to SMEs from among the affected industries for April and May in the amount of \$162 per employee. Starting from June 1, 2020, SMEs from affected industries, within the framework of state support, are offered loans at a rate of 2% per annum to resume operations (for comparison, the standard rate for obtaining a loan from banks ranges from 10% -15%) and a preferential loan for 12 months for payment of wages (rate for the first 6 months - 0%, for the next 6 months - 3.5% -4%). Also, the State provides credit and rental holidays to SMEs from affected industries.

In addition, the Moscow Government has developed three packages of measures to support Moscow entrepreneurs during the COVID-19 pandemic with a total value of \$1.13 billion (Table 4).

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Figure 6. Diagram of comparison of products manufactured by SMEs for 2018-2020, in units
 Source: own elaboration based on data from the website www.nalog.ru, 2020

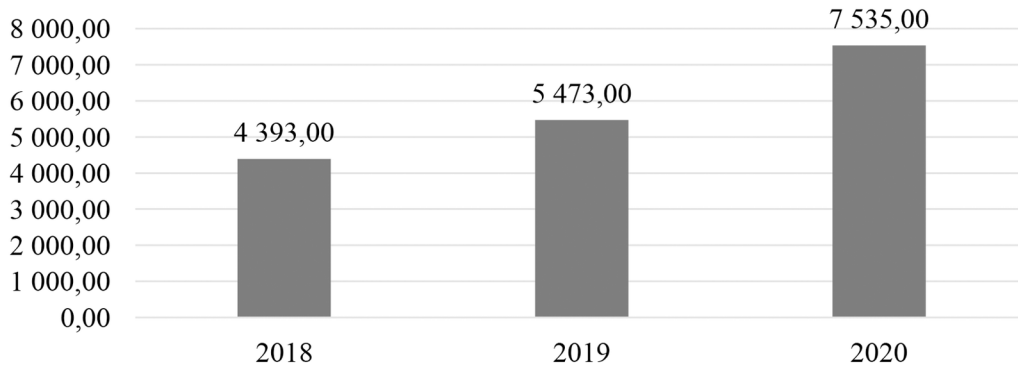
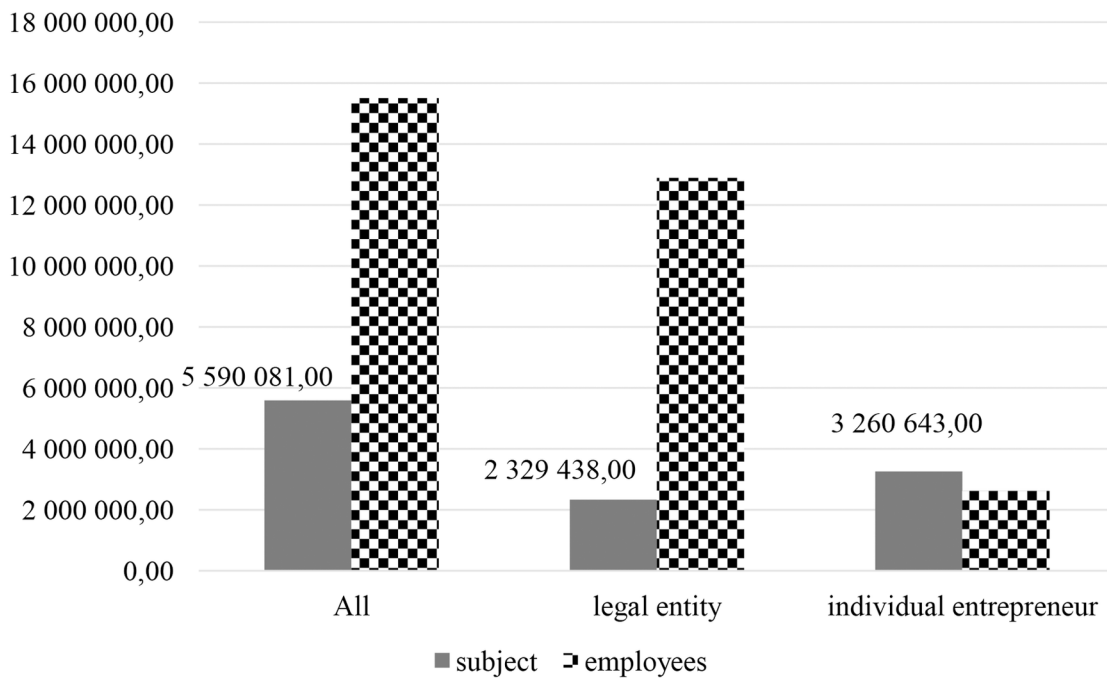


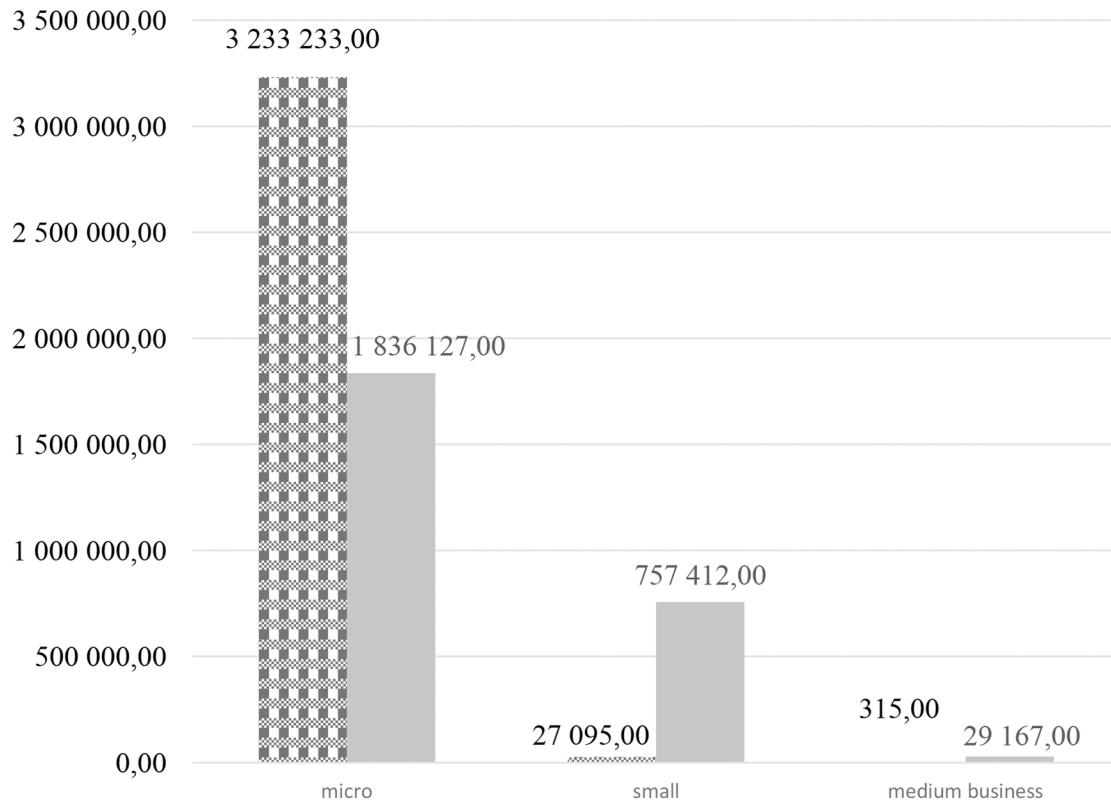
Figure 7. Diagram of key indicators for SMEs in the context of organizational and legal form in 2020
 Source: own elaboration based on data from the website www.nalog.ru, 2020



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Figure 8. Diagram of general indicators of individual entrepreneurs by types of micro, small, medium business in 2020, in units

Source: own elaboration based on data from the website www.nalog.ru, 2020



Quantitative Analysis Russian Small and Medium-sized Enterprises for 2018 to 2020

In the Russian Federation, a unified register of SMEs is maintained by the Federal Tax Service (FTS). The tax service receives data for the analysis of economic entities and their classification as small and medium-sized businesses. The statistical data presented below are obtained from the website of the Federal Tax Service of Russia (www.nalog.ru, 2020).

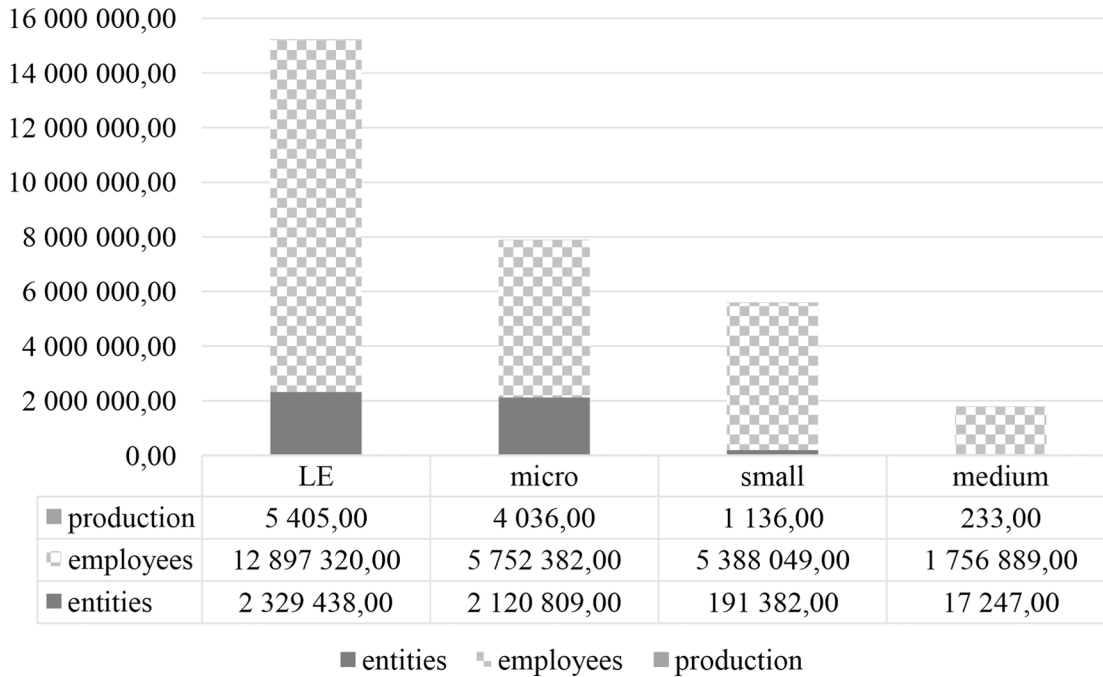
The data was analyzed for the period from August 10, 2017 to August 10, 2020, that is, for a three-year period, including the already beginning of the pandemic period associated with COVID-19. In Figures 5, 6 reflect the indicators that were analyzed by the total number of SMEs, by the number of employees and products.

The total number of enterprises in 2020 decreased by 246 829 units compared to 2019, which is 4.42%, and compared to 2018 - 332 339 units, which amounted to 5.95%. The number of employees in SMEs increased in 2020, compared to 2019 by 128,941 people, which is 0.83% and the total number of employees employed in SMEs decreased in 3 years from 2018 to 2020 by 533,274 people, which is

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Figure 9. Diagram of general indicators of legal entities by types of micro, small, medium business, 2020, in units

Source: own elaboration based on data from the website www.nalog.ru, 2020



3.44%. However, the growth of product units in 2020 compared to 2019 was 2,062, which is 27.37%, and compared to 2018, the growth was 3,142 units, which is 41.7%.

The data indicate that state measures for the development of SMEs, and especially measures to support small businesses, which were organized by the state in 2020, made it possible to restrain the total decline of SMEs and prevent their bankruptcy.

Figure 7 shows the main indicators for SMEs in the context of various organizational and legal forms.

Table 5. Number of registered SMEs in Russia depending on the size of the enterprise and the legal form in 2020

Enterprise size	IE, units	LE, units
microenterprises	3 233 233	2 120 809
small businesses	27 095	191 382
Medium enterprises	315	17 247

Source: own elaboration based on data from the website www.nalog.ru, 2020

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Table 6. Quantitative showed SMEs by types of micro, small, medium in 2020 by Federal Districts

Federal district name	Total enterprises	Enterprise type		
		micro	small	medium
Central Federal District	1 706 876,00	1 625 921,00	74 197,00	6 758,00
Northwestern Federal District	649 300,00	619 518,00	27 589,00	2 193,00
Volga Federal District	1 000 139,00	955 510,00	41 501,00	3 128,00
Southern Federal District	666 836,00	646 801,00	18 634,00	1 401,00
North Caucasian Federal District	190 945,00	185 899,00	4 639,00	407,00
Ural Federal District	481 549,00	461 881,00	18 267,00	1 401,00
Siberian Federal District	595 954,00	571 493,00	22 825,00	1 636,00
Far Eastern Federal District	298 482,00	287 019,00	10 825,00	638,00

Source: own elaboration based on data from the website www.nalog.ru, 2020

Figure 10. Dynamics of changes in SMEs by federal districts for the period 2018 - 2020, in units

Source: own elaboration based on data from the website www.nalog.ru, 2020

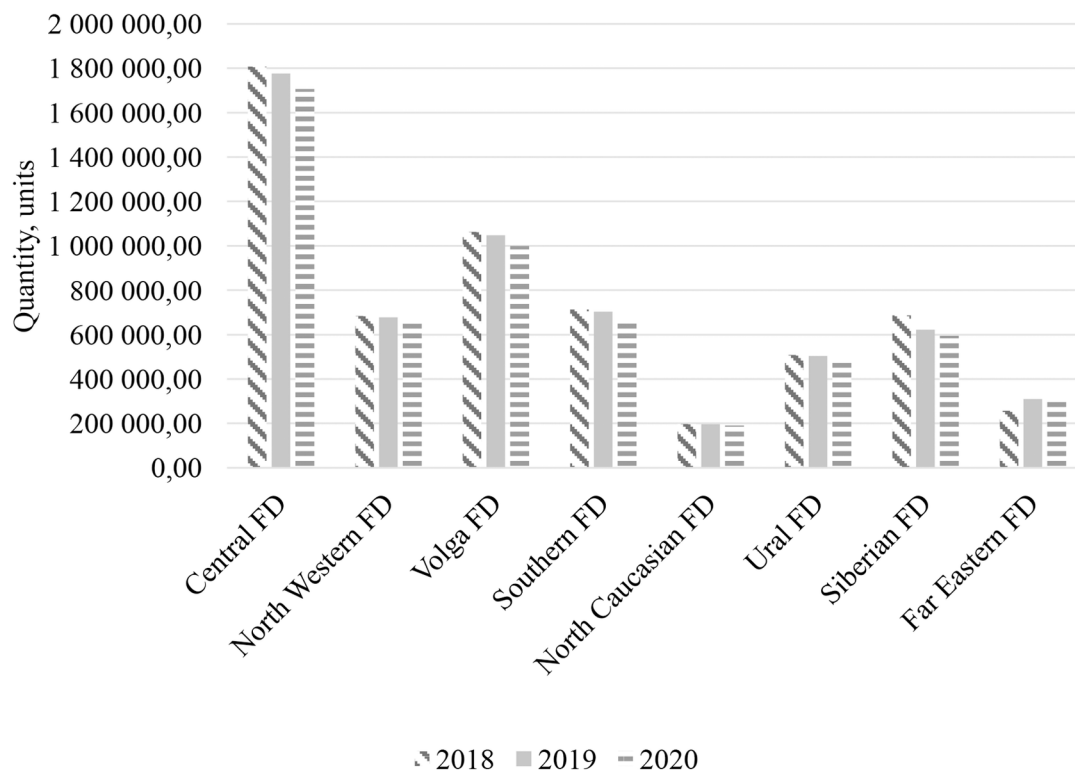
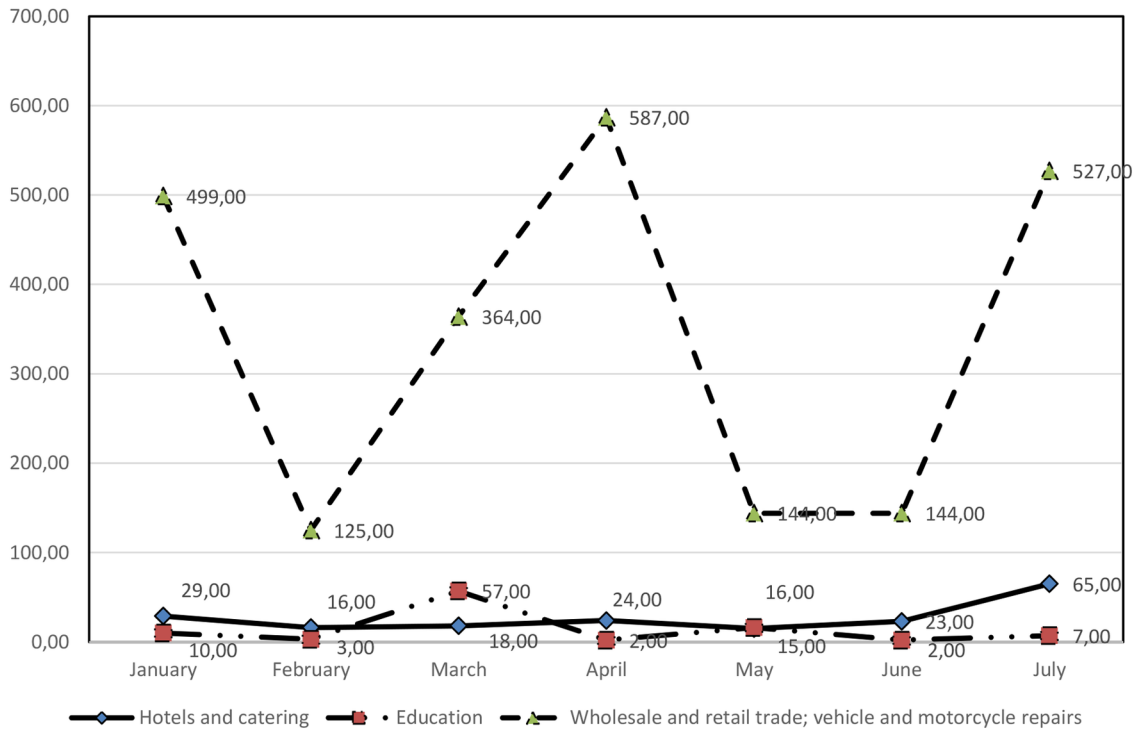


Figure 11. Chart of tax collection by special. modes according to OKVED type “Activity of hotels and catering establishments”, “Education”, “Wholesale and retail trade; repair of motor vehicles and motorcycles ” in 2020, in thousands of dollars

Source: own elaboration based on data from the website <https://fedresurs.ru/>, 2020



Analysis of SMEs in the context of organizational and legal form shows that 3,260,643 entrepreneurs chose the format of the Individual Entrepreneur (IE), which is 58.33% of the total amount of registered SMEs, and 2,329,438 entrepreneurs chose the format of the Legal Entity (LA), accounting for 41.67%. Most employees are employed in legal entities - 12,897,320, which are 93.10% of the total, and only 16.90% are employed in individual entrepreneurs. These indicators indicate the choice of entrepreneurs of the form of IP, since the difference in 2020 was 931,205 units, but more employees are recruited to SMEs in the form of legal entities. In absolute terms, the difference is 10,274,614 people.

Figures 8 and 9 analyze the main indicators of individual entrepreneurs and legal entities by types of SMEs in the context of micro, small, and medium business.

In 2020, the largest number of registered SMEs by types of micro, small, medium-sized businesses in the form of individual entrepreneurs and legal entities is presented in Table 5.

Such statistics show that SMEs are micro-enterprises, the share of which in 2020 amounted to 5,354,042, which is 96% of the total number of entities.

The largest number of registered companies in 2020 was in the Central Federal District and the Volga Federal District, which together amount to 2,707,015 units, 48.4% of the total. The smallest number of SMEs was registered in the Far Eastern and North Caucasian Federal Districts - 489,427 SMEs, which is 8.7% of the total.

Figure 10 shows the statistics on the distribution of SMEs by federal district for 2018 - 2020. The largest number of registered companies in 2018-2020 was in the Central Federal District and the Volga Federal District, which together amount to 8,403,094 units, 48.4% of the total. The smallest number of SMEs was registered in the Far East and North Caucasus Federal District - 489,427 SMEs, which is 8.74% of the total. These statistics indicate that the trend of attractiveness in organizing entrepreneurship among SMEs in federal districts has not changed, and entrepreneurs from among SMEs choose the regions closest to the center of Russia for doing business.

Analysis of SMEs in the pandemic period did not show a significant decrease in economic entities. The statistics on the recognition of companies as bankrupt show that in the 1st half of 2020 there were 4502 bankrupt companies, which is 1,581 units. less compared to the 1st half of 2019, which is 26%. In the 2nd quarter of 2020, there was a decrease in the indicator by 39.8% (to 1,895 units), and in the 1st quarter of 2020 - by 11.2% (to 2607 units) (<https://fedresurs.ru/>, 2020). The main reason for this decrease is the bankruptcy moratorium introduced by the state during the pandemic period. The moratorium on bankruptcy applies to 2 million companies and individual entrepreneurs.

Comparative monthly analysis of tax receipts in the budgetary system of the Russian Federation by main types of economic activity for the period from 01.01.2020 to 01.08.2020 shows that, in general, the collection of tax provided for by special tax regimes (STS, UTII, Unified Agricultural Taxation, PSN) amounted to \$10169 thousand, the lowest tax collection was in the pandemic period: in May - \$766 thousand, in June - \$815 thousand. But already in July 2020, tax collection for all types of OKVED codes increased by an average of 1.9 times as compared to January 2020. This fact was facilitated by the measures of the state, which allowed SMEs to receive a delay in payments in the 2nd quarter of 2020. Figure 11 show tax collection charts for special tax regimes in some of the affected industries.

The amount of tax collection for special modes according to the OKVED type “Activities of hotels and catering establishments” show the minimum values in February, March, May 2020: \$16 thousand, \$18 thousand, \$15 thousand, respectively. There is a similar trend in tax collection during the pandemic and in the other hardest hit industries, as shown in Figure 11. According to OKVED “Wholesale and retail trade; repair of motor vehicles and motorcycles” the smallest amount of tax collections is May, June 2020: \$144 thousand. Of the industries most affected in the example, the tax collection by the OKVED type “Education” significantly decreased in April-June 2020, from \$57 thousand, almost 4 times.

The results of the conducted quantitative analysis of SMEs, tax collection providing for special tax regimes, bankruptcies of companies and individual entrepreneurs indirectly confirm that the measures provided by the state have a positive economic effect.

SOLUTIONS AND RECOMMENDATIONS

The COVID-19 pandemic forced everyone to switch to the use of information technologies, without which it would be impossible to continue working remotely, conduct distance education, hold online festivals, conferences, watch plays and films, as well as simply communicate.

Now we can talk about the digital inequality of people, regions, and countries. Further recovery of economic activity is also associated with the expansion of the use of digital technologies.

The transition of interaction between the state and business using digital technologies will allow, on the one hand, reducing bureaucratic barriers, and on the other hand, it presents new requirements - the availability of technical means for entrepreneurs, the availability of the Internet, as well as knowledge

and skills in using software, cybersecurity and others. The essential goods now include electricity, mobile phones, mobile Internet.

The COVID-19 pandemic has increased the costs of all economic entities to comply with strict sanitary standards: antiseptics, masks, gloves, disinfection of premises. All this will lead to higher costs and, as a result, higher prices for final products and services.

Many pandemic measures end during 2020, which will prevent SMEs from fully recovering from the economic showed. In a post-pandemic period, without further government support, SMEs will not be able to achieve the indicators that are provided for in the SME Strategy 2030. For this, it is necessary to continue supporting SMEs.

FUTURE RESEARCH DIRECTIONS

This study analyzes the development of SMEs in Russia in different historical periods, but such large-scale quarantine measures have never been introduced. The COVID-19 pandemic has had a profound impact on all spheres of life in the country, forcing people to forget about active movements not only between countries, but also within the country. In this situation, coordinated actions between governments, scientists, and international organizations are important. Safety of life of people, safety of public places, and safety of work at the enterprise came to the fore. All this creates additional economic risks and costs.

The question is, how long will it take for everyone to adapt to the new reality? How long will the epidemiological situation have such a strong impact on the country's economy?

Therefore, this study of the impact of the pandemic on the Russian economy is preliminary. You can assess the changes that have occurred in the Russian economy as a result of COVID-19 in a year.

CONCLUSION

A retrospective analysis of the development of small and medium-sized businesses in Russia has shown that with the development of trade relations, the establishment of a market economy, entrepreneurship develops. Within the historical period from the 9th century to 2020, 4 stages of the development of entrepreneurship in Russia have been identified. Such organizational and legal forms of entrepreneurial activity as a partnership, joint-stock company, and artel appear. The most difficult in the development of Russian entrepreneurship is the Soviet period. In practice, it was shown that it is impossible to develop entrepreneurship in the absence of private property, legislative regulation of financial and economic relations. The prohibition of entrepreneurial activity damages the economy, leads to the creation of a deformed scarce market. For the first time, a small enterprise, as an economic entity, was legislatively enshrined in the USSR in 1990, and the criteria for referring to this type of enterprise were determined.

The revival of entrepreneurship, which began in 1992, has gone through a difficult path of development. Four government programs to support SMEs from 1994 to 2002 were not fully implemented. This is due to the following reasons: lack of a legislative framework, lack of financial resources, a small planning horizon, and the presence of crisis phenomena in the Russian economy. The negative experience served as the basis for rethinking government support for SMEs. Since 2007, institutional support for business has been created at different levels: federal, regional, municipal. In 2016, the Strategy for the Development of Small and Medium-Sized Businesses in the Russian Federation for the Period up

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to 2030 was adopted, which outlines the directions of state support for SMEs, basic indicators of SME development, and approaches to achieving the set objectives.

In the context of the COVID-19 pandemic, the Russian Government from March 10, 2020 began to introduce restrictions aimed at reducing the spread of infection, which have not been completely removed so far. In different regions of Russia, there is a different epidemiological situation, which imposes its own restrictions on the conduct of financial and economic activities. To support business, the state in March 2020 took the following measures: a moratorium on bankruptcy, a moratorium on business inspections, assistance to exporters, deferral of rent payments, gratuitous subsidies, credit holidays, interest-free pay-roll loans, non-repayable loans, tax holidays, reduction of insurance premiums to the fund remuneration, renewal of licenses. The state approved a list of the most affected industries. You can get advice, take advantage of government support measures, you can submit documents online.

Preliminary data on the received state aid to SMEs for August 2020 are as follows (www.economy.gov.ru):

More than 100,000 scheduled inspections of SMEs and 400,000 unscheduled inspections of SMEs were cancelled. As of July 31, 2020, 843 thousand inspections were suspended;

More than 38 thousand agreements were concluded for over \$1.3 billion and issued interest-free loans to support employment of the population;

721 agreements on concessional lending were concluded, the volume of the loan portfolio for which the privilege was allocated amounted to \$232 million; 30,000 lease deferral agreements were concluded;

Loans were restructured in the amount of \$7 billion;

Tour operators are exempt from contributions to the “Tourist Assistance” reserve fund in 2020. As a result of this measure, \$424 thousand were released. 534 tour operators took advantage of the privilege, which is 99.8%;

The state reimburses tour operators for the costs associated with non-refundable fares and the cost of transporting Russian tourists from countries that have been subject to restrictions due to COVID-19. Applications for \$51 million were submitted; \$40 million allocated State transport leasing company to reduce lease payments from tenant companies;

Provides compensation for lost income by airlines and airports. As part of this measure, applications for \$164 million were approved from airlines and applications for the amount of \$28 million from airports;

The amount of funding was retained for cultural institutions, \$51 million were allocated to support federal cultural institutions. During the period of restrictive measures, more than 1,500 online broadcasts were carried out and 28 million broadcast views were registered;

19 thousand scheduled inspections were canceled for 52 licensing spheres and more than 48 thousand licenses will be obtained without personal contact between business and government authorities.

17 types of licenses and permits will be automatically renewed. 33 thousand alcohol licenses will be renewed; 2 thousand licenses for security activities; 1,039 licenses for subsoil use; more than 4 thousand licenses for the provision of communication services; 516 educational organizations will extend the accreditation period;

Introduced a “green corridor” for imported essential goods, which includes an accelerated procedure for inspections, priority acceptance of customs declarations, a reduction in the number of inspections, daily monitoring of the work of customs services; the procedure for certification of imported products

has been simplified. Import of essential goods will amount to 559 thousand tons for the amount of \$ 4.7 billion; imports of food products will amount to 2.6 million tons for the amount of \$ 2.4 billion. 557 thousand tons of medicinal products and foodstuffs have already been imported on preferential terms, amounting to \$140 million other.

Thus, measures to support SMEs that were quickly adopted and immediately implemented by the Government at different levels made it possible to prevent the total bankruptcy of Russian business in the context of the COVID-19 pandemic.

As the analysis has shown, Russian small business is mainly represented by micro-enterprises, which are more often registered as individual entrepreneurs. SMEs play an important role in the economy of the region, creating employment for the population, ensuring the production and sale of goods and services. In Russia, the uneven distribution of SMEs throughout the country, which is associated with the climatic features of the regions? Almost half of the enterprises are located in the European part of the country.

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KEY TERMS AND DEFINITIONS

Artel: Uniting people to work together with a defined share in the income and shared responsibility.

“Black Swan”: A philosophical metaphor that became widely used after the book by Nassim Taleb “Black Swan. Under the sign of “unpredictability” and is used to refer to rare and unexpected events that have serious consequences for all areas of life.

City-Forming Enterprise: A large enterprise employing more than 50% of the city’s population.

Craftsman: A person who owns a professional craft. He manufactures the final products custom-made in a handicraft way in his workshop (home). For example, a potter, blacksmith, tailors, etc.

Handicraft: Single or small-scale production of products using manual labour, in a primitive way, not organized, unskillful.

Industrial Cooperation: Associations of small producers (handicraftsmen, artisans) for the joint production of consumer goods and consumer services.

Out-of-Pocket Trade: This is a temporary, seasonal job outside the place of permanent residence, where one has to “retire”, leave the village, village.

Roadmap: A convenient and popular planning method. Used for planning construction, government projects.

Single-Industry Towns (or Single-Industry Cities): These are settlements, cities in which there is one large enterprise (city-forming enterprise). That is, the economic life of the city depends on the economic activity of the city-forming enterprise. The population of a single-industry town does not exceed 250 thousand people. The emergence of the first single-industry towns was associated with the development of mining enterprises. The further emergence of single-industry towns is associated with the industrialization of the economy. In Russia for 2020, there are 333 monotowns.

Syndicate: A form of combining enterprises to carry out commercial activities (purchase of raw materials, sales of products, determination of prices for finished products) while maintaining production and legal independence.

Chapter 22

Strategies for Entrepreneurial Innovation and Sustainability

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ABSTRACT

SMEs contribute up to 60% of total employment and up to 40% of GDP in emerging economies. These SMEs recently faced, due to COVID-19 pandemic, chaotic circumstances resulting in business shut down, loss of man-hours, halt of machinery and material movement by which they lost their economy. Quick solutions to address the challenges were out of view. Moreover, making major changes swiftly in the set business system was impractical and probably impossible. Getting normalcy back on track delayed extensively owing to the unavailability of vaccines. Ignorance in terms of the remedy made the businesspersons helpless to bear with the situation. Literature exposed that the pandemic situation paralyzed the business functions entirely. Obviously, to safeguard the SMEs from such incidences in the future, this study became essential in understanding remedial, innovative, and sustainable strategies.

INTRODUCTION

SMEs have been recognized as large source of economy throughout the globe. Research has revealed that countries who encouraged entrepreneurship marvelled their economy. Analysis of business of SMEs reveal that they handle materials, manage manpower and satisfy the market demand while those in service business serve customers with expertise and skills in particular segment of business. The premise of entrepreneurship is the process of planning, beginning and running a new business, which is more often than not, initially a small business, offering a product, process or service for sale or hire. Although all enterprises have a common motive of making money and maintaining economy SMEs have the advantage of rapidly altering their resources owing to their small scale. Schayek (2008) says that, “vast majority of small business owners launch their businesses without a plan”. Reviews conducted in the strategic planning field have shown that this statement could be regarded as a ruling. The same way firms did not have a plan to address the issues emerged due to pandemic that made a bad impact on human race. Businesses and their work places suddenly halted resulting into a blow over their resources, processes

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and economy and slashing the growth rate. Small enterprises faced economy going into negative mode. Pandemic kept the populace waiting to get the situation back on stream. Such incidences had rarely occurred in the past century and entrepreneurs had hardly gotten any knowledge of addressing them. As a result, entrepreneurs had never seriously thought of any innovation in their business model. Some researchers, with their own interest, continued examining the perils caused by pandemic. In that context Nita Madhav (2017) reported that pandemics for all time cause significant economic, social, and political disruption. She further reported that such radical situation is difficult to rapidly return to normalcy due to anxiety of a relapse especially when remedial measures are unavailable. Long time loss of man-hours and earnings is a direct impact of this pandemic. However people and entrepreneurs have to bear with this situation to find ways to address it effectively. Entrepreneurs are, most of the time, confined to their own business lines and have hardly any direct control over the public health issues. However they could participate in relief programmes by supporting the cause of humanity. Smart entrepreneurs however foresee generating a chance from such awful state of affairs and rapidly shift towards those programs helping public and generate revenue for the firm. Brent Vittmeier (2020) has stated that hidden opportunities nevertheless emerge, whenever there are challenges. Folio.ca (2020) reported that as more capital becomes available, there will be more willingness to invest in newer areas. Technologies that could help someone thrive tomorrow might already be in development today, simply waiting for a nudge. Exploration may have already started, which could mean that ignored innovators could see more opportunity. That could accelerate research, technologies and product development. It might not displace energy as the main driver of the local economy right away, but it could create new types of growth. The Conversation (2020) reports that businesses play a key role both in helping society get through an economic crisis and in creating innovations that shape society after a crisis. While it's hard to predict the future, an understanding can be developed of what is ahead by analyzing current trends. Strategy in addressing these pandemic challenges is therefore an essential mission of the Government and a prudent job to make it sustain. On the SME level, however, a strategy is an action plan prepared by entrepreneur in achieving business sustainability. Innovation is a hobby the aspirants must imbibe to bring in variety of fruitful results as they are essential in creating robust, sustainable and competitive entrepreneurship. Securing them against challenges is a priority of the administration whilst issues arising within SMEs need attention on the entrepreneurial front. In that context, the new strategy on sustainability should include pandemic environment as one dimension. That strategy design emerges using variety of approaches, alternatives, and options. Design should be framed using available resources or their conversions into everlasting solutions. The end result of strategy should diffuse the paralytic situation into an advantage. These alterations need novel ideas / philosophy that makes the manpower unlearn existing practices and learn new ones. Exploration is about finding entirely new things. Entrepreneurship is known to bear risks and challenges and an innovative entrepreneur is always willing to face challenges intrepidly and making changes as per requirement of the situation. The chapter is written using principles of a systematic review of literature & opinions of experts. Study has usefully revealed that SMEs should implement innovative strategies suggesting use of alternative resources, processes and options that lead to sustainability. Findings further exposed flexible production strategies and small supply chain approach to stay away from pandemic and stay safe as remedy.

BACKGROUND

Entrepreneurs are normally confined to their own business lines and hardly have any direct concern over the public health issues arising from any pandemic. In Pandemic like situation, severe attack is on the public in general and manpower engaged in the business in particular. Apart from the measures adopted by health administration, remedies are essential on the entrepreneurial front, before the enterprise starts losing grip over the business to protect it from yielding. Each pandemic has different nature of health hazards and until apt remedies are found, they keep multiplying leaving the enterprise into a dilemma. Remedy and prevention are therefore major areas of investigation. The other view point is that, the business models designed using “6 P” dimensions such as People, Product, Place, Process, Promotion and Payments have rarely included 7th P as dimension of pandemic, in the past. Further observation is that, large number of entrepreneurs ignores the value of designing a system within their organization to rapidly gain knowledge on addressing challenges & issues.

Entrepreneurship as a recognized process within the organization has been identified by scholars as a crucial element to the firm’s success (Davis, et al., 1991). In the competitive environment in a world with an ever-more global economy, innovativeness and proactiveness can determine survival and ultimately success (Porter, 1996). Entrepreneurship is crucial since it initiates general economic development as well as improvement in the performance of individual firms. Moreover, entrepreneurship is a key factor in achieving competitive advantage and a larger financial return (Covin and Slevin, 1991). According to Zahra and Covin (1995), entrepreneurially oriented firms are capable of directing themselves to choice market segments, where they can charge premium prices prior to the penetration of competitors. Such firms detect changes in the market and promptly respond, which is why they are the first to commercialize new opportunities.

Jennifer R. Hickman, et al (1997), in their paper, “Before disaster hits: a multifaceted Approach to crisis management A rule often referred to by experts in the area of disaster recovery states that “80 percent of companies lacking a well-conceived and tested contingency plan go out of business. Nevertheless, despite past disasters and the millions of dollars of damage they have rung up, many organizations are not prepared for a catastrophe to occur. In fact, according to Tiller (1994), fewer than 60 percent of Fortune 1,000 industrial companies have an operational crisis management plan at all or strategic management.

Toyota (2008), in their field book have candidly stated their philosophy and categorically opined to create initial process stability, create connected process flow, establish standardized processes and procedures, develop exceptional people and partners, root cause problem solving for continuous learning, and finally managing the change. They further advocate the use of 4Ps that is Philosophy, Process, People and Partners and Problem solving methodology. The 4P Model was intended, to some degree, to be hierarchical, with higher levels building on lower levels. Without a long term philosophy, a company will simply not do all the things the other Ps imply.

Most of the entrepreneurs, consider four essential links that form the business process flow for the enterprise such as Plan, Entry, Survival and Growth. Emphasis is placed on development of the instrument on the basis of sound economics and factors responsible to maintain stability in society and the environment. For that matter entrepreneur initiates to tackle root causes that may well be affirmed on the basis of particular revenues and expenditure model.

A plan starts by formulating objectives of the business and selecting steps to accomplish those objectives. While framing objectives the prime consideration is mostly the expected yearly income from the business so that a project and its requirements of resources and processes could then be worked out further.

Type of industry therefore comes out the next consideration which can give the anticipated profits. The plan has to be exhaustive or detailed in every respect. This helps in building the business meticulously and so becomes a guide and security for the business since it prevents deviation and uncertainty. The path of achieving the objectives could be worked out by top down and bottom up approach. In short, it forms an insurance that manages risks effectively since nothing is missed out. Moreover the course has to be realistic and practically achievable. The other need of business setting consists of preparing the plan through pick up of right knowledge. In that case, help of experts could be availed since it is an important aspect of any business start up building realistic estimates. Once the plan becomes ready, the entrepreneur has to look into the entry barriers and how they could be surpassed. In case of competitive environment, price difference, good quality and swift delivery form important considerations to address entry barriers. The other barrier happens to be funding of the required scale. Moreover the funding has to be adequate so that all the needs are satisfied completely. Entry barriers also cover offering low and competitive price. This needs to be produce anticipated profits and initial capital requirements may rise to sustain for the first year of business. Entrepreneurs think that for a firm to survive it should essentially maintain positive cash flow. Strength of business economics they recognized relies on adequacy of business income and its proper utilization that in essence generates sufficient reserves for steadiness of the enterprise and furthering investments to the growth. Effective balancing of these variables viz. income, spending and savings leads to the design of sustainable instrument. Entrepreneurs further demonstrate that the key variable, savings, is merely derived by arithmetical difference. Utilization of funds is the in-house feature that the enterprise needs to control. Consequently the only significant variable that is left to be critically looked into for survival is the revenue, as it invariably relies upon the exterior surroundings that are normally beyond the control of entrepreneurs.

Knowledge in a Business

Using knowledge in the business isn't necessarily about thinking up clever new products and services, or devising ingenious new ways of selling them. It's much more straightforward. Useful and important knowledge already exists in the business. It can be found in the experience of the employees, the designs and processes for the goods and services, files of documents (whether held digitally, on paper or both), plans for future activities, such as ideas for new products or services. The challenge is harnessing this knowledge in a coherent and productive way. Entrepreneur must seek knowledge of the current business environment as it can be affected by pandemic like outside factors. Developments in politics, the economy, technology, society and the environment could all affect the business development and essentially needs to be updated. Considering to setting up a team of employees to monitor and report on changes in the business world is advantageous.

Entrepreneurial Behaviour in Pandemic

Brizeida et al. (2020) has highlighted on the psychological factors to lessen the effect of covid-19. On the economy front, most of the SMEs don't run a regular saving Strategy, to conveniently face the declining economy arising out of the emergency situation. Day to-day challenges being severe SMEs don't find time in facing pandemic like situation. In addition to these observations, entrepreneurial behaviour in terms of habits, logic and attitude is rarely in congruence with the business environment. Significance lies in entrepreneurial behaviour in panic situation like pandemic and maintaining quality of peace. In

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such situation attitudes like regularity and punctuality are broken down while problem solving behaviour strongly emerges as essential. That attitude alone is situation prone to maintaining business process and stewardship. Maintaining simple and peaceful attitude but actively engaging efforts for the betterment of human resources of the firm takes high priority amongst other behavioural needs. Relevant talk, ability to get along with people and no fear are the other dimensions essential in pacifying challenges of pandemic. Natural law of “Cause and Effect” is very popular in this behaviour of entrepreneur. It is because if seed of good behaviour is sown it generates good results automatically. Widely accepted is the fact that, most small firms are more concerned about survival rather than growth and relatively few are especially entrepreneurial (Gray 1998). Consequently, a lot of research in this field has focused on finding the characteristics that set entrepreneurs and their firms apart from others. Elizabeth Chell (1985, 1999), a social psychologist, has examined numerous psychological trait-based approaches and concluded that, whilst psychological aspects such as ‘entrepreneurial intention’ and the ‘ability to recognise opportunities’ are strongly linked to entrepreneurial behaviour, the context in which the entrepreneur operates is also very important. Entrepreneurship reflects complex interactions between the individual and the situation, which has to be dynamic because business situations are always changing.

Perceptions and judgement are, therefore, key elements in this process. Indeed, more than 20 years ago, Mark Casson (1982) identified ‘judgement’ as one of the qualities that distinguishes the successful entrepreneur from the much larger group of non-entrepreneurial SME owners. As mentioned before, business judgement can reflect an innate ability but most frequently it directly derives from experience (or, more accurately, learning from experience). However, past experience can also filter out our ability to spot new opportunities or threats. Cultural effects related to family, locality and friends can help us interpret the world but they can also colour what we see. The same may be true of the influences from various networks that business owners often belong to (ranging from business associations such as Chambers of Commerce, business clubs and so on, to more social links related to, say, sport or leisure activities). And, of course, own expectations and motivations for hope in life, at work and in terms of a career will affect both judgement and business behaviour. The Open University Business Schools (OUBS) has conducted research in this area over the years. The findings from many different entrepreneurial firms, which reveal various influences and feedback loops on the owner-manager’s decision-making, apart from the effects of the various influences that can affect business judgements, the main points to note are that:

- Pandemic situations consist of real challenges, constraints and opportunities that directly impact on the business performance of a firm.
- How entrepreneurs perceive these challenges that guide their judgments and actions
- Perceptions are also influenced by personal and business motivations, peer pressures and cultural influences
- Entrepreneurial behaviour is guided by the entrepreneur’s expectations rather than a rigid set of strategic objectives
- The process is not static but very dynamic with feedback and signals from the market consciously and indirectly affecting later decisions and actions.

As each context and set of surroundings signals reflect industry, regional and life-cycle influences, it is difficult to believe that each entrepreneur needs the same set of skills in order to achieve success.

The model reflects the uniqueness of the business situation facing each entrepreneur and the key areas where superior judgment will make a difference.

Knowledge of Personal self is important for the entrepreneur. As long as man lacks knowledge of life and living, he will go through sorrow and suffering in the world. That is the law of nature. The nature of the activities in life depends upon the quality of the mind and intellect. If the mind and intellect are good, the actions are good while bad when mind and intellect are bad. The entire human race is a heterogeneous mixture of personalities. But every man's nature is best suited for his evolution. The present nature is most conducive for the development. Realizing that make use of the inner talent to discover inner peace and happiness.

Entrepreneurial Philosophy Based Approach

Ondrej Dvoulety & et al (2020) have reported challenges and consequences of Covid-19. Researchers have strongly revealed the inevitability of the entrepreneur's philosophy as an instrument to the success of business. In pandemic like situation, researchers support the findings of professionals. Over the years there have been numerous attempts to define Entrepreneurship. While schools of thought are beneficial in broad sense, it is unlikely that any one school completely defines entrepreneurial behaviour. This is apparent when examining entrepreneurial characteristics as researched by academics. Taking into account, the original theories, as well as more recent literature, a modern definition of entrepreneurship has been drawn. An entrepreneur is most likely to possess the need for achievement, be independence oriented, desire personal control, seek opportunity, be innovative and assume calculated risk. These factors are perpetually interconnected to the philosophy of the entrepreneur. Many researchers have tested the relationship between entrepreneurship and business performance. While strategy and industry structure both significantly affect the performance of new venture, an entrepreneurial philosophy was found to have statistically significant influence. Results obtained through primary data strongly propose entrepreneur's philosophical approach as new a dimension that has come up through study of cases researched. Designing a strategy, is as a result a composite process, that mainly consists of preparing rules for governing the enterprise and such regulations are compiled in statements form. They are the outcome of decisions taken by the management after deeply studying the business process flow called mapping. Rules are structured to satisfy the objectives of the organization. Supporting information and involvement of knowledgeable participants could only draw effective solutions based on the valuable thoughts or the philosophy of the entrepreneur. Strategy makers require clarity to decide the priorities between different Strategy objectives and then select the set of instruments which most efficiently promotes those objectives. They are then, conceptually, two rather different sorts of choices to make. Firstly, choices about objectives; secondly, choices about which instruments to employ in order to pursue best of those objectives and which choice to make depends upon the philosophy of the entrepreneurs. Therefore new instrument has emerged from the study called "Philosophical approach to entrepreneurship". Driven by the need to succeed, they rationalize that reaching their goals and going beyond the ordinary requires taking risks. The risks will be offset by the achievement of extraordinary gains. The people's philosophy which influences competitive choices invariably stand for either one or many of the traits such as passion for growth, analytic mind, resources and capability, achiever personality. Study has come out with the finding that philosophy positively influences the performance of the business as it is entrepreneur's choice among the core and complementary approaches to business. Statistical analysis of the data has exposed this especially significant feature. In depth view of Philosophical basis was researched to find

out that the orientation of a businessman is responsible for business success. Research further reveals another very important finding that philosophy of the entrepreneur pertains to the knowledge of business, challenges and risks involved therein, Government regulations, business plan, Entry, Survival and Growth of the enterprise. The other / thought the entrepreneur should follow is to verify utility, flexibility, viability, and competitiveness that needed to match with the Type, Size and Value of their resources and capability for a prolonged subsistence. This philosophy is equally applicable to pandemic like challenges and the approach to addressing them.

Literature has cited a variety of approaches (ITC, 2020) to the queries on “what and how” strategies could be framed in the backdrop of pandemic. Strategies dealing with fire breaking like situation need to be adopted by SMEs reported researchers. Remedial, innovative and sustainability strategies on business to business have been cited in literature to address the pandemic issues. Mueller R.(2020) has pointed that pandemic planning although done by many organizations, whether they have done everything they can to manage risks, is unanswered. Gartner recommends some crisis checkpoints to start pandemic planning.

Winarsinh (2020) has stated that, SMEs are most vulnerable to the effects of pandemic and currently of the covid-19 owing to their deficit budgets. Social distancing activities of people and limitations have posed decrease in sales turnover. Changing the mindset towards running business using technology transformation is suggested. Belief is to continue the sustainability of SMEs. However, some SMEs have hardly any knowledge about digital skills that are relevant to their business. In pandemic condition, online business can result sustainability in their business that can take place now and in the future.

Remedial Strategies

Post pandemic strategies emerge with a view to pacify the awful impact and therefore are remedial (Power, 2020) as they address the challenges. Priority goes to creating awareness amongst customers and comforting them to ease supply chain blockages. Seeking financial assistance from the administration or donor sources to support finances during slowing sales is the other remedy. Planning for decreased productivity is the subsequent solution. In that context “stay informed and safe” strategy has emerged (Fernandez, 2020) as the first at site remedy that could save affecting the manpower at the workplace. Essentially, SMEs must gather information on the remedy so that it can be applied or implemented to stay safe. Other strategy that has emerged in the backdrop of pandemic is “work distantly and work safely”(Anscombe, 2020) wherein distantly means remote working thereby creating safe environment by avoiding closeness.

Innovation Strategies

Searching, identifying and framing preventive measures on pandemic issues is the approach to innovation strategies. Incremental innovation in the business of SMEs compels the designer to study the existing business model and make suitable changes in it. Knowing the clarity before undertaking research is essential. Kylliainen Julia (2018) states that fundamental problem even with established companies is the lack of clear innovation strategy. Confusion is said to prevail even when optimization of existing business becomes a priority. Dodgson Mark (2008) in his research found that Innovation strategies can be classified as proactive, active, reactive and passive. Proactive innovation strategies in technological innovation are either radical or incremental. In radical strategy breakthroughs are searched that change the nature of products and services while in incremental strategy, the constant technological or process

changes that lead to improved performance of products and services. Product research and development, scientific and technical research and development can be a vital source of knowledge that can help in creating innovative products and retaining the competitive edge.

Sustainability Strategies

Researchers have suggested a variety of approaches to sustainability. For example (ILO, 2007) has suggested an integral approach to sustainable enterprise development. In that, the approach relies on engaging all the business functions together for the obvious reasons that they all contribute to the management of entire business. The philosophy behind this approach is that if each business function is made stable, entire business gets transformed into stable enterprise. Stability of the enterprise is the goal of every entrepreneur whether it is small or large. Strategies are purposeful to keep the enterprise stable from any disaster. Stability entirely depends on how the entrepreneur addresses the issues on insecurity, threat and dilemma arising out of emergency or pandemic like situation. Strategies are initiated by carefully analyzing the causes and impact of disaster and searching an approach to pacifying or nullifying them. Appropriate resources and processes are then assigned to each problem with a motive of sustaining long life. The impact of this design is then analysed and the strategy is finalized till satisfactory end is reached. The extent of stability is aimed to reach 100%. Changing environment compels periodic review and corrections. Most of the firms find capital deficiency as a major concern to run.

The unique architecture of the sustainability instrument used by entrepreneur is based on a systematic and step wise mechanism can be stated. The first step being the philosophy of the entrepreneurs in selecting the desired objective, Identifying and setting the target of the objective the second while determining the pathway to reach that objective (Business Process flow) the third step and designing the specific program or measure in respect of that goal the subsequent and implementing the measure and assessing its impact is the last.

Opportunity Driven Strategy

Countries keep studying and examining the sources from where opportunities are generated. Opportunities generally arise when the world market demand, supply and pricing position changes. They capture such occasion and in the instant case the pandemic to avail business exchange that generates good revenue. For instance, an integrative approach is suggested for SMEs for innovation strategies. Greater engagement of small firms with remedies in addressing pandemic challenges has attracted strong interest in the entrepreneurs. Opportunity-based approach to be developed for addressing challenges and it argues that at the heart of firm strategy is the formation and exploitation of new business opportunities. The opportunity-based approach is viewed as dynamic, non-deterministic, and non-linear, and seeks to integrate current IT approaches (stage theories, network, resources, and capabilities). It also addresses the pandemic by opting new ventures in order to develop a holistic perspective of small firms. Empirical findings on the opportunity based strategy of eight small, high-technology firms have been revealed. Using case studies and an opportunity map they have been tracked through time their internationalization processes, as well as the entrepreneurial processes of opportunity formation, decision-making, and opportunity exploitation. It also reports on the principle of opportunity interconnectedness which shows how firm internationalization typically involves multiple opportunity elements (knowledge, resources, networks, capabilities, globalization, technologies, etc.) interacting and coming into play. The conflu-

ence of different opportunity elements typically facilitates foreign market entry, but makes prediction of stereotypical internationalization patterns difficult.

Smart Entrepreneurs look at pandemic as an opportunity believing that opportunity strikes only once and if not seized quickly as there is a risk in (TFD, 2015) losing them forever. The positive view of pandemic is an opportunity. Smart entrepreneurs using their philosophy take a jump with a decision to start or add some new business line to take advantage of this situation. They will design an urgent business plan matching with the environmental demand and go for its production using altogether different resources. For example biscuit manufacturers, during pandemic enhanced their production quadruple times to satisfy the increased demands. Sanitizers manufacturing was taken by multiple firms to satisfy the new needs. Few firms took it as a new product and thus opportunity was caught through talent.

Emerging Business Model

Construction of the business model and its modification is considered as a continuous process that forms a part of business strategy. Geissdoerfer et al (2017) reported that Business model depicts a presentation consisting of core approach to earning revenue. Such an approach relies on multiple complimentary approaches demonstrating various dimensions. The approach to business model is by balancing equation $\text{Input} + \text{Process} = \text{Output}$. In the input function the firm procures resources and converts them using process function leading the output to delivery. This modus operandi is equally applicable in economic, social, cultural or for any service, manufacturing or agro businesses. In the backdrop of pandemic situation therefore, changes are to be incorporated into the business model that is innovative strategy.

DISCUSSION

Strategies are being frequently designed for financial, social and political institutions and therefore well known in the strategy world. Nevertheless there are hardly any common approaches established for pandemic like situation and surviving economy. As a result, this study is planned to identify the formulation of strategy making to pacify pandemic and economy issues that are attempted in the globe. Strategies that the SMEs need taking in the backdrop of pandemic are essentially the focus. Small enterprises are prone to quick financial loss due to low financial budgets. While formulating a basis, it all time aims at efficiency, and has continued to be an interesting arena for researchers especially in the light of global epidemic. The effectiveness of the Strategy fundamentally relies on the actual outcome, based on the designed outcome. Protecting them from emergent situation like the pandemic need preventive and remedial measures to adopt and that is the main objective. Equally important is to incorporate sustainability strategies to manage the enterprise during the situation. Approach to designing such strategies and implementing them is the other objective.

- a) The public health crisis due to pandemic greatly impacts the survival of the SME. Small enterprise rapidly falls prey to interruption in manpower, material and money movement.
- b) Loss of revenue leads to sudden downfall of the enterprise that comes due to long break in running.
- c) SMEs engaged in supply chains & logistics business faced severe blow due to spreading of infections and breaking down the routine movement.

SOLUTION AND RECOMMENDATIONS

Study reveals remedial strategies (Muelen, 2020) to address challenges while innovation strategies to introduce preventive measures and sustainable strategies to stay stable, safe and secure for long years. For survival during pandemic, innovation within the business model is suggested to making alternations in the resources and business processes. Conducting the business through remote control operations has been revealed to be the key strategy in addressing the challenges of pandemic. SBA (2020) suggests making plan by using the talent of the staff together and deciding the actions needed if the incident worsens or improves. Conducting an exercise to simulate potential scenarios is the other recommendation. Research makes further suggestions to account for the ideas from the staff of the firm that might respond to the hypothetical scenario in the exercise. Research findings also suggested “Remedial strategies” (Power, 2020) essential in addressing the pandemic challenges. “Rapid knowledge gaining and disseminating strategy are considered as the major remedial action. Priority is highlighted to address human health crisis to protect them from the spread. “Stay informed and stay safe” strategy combined with “Work distantly and work safely” have been emerging as vital strategies in running of enterprise while “Safe man-power and safe operations are the other strategies revealed” helping the enterprise run without shutting down the business.

ADDRESSING THE ISSUES / PROBLEMS

Literature review has revealed problem solving strategy to address the issues and challenges. Understanding the problem and its impact are the essential pillars to look for the strategy and to design it. In that context knowledge of the impact of the pandemic is considered as the prime step. Breaking down the problem into small issues helps in identifying an approach to solving since it becomes convenient and simple. By doing this, the urgent, important and essential issues could be isolated. Suzanne (2020) has interestingly reported ten problem solving techniques that essentially work. She has emphasized on separating between what you need to tackle urgently and what can wait. Separating the problem into bite-sized parts and working on time line are the other highlights she reported to addressing the issues. Kendra (2020) has, reported that problem solving is not a flawless process. She states that researchers have described a number of these mental obstacles, which include functional fixedness, irrelevant information, and assumptions. Improving upon them is considered as another important lead to problem solving.

The human health crisis due to pandemic greatly impacts the survival of the SME. Small enterprise rapidly falls prey to interruption in manpower, material and money movement. In this context, researchers (Yutronic, 2010) have suggested remote working strategy for admin and marketing manpower while fully automatic manufacturing plants is recommended that engages just nominal human resources to avoid large number of employees working at the same work place.

Loss of revenue leads to sudden downfall of the enterprise that comes due to long break in running. In addressing this challenge, researchers (Berger, 2020) have suggested clubbing business with parallel additional business (multiple income streams or passive income streams) for instance in IT that could be run by engaging remote manpower operations, that is, without large manpower working at the same work place. This strategy helps the SMEs firms to keeping running the business and income generation without halting the activity through remote working operations. The other view of researchers is that the

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entrepreneurs should think of quick shift strategies (Adcellerant, 2020) to new business using alternative resources and processes.

SMEs engaged in supply chains & logistics business faced severe blow due to spreading of infections and breaking down of the routine movement. In this backdrop, researchers have suggested shortening of longer supply chains into smaller ones and integrating them. Supply Chain Integration (Hoey B., 2019) will be of interest to industry policymakers, economists, researchers, business leaders, and forward-thinking executives.

INNOVATION STRATEGIES

Megha Merani (2020) has suggested making use of start ups by corporate in the time of pandemic. Her suggestion aims at supporting the start ups to develop during this emergency situation so that they create business for themselves through this route. This suggestion is an innovation and such thoughts have the ability to give boost to the business. Innovation strategies can be classified as proactive, active, reactive and passive (Dodgson et al. 2008). Considering the changes in circumstances, incidences and their impact are the main objectives in the design. Active innovation strategies involve defending existing technologies and markets while being prepared to respond quickly once markets and technologies are proven. Companies using this approach also have broad sources of knowledge and medium-to-low risk exposure; they tend to hedge their bets. Examples include Microsoft, Dell and British Airways. These companies use mainly incremental innovation with in-house applied research and development. On the other hand “Reactive” innovation strategy is used by companies which are followers, have a focus on operations, take a wait-and-see approach and look for low-risk opportunities. They copy proven innovation and use entirely incremental innovators. An example is Ryanair, a budget airline which has successfully copied the no-frills service model of Southwest Airlines. Whilst Passive types are those wherein Companies with passive innovation strategies wait until their customers demand a change in their products or services. Examples include automotive supply companies as they wait for their customers to demand changes to specification before implementing these.

Knowledge Development Strategy

Business Link UK (2009) reports that all businesses have access to an extensive pool of knowledge - whether this is their understanding of customers’ needs and the business environment or the skills and experience of staff. The way a business gathers and shares information and exploits this knowledge is the chief motive to develop the enterprise successfully. This doesn’t just apply to huge multinational companies. Knowledge management can benefit everyone from a local newsstand to a manufacturing firm.

REVIEW PANDEMIC COMMUNICATION STRATEGIES

WHO (2020) has suggested of approaches to communication strategies during pandemic. Researchers’ suggestions reveal making changes in the resources and evolving new processes to produce new products by gaining knowledge rapidly. Dodgeson Mark (2008) states that active innovation strategies involve preparation to respond quickly once markets and technologies are proven. Companies using this

approach also have broad sources of knowledge and medium-to-low risk exposure; they tend to hedge their bets. Examples include Microsoft, Dell and British Airways. Wordpress.com (2018) reports Rapid Innovation Model VI, Nicolas suggests sharp innovation stems from constant knowledge exchanges between technology, the markets, an innovation team, as well as other departments of the firm. Jennifer Sara et al (2020) have suggested communication strategies with a view to combat covid-19. Communication strategies of every firm depend upon the business process engaged by its management. However, every individual business function is all time connected with the input and output end to complete the business cycle. In addition, communication should also happen with the management authorities in the hierarchy to complete the orbit. Despite these regular communication strategies, the firm must review the same to undertake approach to pacifying the pandemic impact. Bizmerlin (2020) advises to strengthen communications within the firm and sending announcements to keep everyone in the loop. As the pandemic situation evolves with each day, the firm owner should start making announcements to update the employees with the organization's plans and policies. Making announcements for a group rather than sending out an email is more appropriate. Bizmerlin human resource makes it further simple to creating corporate-wide, location-wide, and department-wide announcements. To create an impact, supplementing the announcements with training modules and videos is considered essential.

REVIEW IT ACTIONS & CONSIDERATIONS

Databases organise information so it can be easily accessed, managed and updated. For instance, you might have a database of customers containing their contact information, their orders and preferences that are important in communicating them quickly. A data warehouse is a central storage area the firm might use if it has a variety of business systems or a range of information in different digital formats. Many businesses now use digital asset management to store, manage and retrieve information, and this can be particularly helpful if the firm sells online. It is, however, a complex area technically and in task management, and seeking specialist advice from an IT consultant is an advantage. Data mining is the other process in which all the data the firm collects is sorted to determine patterns. For instance, it can tell you which products are most required in pandemic like situation and whether one type of customer is likely to buy a particular item. Reporting and querying tools let you create reports interpreting data in a particular way. How many of the sales have been handled by one particular employee, for instance? Business intelligence portals are websites that bring together all sorts of potentially useful information, such as legal issues or details of new research. The Internet and search engines - these can be a powerful source of knowledge, although be certain to check the credibility of the information source. Internet newsgroups can be specific sources of business information, but check the authors' other postings before deciding how to view their opinions and claimed facts. An intranet is a secure internal network for the sole use of the business. An extranet is similar to an intranet but can be extended to customers and suppliers. Customer relationship management software helps you build up a profile of the customer database and enables you to target them through e-mail, telephone or postal marketing campaigns. Call-centre systems enable one to serve large numbers of customers if you sell by telephone. Website log-file analysis helps to analyse how customers use the website so one can improve its effectiveness. Systems to analyse and file customer letters, suggestions, emails, and call centre responses, which will enable one to spot trends, improve customer service and develop new products, services and systems.

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Source: Business Link UK (now [GOV.UK/Business](https://www.gov.uk/business)). Every firm now a day's makes use of IT infrastructure to keep abreast with the development, to manage the business internal and external environment and that too rapidly, accurately and effectively. As all manpower in the firm has a got an equal chance to get affected due to pandemic, this IT domain could be highly engaged precisely and effectively to manage the knowledge of every employee and make changes accordingly within short time.

WORK FROM HOME

Winarsih (2020) reports that some SMEs are worried about the government's rule to stay at home or work from home (WFH) which can cause a decrease in productivity. In fact, the WFH system can actually be run effectively. This strategy helps in achieving the business goal to a great extent as work keeps going and health issues are taken care of simultaneously. Admin, marketing, financial activities of the firm could be run effectively without many hassles and kept going. Communication technology using IT infrastructure greatly helps while working in this mode.

USE OF TECHNOLOGY

Winarsih (2020) The business people who rely on physical space, such as supermarkets, traditional food markets, restaurants, car dealers, cinemas, fitness centres, they suffer losses. It is in contrast to online markets. In a situation like covid-19, the use of technology is the best solution to keep the sustainability of SMEs. Some SMEs do not know about digital skills that are relevant to business, so this condition forces them to learn online business.

DIGITAL MARKETING

Pandemic should not be a barrier for SMEs to increase sales, because the SMEs actors can promote their business through digital marketing. Winarsih (2020) states that the crisis due to the pandemic has become the right moment for SMEs to improve the quality of their products or services and to develop various strategies for offering goods or services based on their business' concern. Digital marketing has got enormous advantage of staying remote and still operating the business without hassles.

FLEXIBLE PRODUCTION STRATEGY

Globalization council (2009) study reveals that SMEs have more flexibility than MNCs to easily adapt and change to meet important environmental & social targets. Innovation strategies revealed opting "flexible production strategy" (Jacob Stoller, 2020) as an essential requirement to push up new goods and services that are required by the changed environment. Designing flexibility has been considered as the prime need for the approach to be useful. This is in terms of product choice, scalability of business, production quantity and quality due to changing needs of the customers and circumstances or else its utility will be very limited. SMEs engaging continuous process plants could change fixed process

sequence into flexible process models by adopting a splitting down the existing into “short chain process strategy” by innovation. SMEs in Supply chain & logistics business have been revealed to be opting “Split up strategy” (Christopher W. Craighead, 2020) and short distance logistics strategy to avoid the spread of pandemic and shift to “short route and distance strategy” replacing the long route and distance approach thereby helping reduction in the spread without stopping material movement. Greater part of the long established industries for example operates on the principle of innovation in technology and management to satisfy the fresh necessities of the clients to stay longer in business. Based on flexibility principle, this approach advocates continuous up gradation of existing processes, products and services. “Designing the operations on Six Sigma theory” is an illustration of this instrument that is generally demonstrated by many of the small business firms.

REVIEW BUDGETS & SAVING STRATEGIES

Development of the enterprise can only come to pass through savings and investment they powerfully valued. They have complete realization that market keep changing and in order to survive the industry must make innovation in the technology and management methods. For this purpose they felt that generation, saving and investment cycle must be effectively maintained. Most of the SMEs run their business under deficit budgets and they are most of the time small due to low capital base. Very few firms make use of saving strategies as many of them don't carry either skills or have low capabilities in running the business. Moreover saving policy could be run only if expenses are controlled over the income from the business. Keeping a strong mindset on saving essentially helps in the pandemic situation.

REVIEWING HR POLICIES & PRACTICES

HR policies run equally for every employee of the firm. However during pandemic, greater impact is on the employees of the firm. Review of this manpower attendance strategy (Nicole Lewis, 2020) is thus evident. Employees travel to and fro from their work place and home. This activity is practically difficult to run smoothly during pandemic due to the fear of spreading the viral disease.

DESIGNING THE STRATEGIES

Research has revealed (Deshpande, 2011) important feature of universal methodology for conveniently and effectively formulating robust Strategies. This has been revealed to consist of four elements to be used in sequence, for instance, the purpose of strategy, criteria for evaluation, means to accomplish the objective and the characteristics that influence and convince the outcome. Findings further disclose the insight that formulation of strategy relies on “Bi-Lateral instrument” that handles two sides viz. the external and the internal environment of the business. Core and Complimentary approaches have been revealed as the two sides of Strategy formulation process. Whilst core approach comes out as the main approach that deals between external and internal environment of the business, the complimentary or paired approaches essentially happen to address diverse actions in the internal environment of the enterprise.

Understand the Challenges

Challenges invariably evolve due to complex situations in social, economic and business circles when an Institution or firm foresees barriers in setting its plans. Until they are reduced or eliminated, the growth is unable to proceed. Strategies are therefore devised (Deshpande, 2011) after studying challenges and identifying appropriate course of action to pacify them and to balance the intricate situation. For example, the course of action in connection with development or enhancement of economy will be decided with narration of the process as to how it will be attempted. The challenges of pandemic are many and therefore the barriers in designing a strategy. In that connection, conceptual design considered for course of action might just counter-act with the desired outcome thus posing a challenge of designing.

Challenge Gauging

Measuring the size of challenge in terms of the monetary value is known as gauging. Managing the accountability arising out of the challenge, into an opportunity is the subsequent step that needs right decision. This is an all-time action desired by the authorities. For instance, the IT service industry has brought in a massive revolution by introducing a tool like ERP. It offers multiple advantages of speed, accuracy and efficiency and thus need to be accepted as a change for better. However if it is ignored, it would pose organizational breakdown sooner or later, by losing competitive edge. Successful organizations continuously monitor the challenges by classifying them either under technical, financial, economical or management head added with health portfolio. This helps them in finding clarity in complexity that is essential in creating a robust strategy. Challenge due to environment would be grouped as technical, since it is related to preservation of the environment. Another challenge such as the recruitment is classified as administrative. Likewise the third would be maintaining organizational profitability that is classified under the financial challenge. Pandemic like situation has now compelled to create a system of remedy. Researchers have shown that the complexity of challenge could be broken down into three classes such as major, medium and minor challenges. This problem solving approach further leads the strategy designers in addressing them through the perspective of their priority, importance and urgency.

Alterations in the Traditional Approaches

The traditional approaches, although proven, miserably fail to clearly indicate, logically convince or completely satisfy the interests in facilitating decision making process for developing economy. For example the aforementioned mechanisms accomplished by the professionals in the area vary significantly. They suggest diverse bases to arrive at establishing an instrument for economic development. Majority of the researchers proposed mechanism that is arbitrary to deriving an instrument. Systematic evaluation of the effectiveness of the approach is however an essential process. While initiating the strategy design, classification approach is essentially preferred. Following classification makes the designer convenient to proceed on pandemic challenge addressing.

1. Strategy Input Group, Conceptual Factors (Objectives, Target, and Issues)
2. Strategy Process Group (Strategy Mapping, procedure, moral principles, history and past lessons learned and statement drafting)
3. Strategy Outcome Analysis Group (features and effectiveness).

Logical analysis of the above three sides of ‘Strategy Designing’ programme reveal that it is a “Tri-lateral Instrument”. The above logic also goes according to the following well known equation:

Input + Process = Outcome

Initiating Trilateral Instrument

Input Group

In the first step while using this tri-lateral instrument, Strategy input group is initiated by competent experts who are accountable to decide objectives, target and highlight issues evolved therein. Emphasis is placed on the consensus between the group members to finalize the statements of objectives. Objectives are broadly fixed, for example, to pacify the pandemic and maintain the economy while targets are set with specific objective to be achieved within the desired time period. If SME is to survive in its economy, then figures are set to plan the approach to reach. Strategy makers require clarity to decide the priorities between different objectives and then select the set of instruments which most efficiently promotes those objectives. They are then, conceptually, two rather different sorts of choices to make. Firstly, choices about objectives; secondly, choices about which instruments to employ in order to pursue best of those objectives and which choice to make depends upon the philosophy of the authorities. Therefore new instrument has emerged called philosophical approach. Driven by the need to succeed, they rationalize that reaching their goals and going beyond the ordinary requires taking risks. The risks will be offset by the achievement of extraordinary gains. The people’s philosophy which influences competitive choices invariably stand for either one or many of the following traits the study reveals passion for growth, analytic mind, resources and capability, achiever personality. Philosophy positively influences the performance of the organization as it is a choice among the core and complementary approaches to business. Statistical analysis of the data has exposed this especially significant feature. In depth view of Philosophical basis was researched to find out that the orientation of the authorities is responsible for Strategy success.

Process Group

The second side of designing comes up with Strategy process group that is the one formed between experts who are responsible to Strategy mapping, and having the knowledge and expertise in drawing procedure, consider moral principles, know the history and past lessons learned and draft Strategy statements and make use of available and required additional resources which could be transformed to desired outcome using a particular path or procedure or approach. Strategy mapping is nothing but drawing a diagram that is planned to be used by aiming the objectives and reaching towards desired outcome.

The third element amongst the three sides of the tri-lateral instrument, leads to strategy outcome analysis and if found fit the strategy statement is finalized or else it is modified according to the requirements. Efforts through a deep thought process are put in to eliminate any undesired outcome and path or the route or the approach is altered if needed.

Strategy Delivery & Analysis Group

Strategy effectiveness, however, is determined not only by the Strategy choices discussed above but also by Strategy delivery (Ricardo Viana Vargas & Edivandro Conforto, 2017). Turning into this latter issue it is observed that there are several grounds for favouring simplicity and consistency in SME Strategy delivery. The first is that SMEs are a simple organizational form, at least in comparison with larger enterprises. Hence SME Strategy should avoid generating complex instruments if they are to be understood and implemented by smaller firms. Secondly SME owners, since they have a business to run, regard themselves as having little time to engage with government. They have low the resources, unlike many large enterprises, to employ specialist individuals for this purpose, so policies that are subject to frequent change are likely to be ignored by SME owners. A third reason is that, in general, the SME considers it to be of a practical disposition focused upon customers rather than governments. For all these reasons it might be expected that SME owners' Strategy should be simple, easily understandable and cost effectively delivered.

FUTURE RESEARCH DIRECTIONS

Pandemics create greater impact on human resources, as such need arises to identify approach to run the manufacturing and allied businesses without engaging large manpower since that is emerging trends. Investigation on the enterprise strategy using minimum manpower or man powerless work place is also suggested. The other strategy of interest is in quick shift strategy especially in the backdrop of pandemic and how could it be implemented. SMEs are engaged in running manufacturing, trading and service businesses. Therefore, for each type of these SMEs diverse strategies would need to be identified to addressing the challenges precisely.

CONCLUSION

Innovative strategies are valuable and essential in preventing the debacle due to pandemic. Remedial strategies are practically implementable in pacifying the outbreak of pandemic while sustainable strategies create long time stability using appropriate innovation. Strategy making / designing is an expert process involving an array of activities and meticulous exercise of five "P" s coupled with a balanced modelling should bestow winning outcome and this common line of attack could be practical for development of any Strategy in several domain. To survive in the pandemic situation, SMEs should implement innovative strategies leading to use of alternative resources and processes to reaching the stage of sustainability.

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Chapter 23

Strategies for Sustainability of IE3H Sector in the COVID-19 Era

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ABSTRACT

Ever since independence, industries have been the temples of modern India. Now, with a fast-growing IE3H sector, policymakers have focused on strengthening IT, hospitality, and hygiene with investments in basic services such as health and education. When it comes to public infrastructure, they have also predominantly supported development in India. The Indian economy was weakening even before the pandemic struck the world. Yet, this is not co-morbidity. The economy has always displayed remarkable resilience and has the ability to face the challenge. However, the economic blueprint for the country will need to be redrawn, at least for one or two years, with survival and revival taking precedence over expansion and growth. This is the time to strengthen the foundations of the economy, such as the IT, hospitality, hygiene, health, and education sectors.

INTRODUCTION

Corona Virus Disease – COVID-19 is a virus pandemic that demands a very competent handling of the health care of the citizens. COVID-19 has taken all nations by surprise because of its wild fire spread. Corona virus is one of retro viruses with RNA genome. Corona virus 19 is the seventh virus that has structure with spikes, the spikes helping the virus to bind to the host cells. It is zoonotic virus which has mutated to a form that has resulted in the transmission of the virus through human contact. WUHAN is the epicenter of COVID-19 and it threatens the whole world with nations underprepared to face the attack. Highly organized advanced Nations like Italy, USA, NATO countries including UK find it difficult to tackle the pandemic because of lack of preventive measures. Medical Equipment, Ventilators, Face Masks, Sanitizers shortage have created a grim situation for ordinary people to get the needed health

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care. The doctors, nursing, paramedical and accessory health staff have taken the huge responsibility to provide the best medical care to the needy risking their own lives, all over the world (About Corona virus Disease, 2019).

The Covid-19 pandemic is wreaking havoc on the world economy. The global economic outlook was already fragile prior to the outbreak of the corona virus crisis. Initially, when the outbreak emerged in China, it was thought that the negative impact on the global economy would be small mainly limited to the output contraction in China and its knock-on effect on global supply chains, tourism, and commodity markets. However, with the rapid spread of Covid-19 across the world and the consequent imposition of containment measures and restrictions, all countries are experiencing severe supply and demand shocks that are independent of their links to global supply networks. In every country, the containment measures have adversely impacted all sectors of the economy to varying degrees. Production has plummeted, investment plans are being shelved, consumer spending has fallen sharply, and job losses have surged. Financial market sentiment has deteriorated, foreign direct investment inflows are dropping, and emerging market countries are experiencing large capital outflows. The global economy is now entering in a recession which is likely to be far deeper than during the Global Financial Crisis in 2009. The COVID-19 outbreak has brought the world to an almost complete halt.

Dreams of a double-digit growth can wait for another day. The worldwide spread of the novel coronavirus disease underlines the extent to which countries are interconnected and co-dependent. Despite determined global efforts, collective action and scientific progress made to mitigate COVID-19 infection rates, there is still high uncertainty regarding the virus itself and when the safety measures imposed to reduce the spread of the virus will be totally and safely relaxed. As businesses remain shut and lockdowns are extended in efforts to contain the novel corona virus across the globe, experts fear that India may be staring at a global recession. Can any lessons be taken from the COVID-19 induced economic gridlock? How will the crisis affect large businesses and industries as well as the MSME sector? Should India be benchmarking itself with some nation in this economic revival? What will be the individual-level impact of the crisis? Is there an opportunity in the crisis for new industries to boom and present new employment opportunities? How are trends around travel, hospitality and tourism expected to emerge post-crisis? Can we speculate the length of this holding phase of the crisis?

The ICT industry is feeling the effects as customers, governments, or businesses face unprecedented disruption. This has brought about the changing ICT market trends, both worldwide and across the region. The ICT sector is experiencing rapid growth of the digital economy and the globalized nature of economic systems, there is no doubt that the global COVID-19 pandemic has disrupted the complex world economy and will reshape all sectors in the foreseeable future. It is not spared from these disruptions, and the already strained economy will be profoundly impacted as the number of confirmed local infection cases grows, the industry-wide economic disruptions increase and the constrained economic activity due to contagion mitigation continues. The COVID-19 crisis demonstrates how central ICTs have become, to both economy and society in the 21st century. History has indicated that our previous health pandemic on a similar global scale, such as the 1918 'Spanish Flu', predated both radio and TV, and came long before either mobile telephony or broadband Internet (Lewis, 2020). ICT infrastructure and services are now a fundamental enabler of economic activity, social interaction, developmental interventions, and cultural and entertainment content. The ICT sector thus sits in the cross-hairs of the COVID-19 crisis in a unique way. It is without a doubt that the pandemic has created deep and lasting bruises and economic shock that will likely be more much severe on the South African economy. The ICTs are a prime tool to empower and support the kind of lockdown currently in force, allowing the

government to function, white-collar modes of work to continue, and critical channels of communications and information dissemination to be sustained in ways not hitherto possible. ICT services are now able to provide a vital vehicle for entertainment and social interaction, an avenue to mitigate the structures of ‘social distancing’ and it is of note that access to high-speed broadband service has the potential to create opportunities that enhance socio-economic development and cultivate innovative, thriving economies.

BACKGROUND

The novel corona virus (COVID-19) is relied upon to influence the vast majority of the all sectors in India, either legitimately or in a roundabout way and the expanded monetary vulnerability and danger may present critical budgetary revealing ramifications. At a principal level, for specific areas, the recent developments and conditions may give occasion to feel qualms about a critical their capacity to proceed as a going concern, especially if huge obligation reimbursements are expected inside the following a year. Measures to contain the spread of the pandemic might have essentially influenced the business activity of numerous divisions. Issues may likewise emerges identifying with income concurring. Vulnerability about whether the rights and commitments in client contract stay enforceable may influence the circumstance and measure of income to be perceived. For example, clients may now battle. Irresistible sickness flare-ups can without much of a stretch cross fringes to compromise monetary and territorial security, as has been exhibited by the HIV, H1N1, H5N1, and SARS pestilences and pandemics (Verikios, Sullivan, Stojanovski, Giesecke, and Woo, 2015). Past the crippling, at times lethal, ramifications for those legitimately influenced, pandemics have a scope of negative social, monetary and political results (Davies, 2013a). For instance, effect of pandemic flu for example H1N1 in 2009 was on mortality, and also in addition on medical care frameworks, creature wellbeing, farming, training, transport, the travel industry and the monetary part. This it can be seen that a pandemic occasion compromises all parts of the financial and social texture” (Drake, Chalabi, and Coker, 2012).

Pandemic flu speaks to a genuine danger not exclusively to the number of inhabitants on the planet, yet in addition to its all divisions. The effect of financial misfortune can bring about shakiness of the economy. The effect is through direct costs, long haul trouble, and roundabout expenses. The immediate expenses of managing the sickness episode can be exceptionally high. For instance, the Ebola episode has genuinely subverted the financial matters all through West Africa. The Ebola flare-up in Sierra Leone in 2015 cost USD 6 billion in direct costs (clinics, staff, medicine), and the immediate costs alone add up to 3 years of subsidizing for WHO, and are well more than 20 times the expense of WHO’s crisis reaction cuts in its 2014–15 financial plan (Gostin and Friedman, 2015). It has been determined that there was a monetary loss of USD 1.6 billion for the three nations contrasted and the financial development in the earlier year 2014 (Kern, 2016). The Global Health Risk Framework for the Future (GHRF) Commission assesses that consistently on normal irresistible malady episodes cost the world about USD 60 billion in direct costs (Maurice, 2016).

The social effects of pandemics were serious, incorporate travel was carefully restricted, and schools shutting, showcases and wearing were shut. All these are a reasonable reality should a pandemic with genuine potential for high bleakness and mortality rise. Populace versatility is likewise a key factor. Development was troublesome and the movement including visiting families, conveying products to business sectors were confined by military check focuses. The conclusion of air terminals and dropping of flights influenced numerous individuals’ movement, job, and family life. With the quick improvement

in overall flight in the course of the most recent twenty years, the danger of worldwide pandemics has raised with expanded traveler traffic. With current and productive air travel, SARS, which started from southern China was quickly sent to in excess of 30 nations in mid-2003 (Wong and Leung, 2007). Shutting the air terminals hurt the economy of the influenced districts. School conclusion is regularly viewed as the first non-drug intercession for execution in a pandemic, as understudies are viable in spreading the infection. Ideal school conclusion and wiping out of open social events was fundamentally connected with diminished mortality identified with flu plagues during the 1918 flu scourge in the United States (Chen, Huang, Chuang, Chiu, and Kuo, 2011). The public games including wearing of masks dropped in light of the fact of public social events. Authorized portion contact at work and family unit swarming were identified with a higher rate of self-detailed flu like disease in the 2009 H1N1 pandemic (Kumar, Quinn, Kim, Daniel, and Freimuth, 2012). "In certain zones, dread delivered a creepy calm in typically clamoring neighborhoods during Ebola emergency in West Africa (Folayan and Brown, 2015). The infection may leave long haul physiological consequences for individuals, which influence their capacity to win a living. Zika infection in Brazil leaves an age of youngsters brought into the world with neurological issues that may force extreme long lasting constraints (Ribeiro and Kitron, 2016). Tradeoff between the social expenses of intercessions and the expense of uncontrolled spread of the infection were associated with the choices to relieve flu episodes in Ebola flare-up (Prieto and Das, 2016).

Thus the chapter core discussion revolves round Information technology sector, Education sector, Health Sector, Hospitality sector and Hygiene Sector. All sectors these sectors are severely impacted due to Covid-19 and in the preceding section the author discusses each sector, its impact and suggestions for that sector.

IT SECTOR

According to the NASSCOM, CEO Pulse Survey, which surveyed India's IT enterprise leaders on the effect of the pandemic, Covid-19 has reshaped the tech wishes of businesses globally, and accelerated demand in the cloud, collaborative place of job technology, mobility, and cyber protection verticals is predicted. On a typical basis, however, call for brand new projects may also witness a transient reduction over the subsequent 8-9 months, while the general sentiment stays positive within the long term. Nearly 70 in line with cent of IT enterprise CEOs in India anticipate their sales to be negatively impacted in FY21 because of the slowdown in global demand, while 75% say that there may be a business de-increase in FY21. Indian tech businesses are likely to clinch more deals within the digital services vertical with 80 in keeping with cent of the respondents pronouncing that tech off shoring goes to be an everlasting function. The industry has also helped clients navigate their operations because of a shift in demand in the course of the pandemic. Forty in keeping with cent of the CEOs say that new virtual tech offers are being explored amidst the crisis with a greater consciousness on administrative center automation, quick-scale cloud workloads and AI riding digitalization. COVID-19 has impacted a huge variety of nations and is growing even worse than the essential economic, strategic, and political clashes taking place round the sector. The outbreak has and still is impacting all industries, which include the Information & Communication Technology (ICT) area. Tech giants have hit the pause button on advertising operations, canceled critical events and conferences, maximum drastically, the Mobile World Congress, and introduced monetary effects under market expectations. The US tech giant, Microsoft, lowered its revenue estimates within the region ended March due to the impact of the epidemic with decrease

income of Windows software program and surface gadgets. Apple additionally had final month stated its sales for the zone to be under forecast. Although demand seems to be in line with expectancies, the supply chain is returning to regular operations at a slower pace than anticipated. ICT infrastructure and offerings at the moment are a fundamental enabler of monetary interest, social interplay, developmental interventions, and cultural and leisure content. The ICT quarter for that reason sits inside the pass-hairs of the COVID-19 disaster in a completely unique way. It is simply that the pandemic has created deep and lasting bruises and financial surprise with a purpose to possibly be greater plenty extreme on the financial system. The ICTs are a prime tool to empower and assist the sort of lockdown presently in force, allowing the government to characteristic, white collar modes of work to retain, and vital channels of communications and statistics dissemination to be sustained in ways not hitherto feasible.

Impact on the IT Sector

However, the era, media and telecommunications sector have been predicted to have attracted high-price funding in the course of the economic 12 months, with many telecoms businesses looking for to amplify infrastructure in addition to the booming e-trade area showing opportunities within the area. The uncertainty around COVID-19 implied that awaited and predicted investments could be delayed as tech traders will watch for the uncertainty and get over short time period affects. The impact of the decreased demands for the product in China and the effect of breaks within the deliver chain for the fabric wanted inside the production of the huge generation multinationals have impacted commercial enterprise negatively. The majority of the businesses had been compelled to close stores, factories, manufacturing flora, and offices and allow personnel to work from home. The deliberate tasks, development and product releases were impacted by this zone and caused a ripple effect and cause delays within the implementation.

Impact on Unique ICT Areas: Growth Engines and Demanding Situations

The global has in no way been more interconnected, and this health disaster is affecting the complete international. The ICT industry is already losing a number of profits possibilities, and it's nevertheless uncertain whilst the state of affairs will contain. Amidst the uncertain scenario, many technological areas can be the important thing consciousness and maintain emerging as clean winners. With corporations promoting working remotely, there is already an exponential upward push in video calls/phone calls, as an increasing number of human beings are organizing meetings thru apps or collaboration structures. Digital media and Over the Top (OTT) content players are benefiting even as Virtual Private Networks (VPNs), cyber security, and information security are other technologies in an effort to see a surge as most workforces are operating remotely. Cloud offerings will grow, boosted via higher utilization of content, gaming downloads, video conferencing, and the effect of far off access to corporate networks. There can also be a multiplied attention on technologies like synthetic intelligence, big records, augmented truth, and virtual truth, amongst others going forward. Equipment maker, Huawei, as an instance, these days published a surge in its technological services comprising AI, video conferencing, and wireless community coverage throughout the Asia Pacific, given the on-floor communication challenges to make sure easy connectivity. Digital workflows, robots, automation are now not goals; they may be necessities. IoT devices have supplied groups a direction closer to maintaining revenue streams all through this pandemic. Other regions that could see an uptick consist of e-studying, on line schooling, and e-governance. The present day occasions might also accelerate the adoption of 5G to fulfill the needs

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of bandwidth, performance, and network reducing. There will be more attention on the sufficiency of networks to hold the considerably multiplied site visitors as operating from domestic maintains to ramp up. Social distancing and self-isolation imply that telecommunication has turned out to be an increased vital provider. It might be profitable to see how the Communications Service Providers (CSPs) both Mobile Network Operators (MNOs) and cable operators meet the venture of their new essential position within the changed world. While humans are primarily the usage of home WiFi, they might nevertheless use their mobile telephones for voice communications, and this is the vicinity that MNOs need to keep a near eye on. With video convention services (Skype, Zoom, Google meet and others) site visitors are going through the roof proper now, the dial-in option is an opportunity if video conferencing structures are overloaded. Also, with the need for social distancing, people are speaking greater, so that it will force additional voice site visitors, whether or not it's on legacy circuit-switched systems or the 4G network with Voice over Long-Term Evolution (VoLTE) calls. The pressure on voice offerings, although, might be helped to a degree via the convergence of WhatsApp, Messenger, Skype, Hangouts, and Face Time calling within the iOS and Android ecosystems. Nevertheless, a few CSPs are predicting extensively better voice site visitor's growth in opposition to the ordinary Year-on-year boom of most effective five%. With the potential congestion of constant broadband carrier, there may be a danger that devices will fall returned on mobile networks, and this can reason a sizable surge of mobile statistics traffic. Likewise, in regions wherein MNOs additionally offer domestic broadband connectivity, one could anticipate a substantial increase in records traffic, and in a few elements of the sector in which limitless information isn't pervasive, an increase in subscriber charges. Netflix and Google have already announced that they would be decreasing video streaming nice in Europe for a month from excessive definition (HD) to standard definition (SD) to prevent community overload and collapse.

Suggestions for IT Sector

The Information and Communication Technology (ICT) area expects the increase opportunity, because the Covid-19 pandemic will increase the reliance on digital technologies. ICT companies anticipate the worldwide display and plan to introduce new offerings, products and solutions to get a good deal publicity. As corporations within the area are appreciably making an investment of their virtual method and balancing short-time period efforts with lengthy-term measures, they may evolve from this pandemic extra aggressive. According to a new file from Forrester, there is a need to put together the organization for a pandemic as the spread of the coronavirus maintains. This is used as possibility to review and update your hazard control and business continuity practices. Enterprises need to take realistic steps consisting of refreshing plans, updating employee regulations, communicating often, and carrying out succession planning. IDC, in its Worldwide Black Book Live Edition, February 2020, reported the increase in international IT spending is anticipated to reduce with the aid of three-four% with the aid of the stop of 2020, thinking about "Pessimistic Scenario" due to the outbreak of Coronavirus disease. The effect might be even more profound as unfold seems to crush many nations beyond China. While the predominant effect is expected to be on Hardware business, the Software and Services corporations are also expected to gradual down because the spread of Coronavirus goes beyond the boundaries of Asia. On the other facet, there also are expectancies that the adoption of collaborative programs, protection answers, big statistics and Artificial Intelligence will growth in the coming days. Experts agree with that the Covid-19 disaster might also open windows of opportunities for IT carriers to experiment with some concepts of destiny of work and some of them might end up mainstream because the epidemic over. The

pandemic can also deliver a possibility to IT vendors to set up as consulting partners to handhold their customers in supporting them sail thru the crisis. It can't deny the truth that the industries will experience a pessimistic impact on their common income, operation, deliver chain and revenue. Companies want to integrate a strategic technique to get better. They need to provoke virtual initiative at a few stages to provide you with innovative, long-time period initiatives with the intention to help them stand once more in aggressive surroundings. According to the International Data Corporation (IDC), while the real impact of COVID-19 on India marketplace will be obvious by using middle of 2020, we expect a slowdown in terms of discretionary IT spending, contract renewals and new offers getting signed as businesses recalibrate by way of fee shape in coming months. Existing challenge executions have also taken successful due to travel restrictions in place. IT companies will be forced to relook at their growth objectives for the relaxation of the yrs. as the impact turns into evident in the next few quarters. On the other hand, it has provided a possibility to IT vendors to test their resilience on business continuity, far off connectivity, and safety as they study revolutionary methods to service their customers. Enterprises are searching at IT companies to handhold them within the hour of crisis." With corporates throughout the use of implementing alternative methods of operating, its miles generating a parallel company line that demands to be connected from in which they need, when they need and to whom they need. While work from home is not a new idea for Indian corporates, it surely is a checking out time to see the fulfillment at this scale.

Making use of the following-technology technology, inclusive of AI, faster processing and higher accuracy can be provided by advanced analytics and AI to pick out traits, styles and intelligent forecasts about the unfold of the Corona virus. IT providers have to cognizance on constructing/improving competencies on AI and Big Data as new challenges and use instances emerge. While the monetary effect of the COVID-19 outbreak will be obtrusive in months to come back, it has supplied an opportunity for IT providers to become extra resilient and modern. IT providers need to have a look at presenting incentives on the present contract extensions and additionally build conversations on business continuity and disaster restoration inside the cloud. IT companies have to additionally keep a watch on emerging makes use of instances in AI for disease detection, monitoring, and prevention. While we assume hard time ahead for IT vendors, it opens a possibility for IT companies to handhold the customers in the hour of crisis as a trusted associate and helps them sail via the state of affairs.

EDUCATION SECTOR

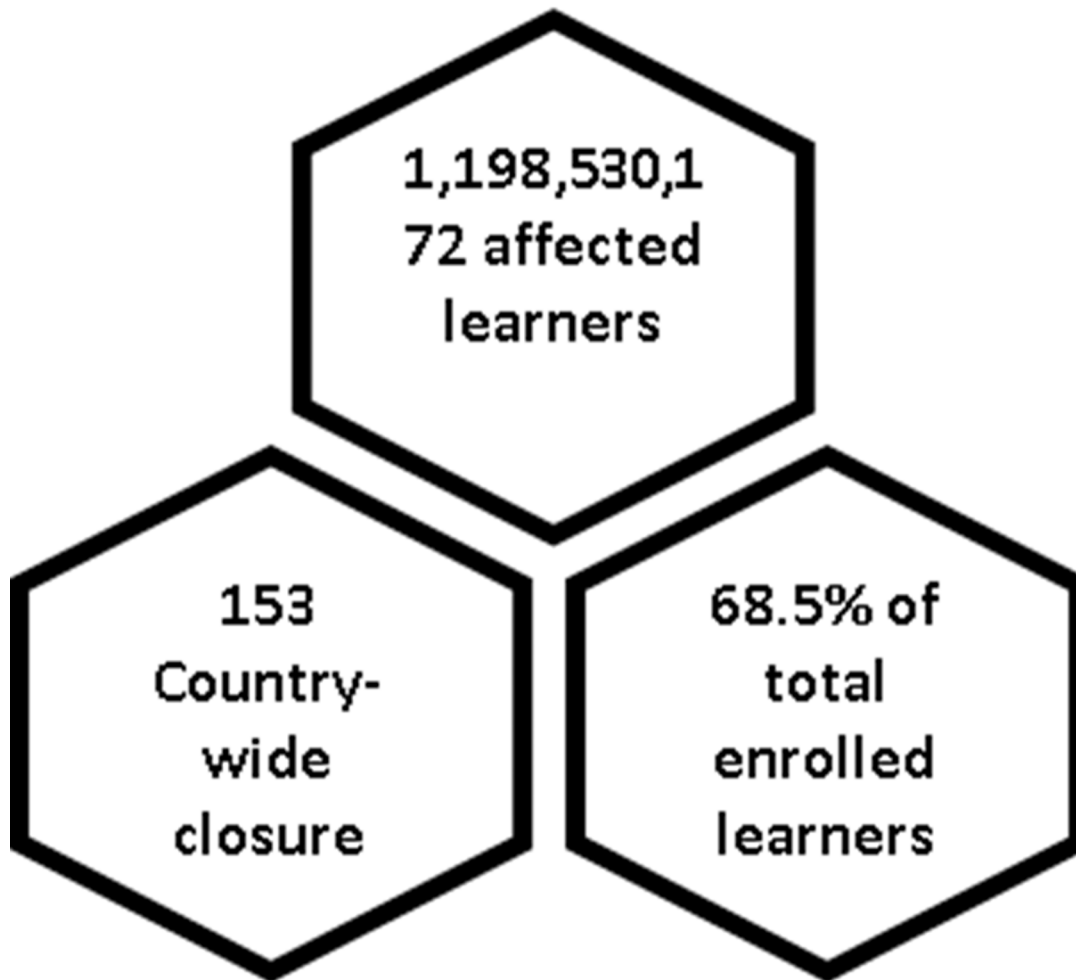
The second sector which play vital role is Education sector. While the entire world is currently in lockdown because of the COVID-19 pandemic, agencies have tailored (with varying tiers of achievement) to work-from-home (WFH) policies. But what's the scenario inside the education quarter? More than 91% of the world's students are out of school, because of faculty closures in at the least 188 nations. The education zone is going through extraordinary demanding situations and wishes to adapt and discover solutions to hold kids stimulated and of their path to mastering. There are many questions arises due to this pandemic situation. How will the training region and educators deal to triumph over these demanding situations? How will youngsters continue to research, even as faculty, with the aid of necessity, will become a digital area? School-going kids are, certainly, the worst affected schooling quarter stakeholders. For scholars, the lockdown doesn't just mean reduced coins waft or a professional setback: it represents an interruption to their mastering adventure. And within the case of dropouts, it changed into the very

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last straw for at-hazard children who struggled to get an education on the best of times. The lockdown has aggravated deep-set elegance and social variations, specifically among private and public college systems. The Indian authorities spend 4.6 percent of its GDP on schooling. This is decrease than in sub-Saharan nations like Kenya, Togo, and Zimbabwe.

Figure 1 below is the diagram about the impact of education sector. Among of the 153 countries who closes their education due to Covid-19 from all over the world. 1,198,530,172 affected learners are affected due to this novel situation. 68.5% of the total enrolled learners get impacted.

Figure 1. Covid-19 Global Impact on Education Sector
Source: UNESCO



International Efforts to Manipulate the Impact of the COVID-19 on Education

Various international locations have adopted a variety of measures to respond to the pandemic depending on their resources. For instance, countries which are technologically superior, together with Italy, France, Germany, Australia, the United Kingdom, and America, have adopted distance studying as a method to compensating for the loss. They fast enhanced their e-gaining knowledge of structures (Moodle, LMS, cloud structures, and many others.) to create commonplace distance studying Centre portals and furnished college students access to e-content material and repository thru cell devices. In these nations, all stakeholders, institutions, teachers, publishers, and mother and father have joined arms together to create digital assets (e.g., textbooks and gaining knowledge of substances) so they may be brought via virtual school rooms (Azzi-Huck & Shmis 2020). China and India, have mounted country wide e-studying portals with get entry to the national repository of gaining knowledge of assets for parents, instructors, students, and training administrators. India has supplied access to thousands of entire publications in a couple of languages. China, however, has mobilized all provincial and national online systems and telecom provider providers, upgraded the bandwidth of important virtual systems, and mobilized the society-extensive assets, each human and fabric, to “ensure studying is undisrupted when instructions are disrupted”. In addition, China has adapted bendy on line teaching methodologies to facilitate gaining knowledge of. It has reinforced on line security thru the collaboration of all carrier companies and created a provision of psycho-social assist for ensuring 100% on line getting to know (Azzi-Huck & Shmis 2020). On the alternative hand, countries without adequate infrastructure are turning to traditional technologies, such as radio and TV, as a method to make amends for the loss. For example, in South American nations inclusive of Argentina, Chile, and Brazil, in which get admission to internet and net connectivity is a prime problem, the respective ministries have used a mixture of recent (mobile, virtual) and traditional technology to deliver training and assets from a unmarried, coordinated countrywide training portal for college kids, instructors, managers, and dad and mom. Radio, television, YouTube channels, recorded training and digital instructional sources/substances on-call for are mixed collectively to provide instructions to students who do now not have dependable access to the net (IAU 2020). Adopting a comparable approach, Indonesia and Malaysia have mobilized all fundamental era vendors, net vendors and TV communication channels to sign up for arms in their ministries to offer live schooling packages for students in addition to teachers. In Indonesia, Education TV, ‘Learning House’ and Online studying System Program offer get entry to learning sources. Together, they provide “a mastering management machine as well as virtual classes, digital textbooks and practice evaluation equipment aligned to the curriculum” Similarly, Malaysia has launched a new TV channel to supply education via TV applications to all students, and especially the ones without Internet get right of entry to. These applications also are stay-streamed on the Ministry’s on line studying platform which offers access to on-demand content material as well as digital textbooks (IAU 2020).

Suggestions for Education Sector

Blended getting to know turns into a reality: The classroom could be supplemented with the aid of on-line coursework. This manner, students can be required to physically attend lessons on fewer days and might be free to examine at their own pace. This will even provide them ok time to assimilate facts. Training of instructors could be qualitatively special: All the academics ought to gain knowledge of for on line coaching as nicely. This will go a protracted manner to make sure that they’re comfortable with generation

and could be capable of seamlessly transfer among on-line and offline modes of teaching the curriculum. And exceptionally, teachers will feel empowered to deliver a greater impactful lecture than before. Use of Artificial Intelligence (AI) will assist personalize the getting to know enjoy for every infant: Soon, educators will should discard the ‘one-length-suits-all’ method that is mostly accompanied in traditional classrooms and use era to provide a studying enjoy that is uniquely suited to a baby’s studying needs. The mixed technique to mastering, in turn will help all sorts of college students, because they may have the possibility to engage with distinct styles of content along with video, audio, displays, thereby increasing the capacity to personalize studying. Role of teachers will want to be redefined: With statistics effectively available just a click on away, the role of an instructor from that of a ‘know-how-giver’ will steadily pass to considered one of a ‘facilitator’ inside the improvement of beginners and supporting them to become lifestyles-lengthy freshmen. Technology might be used efficaciously to lessen the time spent by means of teachers on duties which include paper-putting, evaluating and grading: This will help the academics recognition extra successfully on coaching and direction development. Interactivity and engagement in a bodily study room will must be built into the online mastering applications to maintain college students engaged: Physical school rooms offer a high diploma of interactivity with the teacher and additionally among students. Educators must deliver in a lot of innovations to bring inside the detail of interactivity and collaboration in their e-studying modules. Social Distancing principles will need to be incorporated: As and when schools, training facilities and other instructional establishments open up after Covid-19, the new social distancing policies will necessarily change the prevailing methods of supplying training. Schools might recollect running in shifts, classrooms will comply with strict sanitization strategies and social distancing will become a norm for all activities.

It need to additionally be talked about that amidst the social distancing, self-isolation and on-line research inside the modern quarantine instances, it’s miles but natural that kids are going through extraordinary tiers of tension. Unable to hang around with their friends, peers and classmates like they used to, and now not being capable of expend their energy on sports activities, have to not be clean on them. It is important that as educators, we take the responsibility to equip them with appropriate coping mechanisms and assist them to construct and give a boost to their connections with supportive adults, inclusive of their teachers.

HEALTH SECTOR

This is one the important sector who play key role in this Covid-19 all over the world. COVID-19 has multi-faceted implications, for the health sector in terms of initiating prevention and control measures as well as creating infrastructure to isolate and treat those detected positive and trace contacts, as well as non-health sector and the wider economy due to the nature of preventive actions being undertaken. Almost every country has introduced measures towards reducing transmission, which has ranged from self-initiated social-distancing to state enforced lockdowns and curfews. The Prime Minister of India also announced a nation-wide lockdown on 24th March as a measure towards reducing transmission. The lockdown was implemented nationally for 6 weeks, followed by another 2-week of graded lockdown in districts as per their risk assessment. Republic of India, a South Asian united states is the 7th largest state through location, the second one maximum populous US. One of the essential rights of Indian constitution is ‘Right to lifestyles’ which interprets to “Right to Health”. India is a Federal United States of America with 29 states and 8 union territories. Indian Healthcare is taken care of via the States by

way of organizing and delivering health care and the Central Government takes the obligation of global fitness treaties, Medical Education, prevention of food adulteration, fine manage in Drug manufacturing, National Disease control and own family planning. Indian fitness care underneath the general public quarter is to provide free to individuals who are underneath the poverty line. Indian Public Health region caters 18 percent of general patient care and 44 percent of general in patient care. The overall expenditure for fitness care is around 4.2 percent of the GDP and out of pocket fees to be round 69 percent. If it's far calculated the price of health care is around 1700 Indian rupees /capita/12 months (Sheriff, 2020). In widespread healthcare is to offer and sell satisfactory care, focus on rising sicknesses and put money into promoting and preventive healthcare. The coverage is patient centric and satisfactory pushed. It addresses health protection and make in India unfastened for tablets and gadgets. Yet the Health care policy and its implementation face many hurdles inside the form of price range, number one care, and doctor: affected person ratio, and communiqué. Since the focus has been shifted on non-communicable sicknesses from infectious illnesses, the facilities for checking out for numerous infectious diseases and viral illnesses have taken a back seat. This is very applicable nowadays whilst the arena is reeling beneath the pandemic risk of Corona virus Disease (COVID-19).

Suggestions for Health Sector

The best risk might be for negative human beings in bad countries who've a much higher burden of current contamination, and of whom hundreds of millions are malnourished or immune compromised. For the area of the world's city populace who stay in slums, and for plenty refugees and displaced human beings, it isn't always viable to socially distance or to constantly wash palms.

Universal healthcare: This pandemic has proven that it's miles in everybody's interest that those who feel ill must now not take a look at their pocket earlier than they are trying to find help. As the war to manipulate a competitive corona virus rages on, the case to cease user prices in fitness straight away has turn out to be overwhelming. Free healthcare isn't always simplest critical for tackling pandemics: while the Democratic Republic of the Congo instituted free healthcare in 2018 to combat Ebola. Free healthcare can even save you the tragedy of 100 million humans pushed into severe poverty through the value of healthcare each year. Because COVID-19 has no vaccine yet, all nations will want with the intention to restrict and keep it. The inevitability of destiny pandemics makes permanent the want for sturdy established health structures in each United States of America inside the international. Publicly funded, modern-day medicines and healthcare need to be delivered to anybody irrespective of where they live. To allow ordinary get entry to, governments need to combine network-led services into public systems. This disaster has also highlighted how our health calls for that the medical experts who protect and appearance after us are themselves included and taken care of. Given the interconnectedness between fitness and livelihoods, all international locations can even need to strengthen social safety nets to beautify resilience. COVID-19 has reminded the sector that we want active, accountable, responsible governments to modify markets, reduce inequality and supply essential public services. Government is returned. According to the National Sample Survey Organization, the debts are for maximum of the health expenditures in the United States of America. The NSSO's survey stated that 79 percent of humans in towns and seventy one percent of human beings in villages visited private establishments for healthcare. It is, for that reason, evident that the private area is the bedrock of our fitness infrastructure, and ought to be supported.

HOSPITALITY SECTOR

Tourism constitutes 10% (\$275 Billion) to India's GDP (Business Line). This is no small quantity and will require a joint plan by means of the authorities and the enterprise to triumph over the havoc due to Covid-19. The branded, chain and some luxury standalone motels constitute four hundred thousand rooms that is only five% of total rooms to be had. The rest 95% are Bed & Breakfast, Guest Houses and unbranded price range motels. The resort enterprise faces a lack of rupees 620 crores (Business Line). Some optimists agree with that if the viral lasts till June 2020 and enterprise choices up within the second half of the 12 months then the pandemic would have prompted only 18-20% erosion of country wide occupancy while there can be a 12-14% drop inside the ADR (Average Daily Rate) (Hotelivate Report). This will count on that accommodations certainly activate the lighting and business can be the same as common. This is an ambitious assumption. It could be commercial enterprise as unusual alternatively. As clients will tip-toe to come again to normal journey, the hotels ought to additionally tread softly to re-open.

Tourism is a motive for most of the human mobility in the present day international. According to the World Tourism Organization (2020), the worldwide tourism has indicated keeps increase for the tenth consecutive year reporting 1.5 billion international vacationer arrivals in 2019 and expected 1.8 billion of international traveler arrivals by 2030) humans are forecasted to be (UN News, 2017). Travel and tourism as most important drivers of the most of the countries within the world is in immeasurable and extreme than anticipated by means of many. The scenario ought to be strategically addressed with suitable proactive and reactive measures considering the contemporary scenario and to triumph over future threats to make certain the socio financial wellbeing of all people keeping space for accelerated journey and tourism. The effect of this deadly virus is excessive than predicted with the aid of specialists and the most interesting pandemic inside the latest records which has already taken down two hundred nations round the arena with extra than 1.9 million infections and over 120,000 deaths by using 14th April, 2020. Sri Lanka being a rustic with lack of assets, it's miles vital to incorporate strategic processes to reduce the economic recession. In this context, the journey and tourism because the 1/3 largest foreign exchange earner within the United States of America, has definitely collapsed with the concern of visiting and the need of maintaining the social distancing. Restriction on visa issuing and closing down the international airport, curfew and lock down of the countries and cities, and inviting the citizens to back to their international locations offering unique flight arrangements in many nations have been taken vicinity during the last forty days. Situation is severe at the moment as the complete global is on lock-down or underneath social distancing, humans are scared to e-book something till the misery of this infection subsides and the virus is delivered under manipulate in the world.

Suggestions for Hospitality Sector

The immediate response hence would be a high-quality possibility for savvy vacationers to go to a hotel or to consume offerings in a motel with a lot lower expenses. At the identical time, it's also encouraged to sell flexi-offerings in preference to promoting cost-brought services. Because of the pandemic state of affairs humans are very tons subject about their health and protection. Thus, taking some extra time for cleansing the entire motel is essential. These strategies will definitely effect on making sure hygienically clean protection and cozy surroundings for guest stay. Finally, it is encouraged to provoke collaborative techniques the various public and private area. Specially, government ought to initiate tax reduction

schemes (for positive period of time) for both micro and macro degree business owners, could consider introducing interest-free capital mortgage schemes and job guarantees for everlasting carder employees.

The global, with admire to the unique interest of World Tourism Organization (UNWTO), has already lunched numerous practices to shop the essentials of tourism enterprise at present. The special campaign named “#Travel Tomorrow, has come to be the commonplace thread that runs thru the World Tourism Organization’s reaction to the modern crisis, highlighting the long-lasting values of tourism. “By staying home these days, we can tour day after today. The hash tag #Travel Tomorrow encapsulates this message of cohesion and wish, via which the World Tourism Organization (UNWTO) requires shared responsibility among tourists and the tourism sector round the sector to cope with the COVID-19 corona virus pandemic|| (UNWTO). Further, the marketing campaign specify the middle values of tourism that represent the main pillars of the #Travel Tomorrow marketing campaign as, Discovering exceptional cultures, practicing harmony and admire, caring for the surroundings, continuing to study, fostering decent work, development and sustainability, generating new possibilities for all. The nations consisting of Germany, Morocco, Mongolia, Oman and Uruguay, as well as cities inclusive of Bogotá or Vienna, have already encouraged the hash tag #Travel Tomorrow, for that reason amplifying the voice of tourism, which is united in the face of this unheard of worldwide venture.

HYGIENE SECTOR

Today, the whole world is grappling with the COVID-19 pandemic. The potentially fatal virus has no particular vaccine, drug or therapeutic technique and has a high rate of infection. The nice protection against the virus is to look at social distance and utmost personal hygiene practices. It is this thing of personal hygiene that became grossly omitted by way of the common public prior to the outbreak of the brand new pandemic. While the Indian authorities, UNICEF and diverse different our bodies were often selling the purpose of hygiene and sanitation, the prevailing COVID-19 spread gave matters and more suitable thrust. For example, before the outbreak, hand sanitizers were very plenty a spot commodity mainly utilized in hospitals and by means of people at the move. The average Indian sanitizer marketplace was valued among Rs 40-60 crores best. The call for from preferred public becomes nearly insignificant till the start of 2020. However, once the warnings started coming out and the authorities put an amazing thrust handy hygiene, there has been a sudden surge in demand. It became so sharp that there was a temporary supply scarcity of sanitizers. Now sanitizers, face masks, soaps and disinfectants have emerge as critical commodities at par with drugs. It is now expected that the Indian hand sanitizer segment on my own might be valued at greater than \$2 billion through 2025. In different words, we are able to say that the marketplace will grow by extra than one hundred times in approximately five years. The typical intimate hygiene marketplace is anticipated to develop past \$five billion mark by means of 2025.

Safely controlled water, sanitation, and hygiene (WASH) offerings are an essential a part of preventing and shielding human fitness all through infectious disease outbreaks, inclusive of the contemporary COVID-19 pandemic. One of the most value-effective strategies for increasing pandemic preparedness, especially in useful resource-constrained settings, is making an investment in core public fitness infrastructure, consisting of water and sanitation structures. Good WASH and waste management practices, that are consistently applied, serve as limitations to human-to-human transmission of the COVID-19 virus in houses, groups, fitness care facilities, colleges, and different public spaces. Safely managed WASH offerings also are critical at some point of the restoration phase of a disorder outbreak to mitigate secondary

influences on network livelihoods and wellbeing. These could consist of disruptions to supply chains, inability to pay payments, or panic-shopping for have poor impacts at the continuity and best of water and sanitation services, the potential of affected households to get entry to and pay for WASH products and services (as an example, soap, factor of use water remedy or menstrual hygiene merchandise) and the capability of schools, workplaces and other public areas to preserve powerful hygiene protocols when they re-open. If not managed, it could growth the chance of further spreading water borne diseases, along with capability disorder outbreaks along with cholera, mainly where the ailment is endemic.

According to a WHO/UNICEF technical quick on WASH and waste control for COVID-19, frequent and right hand hygiene is one of the most critical measures that can be used to save you contamination with the COVID-19 virus. WASH offerings ought to permit greater common and everyday hand hygiene by means of enhancing facilities and the use of tested conduct exchange strategies. Many co-benefits will be found out via accurately dealing with WASH offerings and applying right hygiene practices. Such efforts will save you different infectious illnesses, which purpose hundreds of thousands of deaths every year.

Beyond the human tragedy, devastating economics impacts are predicted in all nations and for the maximum vulnerable and marginalized humans in society. Human and economic charges are probably to be larger for Fragile, Conflict, and Violence (FCV)-affected countries and lower and center-earnings international locations, that typically have confined coverage and potential of water deliver and sanitation systems, lower health care ability, large casual sectors, shallower financial markets, constrained economic area, and poorer governance. As such, for all interventions it is going to be mainly vital to target FCV-affected countries home to approximately -thirds of the sector's extreme terrible. While it's far too early and with too many variables to quantify the monetary charges of the pandemic, the charges of inaction would be catastrophic.

Suggestions for Hygiene Sector

The worldwide hygiene product industry is related to the manufacturing of merchandise which can be used to preserve personal cleanliness and to guard one from the contagious sicknesses. The elements that had been fueling the increase of the market earlier than pandemic of COVID-19 consist of the recent improvement in requirements of residing coupled with the growth in public interest towards average health globally. Additionally, factors which include current traits in social media affect and commercial additionally contributed appreciably to the global hygiene product market growth. However, with the outbreak of COVID-19 considering the fact that January 2020, the call for hygiene merchandise has grown with an exemplary boom charge. The COVID-19 virus turned into novel and subsequently the government organizations across the globe posted tips to preserve hygiene with the use of sanitizer and soaps more often which created a wide gap between supply and call for of hygiene products along with hand sanitizer, rest room paper and so on.

The international hygiene product industry is segmented based totally on product type into sanitizer, soap, and tissues. Out of which sanitizer segment and tissue are ascending with the fastest boom after the pandemic. The increasing share of the sanitizer section is particularly because of the portability offered by means of the sanitizers as it can be used each time and anywhere. Effect of COVID-19 at the hygiene product enterprise can be determined all across the globe consisting of North America, Europe, Asia Pacific and Rest of the World. In America humans have already taken to storing hand sanitizer, canned goods, and different emergency rations and as an end result, there has been a large shortage of those substances in the USA. Additionally, Europe become additionally going through the identical shortage

of hygiene merchandise mainly sanitizers. Therefore, numerous breweries and distilleries in Europe are switching to provide hand sanitizers.

Key companies getting affected within the market encompass 3M, Byotrol, Essity, Fujian Heng Group, Unilever, ITC, Johnson & Johnson, and Procter & Gamble. Hygiene product businesses together with Procter & Gamble have experienced file sales of their hygiene product together with sanitizers. The company also released its new line of sanitizing merchandise known as Microban 24. However, the agency has experienced some foremost setbacks in China. One of the essential effects became at the company's international supply chain that was stricken by halted manufacturing unit work in China. In addition to this maximum of the enterprise's providers are also no longer again to work, which is affecting its manufacturing output.

RECOMMENDATIONS AND SOLUTIONS

The goal of planning and coordination efforts is to provide leadership and coordination across sectors. This section offers particular actions to be taken via countrywide government and WHO. Recommendations are grouped via pandemic phases and the five components of preparedness and reaction which can be the following:

1. Making plans and coordination
2. State of affairs monitoring and evaluation
3. Decreasing the spread of disorder
4. Continuity of health care provision
5. Communications.

The purpose of making plans and coordination efforts is to offer leadership and coordination across sectors. One crucial component is to combine pandemic preparedness into countrywide emergency preparedness frameworks.

The goal of situation tracking and assessment is to accumulate, interpret, and disseminate statistics on the threat of a deadly disease before it takes place and, once under manner, to display pandemic interest and traits. To investigate if the hazard of an epidemic is growing, it is going to be vital to monitor the infectious agent, its capability to cause ailment in humans, and the styles of sickness spread in groups. It is critical to acquire records on influenza viruses, the genetic modifications taking area and consequent modifications in organic characteristics, and to unexpectedly check out and examine outbreaks. Once an endemic influenza virus begins to circulate, it will be essential to evaluate the effectiveness of the reaction measures.

Reducing the unfolding disorder will rely significantly upon increasing the "social distance" between humans. Measures inclusive of individual/family level measures, societal-stage measures and international journey measures, and the use of antiviral, different prescription drugs, and vaccines could be critical.

Individual/family stage measures consist of hazard verbal exchange, individual hygiene and personal protection, and home care of the unwell and quarantine of contacts. Societal-level measures are implemented to societies or communities as opposed to individuals or households. These measures require a behavioral change within the populace, a couple of region involvement, and mobilization of resources, strong conversation, and media help.

Strategies for Sustainability of IE3H Sector in the COVID-19 Era

International journey measures purpose to postpone the access of pandemic disease into now not-but-affected nations and will have an effect on worldwide visitors and exchange. Countries ought to balance reducing the dangers to public fitness and keeping off useless interference with global site visitors and alternate.

The use of pharmaceutical interventions to prevent or treat influenza encompasses quite number methods. Additionally, the successful prevention and remedy of secondary or pre-existing conditions might be a key aspect in many settings for reducing the general burden of contamination and death. During a virus, fitness structures will want to offer health-care offerings even as attending to the influx of patients with influenza infection. Planning for surge potential in fitness-care centers will help determine the extent to which the prevailing health gadget can amplify to manage the extra affected person load. Health-care facilities will need to maintain good enough triage and contamination manage measures to shield health-care employees, sufferers, and site visitors.

The goal of communications before and all through an epidemic is to offer and exchange applicable information with the public, partners, and stakeholders to permit them to make well informed choices and take suitable moves to shield fitness and protection and response and is an essential part of effective risk control. Communications should be based at the 5 standards outlined in whose outbreak communications planning manual (World Health Organization 2008). Planning; agree with; transparency; saying early; and listening. Given the complicated risks and perceptions related to an influenza pandemic, communication techniques that certainly disseminate outbreak records and guidelines could be insufficient. The scope and complexity of the assignment demands common, obvious, and proactive communiqué and data change with the public, partners, and different stakeholders approximately decision making, health guidelines, and associated records. In addition to the suggested movements which comply with beneath, nations are advocated to increase core risk conversation capacities which includes the ones defined within the WHO outbreak conversation planning manual. By developing a stable foundation for pandemic influenza communications, Member States could additionally toughen communiqué reaction structures for any public fitness emergency which can get up.

Core factors of pandemic influenza communication are:

- To preserve and build public believe in public fitness authorities earlier than, during and after an influenza pandemic;
- To guide coordination and the green use of limited assets amongst local, national, local and world-wide public fitness partners;
- To offer applicable public health information to the general public; to help susceptible populations having the facts they need to make nicely-knowledgeable decisions;
- To take appropriate actions to guard their health and safety.
- To minimize social and financial disruption.

CONCLUSION

Covid-19 and the possibilities thrown forward through this pandemic display that many begin United States of America have come up with revolutionary thoughts to deal with or combat the pandemic. Covid-19 containment efforts have shown that monitoring and checking out have been key to “pulling down the curve.” Effective use of Personal Protective Equipment (PPE), mass conversation of quaran-

tine measures, effective quarantine monitoring measures, as well as digital answers to adjust crucial logistics also performed a crucial function. Several begin USA. Rose to the event by using presenting quick solutions referring to every of those areas. If India is to leverage the benefits of a thriving Health Tech environment, each for its domestic wishes and to export this technology to other countries, then certain steps ought to be taken. It stay satisfied that India can virtually learn from the enjoy of dealing with demanding situations added about by way of Covid-19, both in India and in different international locations. This might allow us to install location structures so that it will no longer handiest take care of the desires of the populace in 'peace time', but additionally allow us to address extra needs located on the healthcare quarter in times of an epidemic. Today, the transformation in observance of hygiene practices and the demand for the products is rising exponentially from metros as also Tier 2, 3, and 4 cities. Calamities like this viral contamination can push human beings to come to be resilient and higher, and what we are seeing nowadays is a COVID-19 driven hygiene transformation. The virus will truly be contained soon and there may be vaccines in another year or to cure its destiny occurrences. However, the hygiene industry in India as well as on a worldwide scale is on an upswing and will handiest develops more potent even after normalcy resumes.

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KEY TERMS AND DEFINITIONS

ADR: Average daily report.

CSP: Communication service provider.

FCV: Fragile, conflict, and violence.

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GSM: Global system for mobile communications.

HD: High definition.

ICT: Information communication technology.

IoT: Internet of things.

ISRO: Indian Space Research Organization.

MNO: Mobile network operator.

MSME: Micro, small, and medium enterprises.

NASSCOM: National Association of Software and Service Companies.

NSSO: National Sample Survey Office.

OTT: Over the top.

PPE: Personal protective equipment.

SD: Standard definition.

UNICEF: United Nations Children's Fund.

UNWTO: Unique Interest of World Tourism Organization.

VOLTE: Voice over new language term evolution.

VPNS: Virtual private networks.

WASH: Water, sanitation, and hygiene.

WFH: Work from home.

Chapter 24

Sustainability of MSMEs in Indonesia: Learnings From COVID-19 Impact

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ABSTRACT

This chapter is aimed to discuss the condition of the MSMEs in Indonesia at the beginning of COVID-19 as well as the strategies that the government has undertaken to minimize the impact of COVID-19. The data for analysis is data from online survey results that carried out between 24 April-2 May 2020 with a total of 204 MSMEs participating. The results of the survey show that more than half (53%) of the MSMEs suffered from a decrease in income/production; even 43% stopped production at the beginning of the pandemic. Most of the MSMEs in various sectors admitted that they were only able to survive for less than three months, with the worst sectors being trade, corporate services, and construction. The government has implemented wage subsidy policies, loan interest subsidies, and tax abolition to save the MSMEs from the impact of COVID-19. For this matter, efforts to save MSMEs must continue, especially through expanding wage subsidies, increasing the realization of the low subsidy budget, and transforming to digital-based businesses.

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INTRODUCTION

The micro, small and medium enterprises (MSMEs) have an important role in economic development and job opportunities in Indonesia. Data statistics show that economic enterprises are dominated by MSMEs (99%) and absorb around 97% of the workforce. This shows that MSMEs contribute to calculating poverty by providing employment opportunities and increasing the distribution of income to differentiated areas. The micro and small enterprises have advantages in fields that utilize natural resources as well as labor-intensive, such as food crop agriculture, plantations, animal husbandry, fisheries, trade, and restaurants. At the same time, the medium-sized enterprises also dominance in creating added value to the hotel, finance, leasing, corporate services, and forestry sectors. While the large businesses have control over the processing, electricity and gas, communications, and mining industries. The advantages of each of these businesses bring these micros, small, medium, and large businesses the ability to complement each other (Putra A.H. 2016).

The development of the MSMEs has a direct effect on both economic growth and job opportunities. Meanwhile, contribution of the MSMEs to GDP according to the current prices in 2017 is IDR 7,820,282.6 (60.90%), then increased to IDR 8,573,895.3 (61.07%) in 2018, with an increase of 9.64%. During 2017-2018, the number of MSMEs increased by 1,271,440 units or 2.02%, which brought an increase in employment by 547,507 people or 0.47%. In 2018, the number of MSMEs was 64,194,057 and was able to absorb a workforce of 116,978,631 people, or 97% of the total working population (Ministry of Cooperatives and SMEs, 2018). The development of the MSMEs is hoped to be able to surmount issues related to poverty reduction, income distribution, and so on.

In Indonesia, the law that regulates the Micro, Small, and Medium Enterprises (MSMEs) is Law No. 20 of 2008 on the MSMEs. In the law, the MSMEs are defined as “A company that is classified as an MSME is a small company that is owned and managed by a person or a small group of people with a certain amount of wealth and income”. In this case, the criteria for micro, small and medium enterprises are differentiated into assets owned and sales results. Micro enterprises are businesses that have a net worth of at most IDR 50 million excluding land and buildings for business premises with the highest annual sales result of IDR 300 million. While small businesses are categorized as businesses with a net worth of IDR 50 - 500 million with annual sales that can proceed as far as IDR 300 million - IDR 2.5 billion. Medium Enterprises are seen as businesses with a wealth of IDR 500 million to IDR 10 billion with annual sales of IDR 2.5 billion - IDR 50 billion. Meanwhile, the Central Bureau of Statistics (BPS) then added criteria for the number of workers with micro businesses having a workforce of less than 5 people, small businesses 5-19 people, and medium businesses with a number of employees at around 20-99 people. Based on business criteria, the business world in Indonesia is dominated by Micro and Small businesses (MSEs) with the percentage of the MSEs in Indonesia reaches 98.68% of the total number of all businesses in Indonesia (BPS, 2017).

The Covid 19 pandemic has an impact on the sustainability of MSMEs in Indonesia. The Labor Organization (ILO) stated that as many as 70% of MSMEs in Indonesia stopped producing due to Covid 19 (ILO, 2020). This study aims to analyze the impact of the covid 19 pandemic on MSMEs and the government response. In particular, this study aims

1. Analysis of the impact of a pandemic on MSMEs business activities
2. Analysis of the survival capacity of MSMEs
3. Seeing the level of vulnerability of MSMEs during a pandemic

4. Analysis of the government's strategy and response
5. Provide recommendations to stakeholders for the sustainability of MSMEs businesses

BACKGROUND

The Covid-19 pandemic has spread throughout the world and caused death, including Indonesia. The WHO noted that the death rate worldwide due to the Covid-19 until August 23, 2020, reached 800,906 people, with cases of death in Indonesia alone reached 6,594 people (WHO, 2020). The impact is not only on the aspect of health but on the economy as well. For that reason, several countries have been predicted to experience economic recession because of the decline in economic growth which in turn leads to extreme poverty levels (World Bank, 2020).

For Indonesia, the economic impact caused by the Covid-19 pandemic was more alarming compared to the impact of the economic crisis that took place in 1998. During the 1998 economic crisis, the micro, small and medium enterprises were still able to survive, they even actually saved the Indonesian economy by providing jobs for workers who got laid off due to the crisis. Data from the Central Bureau of Statistics show that after the economic crisis, not only the number of MSMEs had increased, the MSMEs also helped absorb up to 107 million workers by 2012. At that time, most of the MSMEs did not yet have direct contact with the domestic and global financial sectors. The use of the local raw materials also influenced the MSMEs to survive in times of the economic crisis. In contrast, the Covid-19 pandemic is one of the reasons for the collapse of most of the business sectors, in all sizes: large and micro, small, and medium enterprises (MSMEs).

To reduce the death rate due to the Covid-19 Pandemic, the government has been socializing the Social Distancing movement through PP No. 21/2020 on PSBB (Large-Scale Social Restrictions) policy. This policy is intended to break the chain of the Covid-19 transmission by limiting people's activities in public places, schools, workplaces, religious places, trade centers, and so on. However, according to the study by the Ministry of Finance, the results of the PSBB actually disrupted the economic activities, especially production, distribution, and sales which in turn brought an impact on the performance of MSMEs as well as the national economy as a whole. Production has decreased and even stopped due to the decrease in sales, the scarcity of supplies of raw material, and so on.

The Micro, Small, and Medium Enterprises (MSMEs) have had a significant role in the development of the economy as well as employment in Indonesia. The MSMEs have contributed 57.04% of the gross domestic product (GDP). This economic contribution comes from 64.1 million MSME business units or the equivalent of 99.99% of the total businesses in Indonesia. In addition, MSMEs have also contributed to absorbing the workforce of 116.9 million people which is 97% of the total workers (Ministry of Small and Medium Enterprises and Cooperatives, 2018). This condition is in line with the business in Asia and the Pacific; SMEs are accounted for more than 96% of all businesses, or approximately two-thirds of the private sector jobs (UNDP, 2020). The data above shows that MSMEs are key for the survival of the Indonesian people considering that the majority of the people depend on MSME businesses.

This paper discuss the impact of the Covid-19 pandemic on MSMEs and their sustainability strategy and whether the government policies related to reducing the spread of the Covid 19 virus to humans by staying at home have caused economic activity to decline and even stop. Which in turn brings an impact on the sustainability of the Micro, Small, and Medium Enterprises activities. This paper consists of several parts, the first part is an introduction that explains the importance of studying the impact of Covid-19

on the business world in Indonesia. The second part explores the development of MSMEs in Indonesia and the impact of Covid-19 on the MSME businesses by its economic sector, as well as the number of workers. The next section talks about the ability of the MSMEs to survive during the pandemic and how long the MSMEs will be able to survive with the existing resources. The fourth part analyzes the strategy of the MSMEs to sustain and develop while being supported by government policies. The fifth part is the conclusion in order to address the problems of the MSMEs that are affected by the Covid-19.

Methodology

The study uses descriptive research methods by analyzing data from a survey and secondary data. The survey data is the result of an online survey on the impact of Covid-19 on employment in Indonesia. This survey was conducted by the Indonesian Institute of Sciences on April 24 - May 02, 2020, with a total of 204 MSME entrepreneurs. The sampling method used is Accidental sampling. Accidental Sampling is a type of non-probability sampling in which members of the target population meet certain practical criteria, such as easy accessibility, geographic proximity, availability of certain time, or willingness to participate in research (Donyei, 2007). One of the drawbacks of accidental sampling is that it is prone to bias and is not representative of the population (Malhotra & Birks, 2006). To overcome these limitations, adjustments can be made using unit sample weights (Oh & Scheuren, 1983). Weights represent the characteristics of the population represented by each sample unit. Demographic variables in the form of gender and age are used as the basis for weighting. The sample weight calculation uses the 2019 National Labor Force Survey data. Aside from that, this paper also uses the secondary data that is obtained from the Central Bureau of Statistics, the Ministry of Cooperatives and Small and Medium Enterprises, Indonesia.

The data analysis in this article are descriptive statistical analysis, cross-tabulation, and vulnerability index calculation. Descriptive statistical analysis is used in analyzing data by describing the collected data (Ghozali, 2009). Crosstabulation analysis is used to calculate the frequency and proportion of two or more variables that are related so that their associated meaning is easy to apply descriptively (Santoso & Tjiptono, 2001).

The vulnerability of MSME's is estimated using the Livelihood Vulnerability Index (LVI) with three indicators: the longevity of the MSMEs during the pandemic, the percentage of employee reduction, and the level of income during the pandemic. Since the indicators of income level and length of stay are the interval scale, then the original value is calculated based on the median number for each interval. The LVI scale ranges from 0 (less vulnerable) to 1 (very vulnerable). There are two steps for calculating the LVI, first is by calculating the index of each indicator using the following formula (Hahn, Riederer, & Foster, 2009).

$$\text{index}_{sd} = \frac{s_d - s_{\min}}{s_{\max} - s_{\min}}$$

Explanation:

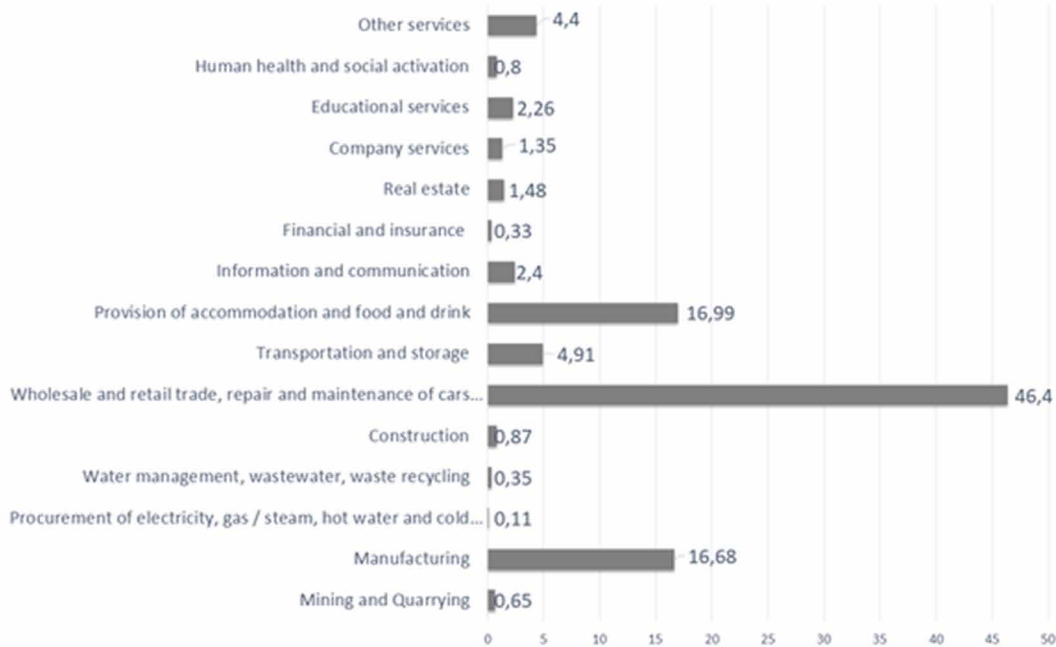
Index_{sd} : index indicator

s_d : original value of area d

s_{\min} : minimum value of area d

Figure 1. Distribution of MSMEs in Indonesia by Main Industri, 2017 (%)

Source: Economic Survey, Central Bureau of Statistic Indonesia



s_{max} : maximum value of area d

After all of the indicators are standardized, the level of LVI vulnerability can then be estimated using the formula:

$$LVI_d = \frac{\sum_{i=1}^7 W_{Mi} \text{indeks}_{sd}}{\sum_{i=1}^7 W_{Mi}}$$

Explanation:

LVI_d : vulnerability index of area d

W_M : numbers of indicators

ISSUES AND PROBLEM OF MSMEs

The MSME's in Indonesia are dominated by wholesale and retail trading, repair and maintenance of cars and motorbikes (46.4%), followed by the business of providing accommodation, food and drink, and the processing industry, respectively 16.99%, and 16.68% (Figure 1). In terms of employment, these three businesses also absorb the largest number of workers, namely 17.95, 14.39, and 19.75% respectively (BPS, 2017). These three businesses are generally sketchily managed thus do not require a large capital. Therefore, it becomes a choice for many people to try to make ends meet.

MSMEs are the business sector that is most vulnerable to the impact of Covid-19 with manufacturing, trade, transportation and accommodation, hotels and restaurants experiencing a decline in business performance and layoffs. In the trading business, the closure of markets and malls during the PSBB led to a decline in sales which in turn decreased income. This is because the sales system so far has relied more on direct sales to consumers due to the lack of usage of digital internet devices to support the business. Based on data from BPS (2017), as many as 90.24% of the micro and small businesses have not used the internet to support their business activities. Even though businesses that are connected online can change the work patterns of the MSMEs to be more responsive to the market, work efficiently, and encourage network expansion (Asiati D. et al, 2019). Promotion and marketing products can also be carried out more effectively if done online via the internet. The same goes for the collaboration done with any online transportation applications which can increase sales. Base on an online survey and secondary data, Covid-19 affect some problem and challenges on MSMEs in Indonesia

Problem on Business Activities

The impact of the Covid-19 pandemic on the MSMEs has been the disruption of the production of goods and services. The Labor Organization (ILO) stated that as many as 70% of the MSMEs in Indonesia have stopped production due to Covid-19 with as many as 40% of the MSMEs claimed to have stopped production due to reduced demand (ILO, 2020). Table 1 shows that 96.3% of the MSMEs in Indonesia were affected by Covid-19 with as much as 52.55% of the MSMEs suffered from the impact of the decrease of production and income but the businesses were still running. There are 43.75% of the MSMEs that have stopped trying or producing during the pandemic. However, not all of the MSMEs experienced a negative impact from the Covid, as many as 2.89% of MSMEs were not affected by the Covid, 0.81% of businesses were even thriving during this pandemic. Businesses that produce primary needs of goods and services such as food, electricity, water and gas are not expected to be affected by the impact of the Covid. Similarly, businesses in the agriculture, plantation, forestry, and fisheries sectors are usually more resistant to pandemic because the raw materials used are readily available in nature and therefore do not depend on the distribution system from other parties.

There are four sectors that have a risk of halting production during the Covid pandemic, namely the financial institutions, real estate and corporate services sector (51%), community services (50%), trade, restaurants, and accommodation services (45%), and construction and building (44%). At the global level, there are approximately 70% of the micro-enterprises engaged in the retail trade sector and nearly 60% are engaged in the accommodation, and food sector, which are the two most vulnerable sectors in the economic crisis during this pandemic (ILO, 2020). Likewise, business in the tourism sector is one of the businesses that are hugely affected by the pandemic. The closure of tourist objects and the decrease of tourist visits have an impact on the business of tourist locations, hotels and accommodation, as well as a loss of retail trade. Bali, for example, as a tourist city has seen 40,000 hotel cancellations with losses of up to IDR 1 trillion each month. On the contrary, sectors that have high resilience during the pandemic are electricity, gas and drinking water (100%), mining and quarrying (100%) each, manufacturing (90%), and agriculture (67%).

Table 1. Impact of Covid-19 on MSME's in Indonesia by Main Industry (%)

Main Industry	No Impact	The effort stopped	The business is still running but the income / production is decreasing	Business is not affected, even better	Total
Manufacturing	0,00	9,89	90,11	0,00	100
Service Activities	2,32	49,79	46,72	1,17	100
Construction	0,00	44,23	55,77	0,00	100
Financial, Real Estate, and Business Activities	0,00	50,72	49,28	0,00	100
Electricity and Gas	0,00	00,00	100,00	0,00	100
Wholesale, Retail Trade, and Accommodation	4,33	45,16	48,45	2,05	100
Mining and Quarrying	0,00	0,00	100,00	0,00	100
Agriculture, Forestry, and Fishing	10,30	22,96	66,74	0,00	100
Transportation, Storage, and Communication	9,14	41,56	49,30	0,00	100
Total	2,89	43,75	52,55	0,81	100

Source: Primary Data Analysis

Limitation of Survival Capacity

The report that is obtained from the Organization for Economic Co-operation and Development (OECD) states that the COVID-19 pandemic has implications for the threat of any major economic crisis marked by the cessation of production activities in many countries, falling levels of public consumption, loss of consumer confidence, and the collapse of the stock market which in the end leads to business uncertainty (OECD, 2020). In the Asia Pacific countries, Covid-19 has caused massive production disruptions that led to a lower supply of goods and services reduced overall working hours, leading to lower incomes. The impact of this is compounding the immediate global drop in demand stemming from social distancing measures being enacted around the world (UNDP, 2020). In United States, Covid-19 provides additional evidence on this decline in employment, pointing to a 20 million decline in the number of employed workers (Coibion, O., Gorodnichenko, Y., & Weber, M. 2020).

The impact of Covid-19 has also been experienced by the MSMEs in Indonesia. During the pandemic, tens of thousands of MSME entrepreneurs are forced to deal with a decline in income, causing them to reduce employees and limit their ability to survive in running a business. Table 1 shows that 41.09 percent of the MSMEs in Indonesia are only able to survive in less than 3 months at the start of the pandemic. While 24.01 percent of the MSMEs are able to survive for more than 12 months. Among the nine economic sectors, the MSMEs that are worst affected are (1) trade, restaurants and accommodation services, (2) financial institutions, real estate and corporate services, and (3) construction and building. The majority of the MSMEs in these three sectors have the ability to survive in less than 3. This is in line with data received from the Ministry of Cooperatives and SMEs which shows that there are around 37,000 MSMEs that are very seriously affected, with details of around 56 percent reporting a decline in sales, 22 percent reporting problems in the aspect of the financing, 15 percent reporting problems with the distribution of goods, and 4 percent reporting difficulties in getting raw materials (Riska, 2020). This further explained the fact that the majority of the affected MSMEs are the ones engaged in the trade,

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transportation, and tourism sectors (Pakpahan, 2020). In other research Chatani et al (2020) shows that two out of three surveyed enterprises in Indonesia have suspended their business operations temporally or permanently.

The low endurance of the MSMEs in certain sectors was also discovered by the International Labor Organization (ILO) through its survey. Since the trade sector is an essential activity, during the pandemic many business activities are then forced to deal with extensive closures and extreme reductions in both their work and working hours. In addition, the demand in this sector has also undergone a sharp decline. Meanwhile, the construction sector is also hit hard in some segments, as workers are asked to stay at home, factories close and global supply chains come to a halt. This has then suppressed demand in many key industries. Similar to the condition, the financial institutions, real estate, and corporate services sectors are labor-intensive sectors that employ millions of workers as well. Therefore, the economic risks are also perceived by them during the pandemic (ILO, 2020a).

Table 2. Distribution of MSMEs in Indonesia by Main Industri and Survivability during the Covid-19 Pandemic (%)

Main Industry	Survivability (Months)				N
	Less than 3	3-6	6-12	More than 12	
Manufacturing	20,40	44,90	34,70	0,00	7
Service Activities	38,24	28,08	4,17	29,51	56
Construction	49,67	25,10	17,10	8,13	20
Financial, Real Estate, and Business Activities	57,67	22,35	10,58	9,40	40
Electricity and Gas	0,00	36,03	0,00	63,97	3
Wholesale, Retail Trade, and Accommodation	60,75	14,17	4,03	21,04	47
Mining and Quarrying	0,00	0,00	100,00	0,00	2
Agriculture, Forestry, and Fishing	41,15	16,15	11,48	31,22	12
Transportation, Storage, and Communication	35,00	44,13	10,05	10,82	17
Total	41,09	23,87	11,03	24,01	196

Source: Primary Data Analysis

While most MSMEs encounter obstacles during the pandemic, there are still three business sectors that have high resistance to Covid-19, namely (a) electricity, gas and drinking water (b) agriculture, plantation, forestry, hunting, and fisheries, and (c) community services. This is because the electricity, gas, and drinking water sector is a type of business that continues to be utilized by the community and is operated on a subscription system. This enables the sector to continue running during the pandemic period. Meanwhile, some businesses in the agricultural sector are done in the field and can be performed without the need for actual contact between people. The interaction that happens in this type of work is the interaction between people and agricultural commodities, so the risk of transmission of Covid-19 in the workplace is considered quite low.

In addition to having the implications towards the surviving ability of the MSMEs, the Covid-19 pandemic also brings further implications towards the ability of employers to maintain the number of workers. ILO estimates revealing a decline in working hours of around 10.7 percent relative to the last quarter of 2019, which is equivalent to 305 million full-time jobs (ILO, 2020c). Bartik et al. (2020), in their analysis, showed that for hourly workers at both small and large businesses, nearly all of the decline in employment occurred. It was driven by low-wage services, particularly the retail and leisure and hospitality sectors. A large share of the job losses in small businesses reflected firms that closed entirely, though many subsequently reopened. Firms have cut back on postings for the high-skill jobs more than for the low-skill jobs, with small firms nearly halting their new hiring altogether. Campello et al (2020) found that firms in the United State have cut back on postings for high-skill jobs more than for low-skill jobs, with small firms nearly halting their new hiring altogether. New-hiring cuts and down skilling are most pronounced in local labor markets lacking depth, in low-income areas, and in areas with greater income inequality.

Table 3. Distribution of MSMEs in Indonesia by Main Industry and the Percentage Decreasing of Employees during Covid-19 Pandemic

Main Industry	Decreasing of Employees (%)					
	0	1-25	26-50	51-75	76-100	N
Manufacturing	42,77	23,59	23,74	0,00	9,89	7
Service Activities	61,31	2,78	1,27	4,38	30,27	54
Construction	38,27	0,00	12,84	19,72	29,16	20
Financial, Real Estate, and Business Activities	37,86	11,28	20,25	9,27	21,34	40
Electricity and Gas	63,97	18,02	0,00	18,02	0,00	3
Wholesale, Retail Trade, and Accommodation	38,08	6,25	13,12	8,25	34,31	44
Mining and Quarrying	100,00	0,00	0,00	0,00	0,00	2
Agriculture, Forestry, and Fishing	49,88	0,00	14,83	7,78	27,51	11
Transportation, Storage, and Communication	56,33	15,58	4,76	6,37	16,96	15
Total	48,51	6,85	10,25	7,88	26,51	196

Source: Primary Data Analysis

In Indonesia, Covid-19 has also brought an impact on reducing the number of employees at the MSMEs. At approximately 26.51% of MSMEs have admitted to experiencing a severe decrease in the number of employees, between 76-100 percent (Table 3.). The three business sectors that experienced a decrease in the number of employees between 76-100% are (1) trade, restaurants, and accommodation services 34.31 percent, (2) community services 30.27 percent, and (3) construction. 29.16 percent. The pandemic has caused the supply and production chains in the trade, restaurant and accommodation services and construction sectors to halt so that businesses fail to run properly, while the obligation to pay employees stands. While in the social services sector, the company's operational activities are disrupted due to the crisis during the pandemic causing many workers either being sent home or experiencing layoffs. In order to avoid losses, some employers are forced to reduce the number of employees so they can keep their businesses stable (Nabilla & Nurwati, 2020). The ILO analysis shows that there are four

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sectors that have been particularly hit hard, namely (a) the wholesale and retail trade sector; and motor vehicle repair, (b) manufacturing, (c) accommodation and food, (d) real estate, business and administrative activities (ILO, 2020b).

Table 4. Distribution of MSMEs in Indonesia by Survivability and the Percentage Decreasing of Employees during Covid -19 Pandemic

Survivability	Decreasing of Employees (%)					N
	0	1-25	26-50	51-75	76-100	
Less than 3 months	32,23	4,46	14,30	11,67	37,34	95
3-6 months	45,58	5,87	6,21	10,11	32,23	44
6-12 months	62,15	19,54	12,45	0,00	5,86	20
More than 12 months	83,16	7,80	5,04	0,00	4,00	37

Source: Primary Data Analysis

The MSMEs' ability to survive during the Covid-19 crisis correlates with a reduction in employees. Table 4 indicates most companies that can survive for more than 12 months do not reduce the number of employees. The same cannot be said for companies that have a survival rate of less than 3 months, where most companies reduce the number of employees. While the rules for termination of employment in Indonesia are actually quite strict in order to make companies doing layoffs provide substantial compensation to employees, however, in small companies, these rules often do not apply. This makes workers' rights according to the applicable regulations are not given. On the other hand, companies that have longer survival possibilities appear to be trying to keep the number of employees in order to avoid obligations that must be fulfilled. Termination of employment is a factor that is avoided by healthy companies in general.

The Ministry of Finance of the Republic of Indonesia in the middle of this year released its study that shows that the COVID-19 pandemic brings about negative implications for the domestic economy causing a decrease in consumption and purchasing power, decreased company performance, threats to the banking and financial sectors as well as the existence of MSMEs (Pakpahan, 2020). In the aspect that concerns the MSMEs, the pandemic has caused a decline in performance on the demand side (consumption and purchasing power of the public) which in turn brings an impact on the supply side, causing the termination of employment and the threat of default on credit payments. This is supported by the survey results in Table 4 which shows that one way for the MSMEs to survive during the pandemic is to reduce the number of employees. 37.34 percent of the MSMEs with the survival rate of less than 3 months are forced to reduce employees by almost 76-100 percent, which is the highest percentage of employee reduction. This gives an indication that the MSMEs in this category have a low level of business continuity since they can still only hold out for not more than 3 months aside from the fact that 76-100% of their employees have been reduced. At the same time, the MSMEs with a duration of 6 months and over have only reduced their employees to less than 40 percent with 62 percent of MSMEs in this category carry out production activities with a permanent number of employees. This indicates that MSMEs with these characteristics have excellent business continuity.

Figure 2. MSMEs Vulnerability Index in Indonesia by Main Industry
Source: Primary Data Analysis



Vulnerability of MSMEs

The vulnerabilities of the MSME group in the pandemic is marked by, among others, the insufficient earnings from one source of income to meet their daily needs. This causes the households of the MSME actors to seek other sources of income outside of their business. The insufficient earnings also render the MSMEs to have no savings or investment that can be utilized as a reserve source of in the face of the pandemic. As a result, they need to look for additional income/loans to cover additional expenses (Widyaningrum, Dewayanti, Chotim, & Sadoko, 2003).

Aside from the income, other factors that can be used in measuring the level of vulnerability of the MSMEs are the employment, financial management, sales, production, and stakeholders (Clusel, Guarnieri, Martin, and Lagarde, 2013). The vulnerability index of MSMEs in Indonesia by sector is presented in Figure 2. Several business sectors carry a high level of vulnerability (more than 0.5), namely (1) construction/building, (2) manufacturing, (3) trade, restaurants and accommodation services, (4) community services, and (5) financial institutions, real estate, and corporate services. The results of this survey are in line with the data from the Ministry of Cooperatives and MSEs which shows that most of the MSMEs that are affected by COVID-19 are engaged in the daily needs businesses, one of which is the trade and restaurant sector. In addition, the MSMEs that are engaged in the services and production, creative industries, and agriculture are also the ones that have been most affected by the COVID-19 pandemic (Soetjipto, 2020).

At the same time, sectors that are highly vulnerable are also identified by the United Nation-Economic and Social Commission for Asia and the Pacific (UN-ESCAP). This research indicates that the quar-

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antines, travel restrictions, and lockdown of cities during the Covid-19 have resulted in a reduction in aggregate demand, with particular impacts on service sectors such as tourism, retail, hospitality, and civil aviation (ESCAP, 2020). Dcode estimates that there are several sectors that have the potential to either lose or on the contrary become winners in the short term due to Covid-19. Health services, food processing and trade, e-commerce, and information & communication technology have the potential to be winners, while tourism, transportation, and construction are seen as potential losers (Dcode, 2020).

Table 5. MSMEs Vulnerability Index in Indonesia by Province

Province	Vulnerability Index
DKI Jakarta	0,563
Jawa Timur	0,538
Bali	0,529
Jawa Tengah	0,526
Jawa Barat	0,520
Sumatera Utara	0,488
DI Yogyakarta	0,481
Nusa Tenggara Barat	0,480
Sumatera Selatan	0,478
Banten	0,469
Lampung	0,469
Sulawesi Selatan	0,468
Nusa Tenggara Timur	0,456
Kep. Bangka Belitung	0,428
Gorontalo	0,417
Bengkulu	0,414
Sulawesi Barat	0,409
Kalimantan Selatan	0,405
Sulawesi Tengah	0,381

Source: Primary Data Analysis

The level of vulnerability of the MSMEs varies by the province in Indonesia. Table 5 shows that there are five provinces with a high level of vulnerability respectively (above 0.5), namely DKI Jakarta, East Java, Bali, Central Java, and West Java. Some of these provinces are considered the center of the Indonesian economy with a substantial number of the MSMEs. This is in line with the Katadata Insight Center (KIC) research which calculates the MSME's vulnerability index in all provinces. The results of the research show that there are three provinces with a fairly high level of vulnerability that need more attention in handling COVID-19, they are West Java, Central Java, and East Java.

The high level of vulnerability in these provinces is related to the supporting sectors of the economy. As the case of the Bali Province which is a province with its main support that comes from the tourism industry. During the pandemic, this province becomes paralyzed due to the limited tourist visits

from other regions. According to the data from the Bali Province BPS, the number of foreign tourists that visited Bali Province in June 2020 fell by -11.11 percent compared to May 2020 (m to m). While compared to June 2019 (y on y), the number of foreign tourists to Bali was recorded to have decreased by almost 100 percent (-99.99%). The economy of Bali in the second quarter of 2020 is recorded to be negative in growth (-7.22 percent) when compared to the achievements in the first quarter of 2020 (q-to-q). Meanwhile, compared to the performance of the same quarter of the previous year (y-on-y), the Balinese economy in the second quarter of 2020 recorded a growth rate of -10.98 percent (BPS Provinsi Bali, 2020a).

In this respect, the MSMEs in the provinces of DKI Jakarta, West Java, East Java, and Central Java also carry a high vulnerability since they are also supported by sectors that are vulnerable to the Covid-19 such as construction/building, manufacturing, trade, transportation, restaurants, and accommodation services. Without technological innovation, it is highly unlikely that these sectors will continue to grow and develop. Based on the statistical data, the structure of DKI Jakarta's PDRB in the second quarter of 2020 mostly came from the wholesale and retail trade sector, and car and motorcycle repair (16.34%). These sectors experienced a decline in growth of -5.92% if compared to the same semester in 2019. Meanwhile, the processing industry which contributed 10.37% of the PDRB has also experienced a decline in growth of -10.84%.

Entrepreneur Strategy and Government Response

The business world has carried out several strategies in coping with economic shocks due to COVID-19. Base on a data survey of enterprises in Indonesia, ILO shows that about one-third of enterprises have tried to survive by shifting to online businesses while one out of five enterprises diversified products to respond to new demand such as masks and sanitizer (Chatani, et al. 2020). The UMKM study in Sabah, Malaysia found that there is no systematic or formal management to crisis employed by micro-enterprises. Their responses towards the crisis are more ad-hoc to reduce the impact (Fabeil, N. F., Pazim, K. H. & Langgat, J. 2020). In Indonesia, various strategies have been implemented by the MSMEs to survive the crisis, such as reducing the number of employees and innovating to the *online* systems.

Online Marketing

In the current pandemic conditions, many MSMEs choose not to open their shops or businesses due to the Enactment of Large-Scale Social Restrictions in several areas which in turn change the community's patterns and therefore make people stay at home more. This then directly resulted in a decline in sales, capital problems, obstruction of the distribution of products and raw materials. The UKM Center FEB UI states that around 40 million of the MSMEs are affected because the majority of them have still relied on face-to-face activities with earnings that is still daily (Policy Center Iluni UI, 2020).

In order to tackle problems of selling and distributing of goods, many MSMEs utilize the internet to market their products and find raw materials. Business actors also expand market share by utilizing sales through e-commerce media. Based on the analysis of the ILO one-third of enterprises have tried to survive by shifting to online business while one out of five enterprises diversified their products to respond to new demand such as masks and sanitizers (Chatani et, al., 2020). Some of the e-commerce that can be used by the MSMEs players in Indonesia are Shopee, Tokopedia, Buka Lapak, OLX, Gojek, Lazada. E-Commerce has a direct impact on the relationship between business actors and their suppliers,

customers, competitors thus make it easier to market their products. One of the business sectors that has a positive impact is e-commerce because this sector will survive in this condition since its nature is to make it easier for customers to get the goods/services they need, as long as there has not been a massive lockdown (Dcode, 2020)

The approach to marketing products and services itself has changed from offline to online and therefore becomes more interactive. Nevertheless, e-commerce needs competence, commitment, creativity, and flexibility of employees in adapting to any changes that occur such as adapting to new technology (Hastuti, et al., 2020). For that reason, there is a need for assistance for the MSMEs players and workers to be able to take advantage of the e-commerce media in the product sales process (Pakpahan, 2020). The Ministry of Cooperatives & SMEs also supports the e-commerce system as a solution for the MSMEs players in marketing their products amid COVID-19. In this case, it is imperative to have a structural policy which includes government policies on the introduction of digital technology as well as the training for the MSMEs players and workers to adapt to the utilization of technology in the production process, the utilization of digital technology media as a forum to promote the MSMEs products as well as finding potential markets.

Marketing products can also be done by taking advantage of digital technology and social networks which are often called digital marketing. The potential for digital marketing in Indonesia is quite substantial since some of the MSMEs in Indonesia have used this technology for marketing and production activities (Ngadi & Asiati, 2019). Digital marketing is a marketing activity that includes branding using various web-based media such as blogs, websites, e-mails, Adwords or social networks/social media such as Facebook. The digital marketing strategy using social media is very important considering that this platform can provide knowledge to the MSME players in terms of the ways and stages of expanding consumer networks in marketing their products in order to increase their competitive advantage (Sanjaya & Tarigan, 2013).

Government Policy Response

In times of crisis, government policies are an important factor for the MSMEs' sustainability in Indonesia. The ILO stated that companies in Indonesia call for government assistance for survival and adaption to social distancing requirements. The majority of enterprises require urgent support with cash flow for survival. Enterprises also need support with adapting business models and operations to the new era after COVID-19 virus (Chatani et, al., 2020). The OECD reviewed the responses of governments of countries in the world towards enterprises during the COVID-19 crisis. As the outline, there are four government responses: labor, deferral, financial support, and structural policies. Based on the data, the Government of Indonesia has issued several policies that are generally carried out in other countries in the world, namely wage subsidies, deferral of income/corporate tax, and direct lending to the SMEs. Aside from these policies, Indonesia has also implemented several policies that are not carried out by many other countries, such as deferral value-added tax, grants and subsidies, and telemarketing (OECD, 2020).

The labor wage subsidy policy in Indonesia has been executed by providing an additional wage of 600 thousand/month for workers with an income below 5 million rupiah/month. In order to get it, the recipients of the wage subsidy must meet two main requirements. First, the workers must be registered as active participants of the BPJS Ketenagakerjaan. Active participants are considered as workers who are diligent in paying their monthly contributions. If they are in arrears for 3 months or more, they are then considered as inactive. Thus, will not be entitled to receive assistance. Second, workers who are

registered and pay their contributions until June 2020. This means that workers who are registered after June 30 2020 are not entitled to receive the wage subsidy.

Other countries also provide wage subsidies for their workers with different techniques and requirements. In comparison, the wage subsidy policy in Indonesia looks different from any other country. In Japan, for example, wage subsidies are given to companies whose production in the last 1 month dropped by 5% or more compared to the same period in the previous year. When it comes to the SME's, subsidies are given 100% of the equivalent amount paid for the leave compensation. Subsidies are then received for 100 days per annum or 150 days for 3 years, in the period of April to September 2020 (Tsuruga, 2020). Meanwhile, the wage subsidy policy in Malaysia is given to businesses that have experienced a drop in revenue of over 50 percent since 1 January 2020. The subsidy involves paying RM600 over a period of three months, for every employee earning under RM4000 that is registered and paying into SOCSO's Employment Insurance System (EIS). To obtain this benefit, employers are not allowed to lay off workers, cut their wages, or ask them to take unpaid leave during the three months that the program is active (SME. 2020).

Table 6. The policy responses of government in several countries

Policy	Indonesia	Malaysia	Singapura	Thailand	Japan	India
Labour						
Partial (redundencies)					•	
Wage subsidies	•	•	•	•	•	•
Self employed			•	•		
Deferral						
Income/corporate tax	•	•	•	•	•	•
Value Added Tax (VAT)	•			•		
Social Security and pension				•		
Rent/utilities/local tax			•	•	•	
Dept moratorium		•				
Financial instrument						
Loan Guarantees		•	•		•	
Direct lending to SME's	•	•	•	•	•	•
Grant and subsidies	•	•			•	
Structural policies						
New market					•	
Teleworking/digitalization	•	•			•	
Innovation			•	•	•	
Training and redeployment		•		•	•	

Source: OECD, 2020

In the case of deferral income/corporate tax, the Indonesian government has issued several policies. First, relaxation of income tax payments for both companies and communities. This policy requires that

the abovementioned tax be 100 percent borne by the government on workers' income with an income of up to Rp 200 million per year. This stimulus is given to workers in the manufacturing sector for the next 6 months (April-September). Second, the exemption from Import Income Tax which is given for 6 months starting from the period of April to September 2020 with a total estimated exemption of IDR 8.15 trillion. Third, relaxation of Article 25 Income Tax through a 30 percent reduction in Income Tax Article 25 for 19 certain sectors, KITE taxpayers, and KITE-IKM taxpayers for the period of 6 months from April to September 2020 with a total estimated reduction of IDR 4.2 trillion (Ministry of Finance, 2020)

In connection with direct lending and subsidies, the Government of Indonesia has implemented several policies especially in the concern for the MSME sector. The government has allocated IDR 4,967 trillion for the additional interest subsidies to provide stimulus and relax loans for 8.33 million of MSMEs KUR debtors that are affected by COVID-19. Aside from that, the government has also provided an additional KUR interest/margin subsidy of 6% for the first 3 months, 3% for the second 3 months for the period of 6 months with the maximum time until 31 December 2020. At the same time, relaxation of the KUR special provisions for the KUR recipients is given to the ones that are affected by COVID-19 in the form of postponement of principal installment payments for a maximum of 6 months which is valid from 1 April 2020 to 31 December 2020. There is also a credit restructuring in the form of an extension of the time period, an additional KUR ceiling limit, and postponement of fulfilling administrative requirements in the restructuring process until the pandemic ends (Ministry of Cooperatives and SMEs, 2020).

In the food sector, the Ministry of Agriculture responds to the pandemic crisis by issuing policies, which are: (1) Refocusing activities and budgets in anticipation of COVID-19, (2) Accelerating labor-intensive programs, and (3) Keeping the availability of staple food. For these reasons, the strategic steps taken by the Ministry of Agriculture are (1) Maintaining the provision of staple food, especially rice and corn for 267 million Indonesians, (2) Accelerating strategic commodity exports in support of economic sustainability, (3) Giving socialization to farmers and officers to prevent the development of the corona virus, (4) Establishing/developing farmers' markets in each province, optimizing local food, coordinating logistics and e-marketing infrastructure, (5) Having labor-intensive programs/activities so that agricultural development targets are achieved and the community immediately accepts cash funds. (Ministry of Agriculture of the Republic of Indonesia, 2020). In the tourism sector, the government also provides incentives for the tourism sector, add more days for mass-leave, and provide relief from debt payments for the MSME players (Bahtiar & Saragih, 2020).

SOLUTION & RECOMMENDATIONS

The Covid-19 pandemic raises various problems for the MSMEs in Indonesia, such as the halting of productions, decreasing production and laying off employment. These problems will have a direct impact on the country's economy because 98.68% of businesses in Indonesia are the MSMEs. For that reason, efforts to save the MSMEs must not stop. Based on what have been experienced during the Covid-19 crisis, there are several steps that are crucial to be taken to support the sustainability of the MSMEs, they are, the transformation to digital, access to capital, expansion wage subsidies, and reduction of the MSME spending.

The transformation of the MSMEs to digital is one of the appropriate strategies to cope with the limitations of the face-to-face interactions that have been limited during the Covid-19 pandemic. This effort needs to continue to be developed amidst the current technological advances. The use of digital

technology will reduce direct contact between producers and consumers as well as between company owners and raw material providers. And since the internet has been widely used by people in Indonesia, especially in urban areas, digital-based businesses can then be developed as a medium for transactions in the business world. As of now, most of the MSMEs in Indonesia have not utilized the digital technology to support their businesses because as many as 90% of the micro and small businesses have not been exposed to the internet (BPS, 2018). For that reason, it is crucial to escalating the use of digital internet in order to increase business, such as by expanding the marketing network, payment efficiency, and so on. Another problem that is encountered on the matter is the unequal internet access in Indonesia. In rural and remote areas, internet access is still not properly available. Therefore, efforts to develop digital methods in the MSMEs must be followed by the provision of evenly distributed internet to remote and rural areas.

The Covid-19 pandemic has made many small and medium businesses to experience a decline in production and even halt their business. To run a business again requires a large amount of capital which is the main problem faced by the MSMEs to build and develop businesses. Alas, the MSMEs access, especially micro and small businesses, to banking is still scant. The requirements given by financial institutions for the MSMEs to obtain loans, such as collateral for businesses and assets, become a valid obstacle. Around 60-70% of the MSME players do not have access to bank financing (LPPI & BI, 2015). For that reason, there is a need for a policy of leniency in terms of capital lending for the MSMEs entrepreneurs in banking in the collateral requirements, for example, so as to open the MSMEs access to the banking sector.

The expansion of wage subsidy recipients is also an important thing that has to be implemented in Indonesia. Currently, the wage subsidies in Indonesia are only intended for workers in companies that are active members of the Social Security Workforce (BP Jamsostek). On the other hand, there is the informal sector, most of which are not members of BP Jamsostek, so they do not receive the wage subsidies. However, in order to protect all the workers in Indonesia, it is best if the wage subsidy is carried out comprehensively so that it reaches all workers in the informal sector as well. The standard of setting wages below IDR 5 million for the beneficiaries also needs to be reviewed as minimum living standards in Indonesia varies by province. The standard is too low for DKI Jakarta which has a minimum wage of 4.26 million / month while at the same time also too high for DI Yogyakarta Province which has a minimum wage of IDR 2.00 million in 2019. Therefore the income limit should then be adjusted in accordance with the minimum wage in each province, which is 1.5 x the wages minimum.

FUTURE RESEARCH DIRECTIONS

This study deals with several limitations, including the number of respondents which is only 204 MSME entrepreneurs, the representation of respondents that are only in several provinces, and the survey time which is only one week. For that reason, the study opens to conducting more research on the impact of COVID-19 on the MSME entrepreneurs with a wider scope, as well as taking more samples with a longer period of time so that the representation of respondents from each province is fulfilled. In addition, the calculation of the estimated MSME vulnerability index is only measured based on three indicators: the length of business to survive, the percentage of employee reduction, and the income of the MSMEs during the pandemic. For future research, the calculation of the MSME vulnerability index will be added with other relevant indicators.

Research on the impact of covid-19 on the MSMEs in certain sectors also needs to be undertaken, so that the development of the MSMEs can be more specific according to the characteristics of each sector. Highly vulnerable sectors such as tourism, transportation, and construction require better attention in order to quickly rise and develop again. At the same time, the disparity between the rural-urban and between the East and West of Indonesia is also necessary to be studied further so that the government policies will be more location-specific. Moreover, sectors that have low vulnerability also need further research, so that they can be optimally developed. So far, the development of the agricultural sector has not received an adequate portion even though the development in Indonesia should pay more attention to the agricultural sector since it absorbs a large amount of the workforce and at the same time is not vulnerable to COVID-19.

CONCLUSION

The COVID-19 pandemic has brought various impacts on the MSMEs, including a decrease in income, reduction of employees, and a perforce to halt businesses. Based on the results of the survey, more than half (53%) of the MSMEs businesses suffered from a decrease in income/production with 43 percent stopped working. In addition, two out of five MSMEs entrepreneurs stated that they were only able to survive for less than 3 months. While almost all the MSMEs in a lot of sectors were only able to survive for less than three months, the worst sectors have been the trade, corporate services, and construction sectors. As for the aspect of reducing employees, the construction, trade, and agriculture sectors have become the sectors with more than 50% reduction in employment. Reducing employees has been one of the strategies to maintain business continuity for the MSMEs with the ability to survive under 6 months. Nearly 40% of workers in the MSME category had to be laid off / sent home in order for the MSMEs to be able to survive the pandemic.

Based on the estimation of the vulnerability index, the 5 sectors with a high level of vulnerability (above 0.5) are the construction, manufacturing, trading, community services and corporate services. While the 5 provinces with a high vulnerability index are DKI Jakarta, East Java, Bali, Central Java, and West Java. This is because these provinces have millions of MSMEs entrepreneurs, so when a pandemic occurs, the level of vulnerability of the MSMEs in these provinces becomes elevated. Furthermore, sectors and regions with high vulnerability need to receive more attention because Covid-19 will bring a greater impact on the sustainability of their businesses compared to areas with low vulnerability.

While several policies have been implemented by the Government of Indonesia to reduce the impact of Covid-19 on the MSMEs such as by eliminating taxes, giving interest subsidies, subsidizing workers' wages, transforming into digital, and handing direct cash assistance, many of the MSMEs still experience losses, eventually have to reduce employees and even close their businesses. In the long run, this situation will carry a huge impact on the high levels of poverty and unemployment in Indonesia. Therefore, efforts to overcome the impact of Covid-19 on the MSMEs must continue to be carried out. At the same time, the budget realization intended for tackling Covid-19 is still insufficient. Until June 2020, the budget realization for the incentives for the new business world was approximately 6.8%, for corporations was 0.00%, and for the social security was 28.63% (Ministry of Finance, 2020). For this reason, the acceleration of budget realization must be implemented while at the same time, the transparency of budget allocation is also an important factor that must be taken into account.

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KEY TERMS AND DEFINITIONS

BPS: The Central Statistics Agency is a non-ministerial government institution that is under and responsible to the President. BPS is the organizer of statistical basics of statistics whose use is aimed at broader purposes, both for the government and the community.

KITE: Is the granting of exemption and/or refund of import duty and/or excise as well as value added tax and sales tax on luxury goods free of charge.

KUR: Is credit/financing for working capital and/or investment in productive and feasible business debtors, but not yet own additional collateral or additional collateral is not enough. People's Business Credit is a program designed by the government, but the source of the funds comes entirely from the bank.

Micro, Small, and Medium Enterprises (MSMEs): Are small companies owned and managed by a person or owned by a small group of people with a certain amount of wealth and income. The law that regulates SMEs is Law of The Republic of Indonesia Number 20 of 2008.

PSBB: Large-scale social restrictions are restrictions on certain activities of residents in an area suspected of being infected with Corona Virus Disease 2019 (COVID-19) in such a way as to prevent the possible spread of Corona Virus Disease 2019 (COVID-19).

Chapter 25

Sustainability Strategies for Developing SMEs and Entrepreneurship

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ABSTRACT

Increasing concern about the environment and sustainability has forced industries to introduce innovations and reduce the environmental impact. SMEs provide large employment opportunities at lower cost apart from enabling industrialization of rural backward areas, thereby reducing regional conflicts and imbalances in the distribution of income and wealth. Globalization brings many new opportunities. The SME sector has emerged as a highly vibrant sector in the Indian economy over the last six decades. We know that in the long run all the aspects of sustainability should be given equal importance. We should consider environmental, social, and economic sustainability. All these three components help create a good value for the firm.

INTRODUCTION

SMEs play an important role in economic development of any countries. They provide wide employment opportunities and promoting equitable development. They facilitate industrial development in backward areas thereby reducing the regional imbalances and promote equitable distribution of income and wealth. Now many companies much focused on environmental challenges. Sustainability has become a major problem today for the better life of future generations. Many large companies are adopting green manufacturing practices in their business. SMEs in India face various challenges in the post globalisation era, because of tight competition, lack of innovation and market challenges.

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The present study tries to fill the gap by identifying green manufacturing strategies, analysing the relationship between green activities and firms green performance and providing recommendations for the stakeholders of SMEs. The researcher formulated following objectives of the study.

1. To understand the importance of sustainability strategies for the development of SMEs and entrepreneurship
2. To find out various green strategies used by SMEs
3. To analyse the relationship between green activities in various stages of product life cycle on firms green performance
4. To measure the impact of green activities in various stages of product life cycle on firms green performance
5. Provide recommendations to the stakeholders of SMEs for the betterment of environmental activities

On the basis of these objectives the researcher formulated following hypotheses

1. **H01:** There is no significant relationship between green activities in various stages of product life cycle and firms green performance
2. **H02:** There is no significant impact between green activities in various stages of product life cycle and firms green performance

BACKGROUND

In India, the growth and development of the SMEs sector first took place due to the vision of the late Prime Minister Jawaharlal Nehru, who intended to develop a strategic industry and a supporting sector for industrial development. SME sector characterised as low capital requirements, high risk and large manpower requirements. This sector is one of the major export contributors also. In India the SME sector is much diverse and it comprises both modern and traditional industries.

Many researchers are conducted studies in the area of sustainability business practices of SMEs. Researchers either focus narrowly on industry pollution or on sustainability challenges. To analyse the current state of environmental strategies, much more studies are needed in this area. Such studies should increase awareness levels among owners, and employees and provide recommendations for various stakeholders of the business. SMEs in India are highly diverse in nature. A small family owned unit in the bricks manufacturing business is an SME, and a manufacturing unit produces electronic equipment's is another SME unit. Thus, it is impossible to generalize.

Reinhardt (1999) founded five approaches that a firm can adopt to improve their green strategic management. These includes product differentiation based on green positioning, shape industry laws and regulations, effective management of competition, managing environmental risk, cost reduction through environmental programs and redefining markets.

A technologically innovative and internationally competitive SME sector should be encouraged to emerge, to make a sustainable contribution to national income, employment and international trade (Subrahmanya, 2005). There are many drivers related with implementing sustainability strategies .these drivers can be categorized into cause group and effect group. Society pressure, government policies,

involvement of top management are considered as drivers in cause group and supplier participation, sustainable culture and corporate image are considered as effect group (Garg et al., 2014).

Nulkar (2014) studied SMEs and environmental performance – a framework for green business strategies. The results revealed that green practices do not create a huge burden for industries. Green practices helps to reduce wastage, improve business results, and achieve competitive advantage. SMEs should give importance to leadership focused green strategic approach for better results. It is needed to improving the owner's environment knowledge and awareness on green practices.

Angel, Claudia Montoya, Toro & Aguilera (2017) focused on two aspects of sustainability. Those are weak sustainability and strong sustainability. Weak sustainability is easy to achieve because it does not required huge changes in business strategies. It is enough to take actions on product life cycle analysis or implement cleaner production strategies. Strong sustainability is a great challenge for SMEs. It requires reinvent the aspects of eco system innovative business strategies and structural changes.

Devsingh & Thakar (2018) pointed out that lack of awareness is the big challenge for implementing green manufacturing practices in SMEs. The study also identifies major drivers of green manufacturing such as employee demands, health and safety, innovation, culture and competitive advantage. The study founded critical success factors of green manufacturing includes government laws, green image and competitive green strategy.

Malesios, Skouloudis, Dey, & Abdelazis (2018) their study revealed that a significant positive association between certain items of sustainability and performance. The study compared French SMEs sustainability practices with Indian and British SMEs and concluded that French SMEs have lower performance through adoption of sustainability practices than Indian and British SMEs.

Research Methodology

The study follows descriptive and causal research methods. Both primary and secondary data are used in this study. The primary data was collected through questionnaire and Secondary data was collected from academic journals and websites. The sample size taken for the purpose of the study is 80 company executives from 20 SME companies in Kerala state. Simple random sampling is used as sampling technique and the study is conducted at Kerala state. Exploratory factor analysis, correlation analysis and multiple regressions are used for analysing primary data and drawing conclusion.

A small and medium enterprise has emerged as a most prominent sector of the Indian economy. This sector includes manufacturing, infrastructure, service, food processing, chemical and IT industries. SME sector plays an important role in growth and balanced regional development. This sector provides employment opportunities for around 40% of the Indian workforce and produces more than 6000 products. Manufacturing industries contributing around 6.11% manufacturing GDP and service industries contributing nearly 24.64% service sector GDP. SMEs accounts for 16% of bank lending in India. This sector accounts for 45% of industrial output and 40% of export in India. In spite of its role in economic development SME sector face many challenges.

SMEs implemented many green strategies for enhancing their green performance. They make changes in their manufacturing, distribution and disposal. The highly competitive nature of the SMEs requires green strategy adoption and focus to green performance. Such green strategies generating competitive advantage to the business and facilitates sustainable development. Sustainable development refers to human beings must meet their needs and wants without interfere the ability of future generations to meet

their own needs. Every industries and business organisations are set environmental goals for achieving sustainable development.

Many organisations are formulate and implement various strategies for improve their environmental performance. Such strategies are collectively known as sustainability strategies. They greening the stages of their product life cycle, adopting green manufacturing practices, greening supply chain management, greening distribution process, and adopting recycle and reuse practices. Such strategies help to increase their green performance. Green performance is the indicator which shows whether the company successfully achieve their sustainable goals or not. All these activities lead to sustainable development.

This chapter makes an attempt to understand the need and importance of environmental sustainability analyse various sustainability strategies adopted by SMEs and find out major problems and prospects of sustainable development practices. Further it measures the relationship between green activities on various stages of product life cycle on firms green performance. This chapter also analyses the impact of green activities on firms green performance.it is necessary to study role of SMEs in economic development of India. Hence it is summarised that this chapter gives focus on problems and prospects of sustainable development of SMEs, impact of green manufacturing strategies on green performance and finally it provides recommendations to various stakeholders of SMEs for further improvement.

CHALLENGES FOR SUSTAINABLE DEVELOPMENT

- **Poor Technology and Lack of Digitalisation:** This is considered as the major challenge. Many SMEs are working with poor technology. They not adopt latest innovations. This leads to poor performance. SMEs should adopt latest technologies for production. It helps to save time and cost. It also helps to increase efficiency and reduce wastage. SMEs should focused on technical inventions and provide fund for research and development. SMES must keenly observe the technological improvements made by the similar companies in the industry.
- **Technical Knowledge Gap:** Technological illiteracy or knowledge gap is another problem. Some SME companies are offering various skill development programs and training for employees to overcome this challenge. Government provide various skill development and training programs for SMEs. Many of such programs are provided by various agencies of government. Employees and owners can attend such programs with low cost. This would help to remove the technological knowledge gap and increase efficiency. Awareness programs are also needed to improve the performance of SMEs.
- **Lack of Innovation:** Many companies are using old technologies in manufacturing process. They can't adopt latest technologies because of lack of finance and technical knowhow. Old technologies do not provide any benefits to the company. It consumes more time and cost for manufacturing process. It leads to increase wastage. So invention is necessary for further improvement. Government agencies should provide sufficient financial assistance to SMEs for technological advancement and research and development. Efficiency is the core element of business success. Hence innovation is needed for improving sustainability practices.
- **Poor Infrastructure Facilities and Lower Production Capacity:** Poor infrastructural facilities lead to increase the cost and wastage. Hence availability and adoption of good infrastructure needed to improve the performance. Greening the supply chain management and distribution process. Ensure energy efficiency in transportation and manufacturing stages. Many SMEs are operating in

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rural and semi urban areas. They can't access better infrastructural facilities. It leads to decreasing efficiency in business operations. Manufacturing industries should implement efficient capacity standards and ensure full capacity is effectively used.

- **Lack of Marketing Know-how:** Government and training institutes should take initiatives to resolve this problem. Various skill development and training programs are offered without any cost. Effective marketing is needed to achieve green goals of the business. The companies should adopt green strategies in each stage of the product life cycle. Further, it is greening product development, marketing channels and marketing communication. Customers prefer products with less environmental impact.
- **Inability to Attract and Retain Talent:** Talent management is another problem. Today, IT companies are focused on implementation of talent management strategies. Attracting and retaining talented employees is necessary to improve job commitment, job involvement and organizational performance. We should prevent excessive labour turnover. Efficient employees are the most important asset of any business organization. For attracting and retaining talents, companies should redesign compensation packages, working conditions and health and safety measures.

Due to these challenges, the Indian SME sector can't use its full potential. These challenges offer the need to strengthen the base of the Indian SME sector. The Indian government also introduced many initiatives for strengthening the SME sector. The national manufacturing competitiveness program motivates SMEs to introduce innovative information technology tools in their business activities. The government also introduced assistance to training institutions scheme. This scheme offers financial assistance to training institutions operating under the ministry of SMEs to conduct various training and skill development programs. Facebook and Google also launched various skill development programs for the workforce in the Indian SME sector. Many Indian banks have launched different finance and credit schemes for SMEs and helping them for procurement of capital. The Indian SME sector also achieved recognition from the United Nations. According to UN, SMEs are considered as the tool for inclusive development and a key driver of poverty alleviation and social justice. The United Nations celebrates SME day on 27th June every year and create public awareness regarding the role of the SME sector in economic development. The micro, small and medium enterprises act was passed during the year 2006 with the objective of promotion and development of micro, small and medium enterprises in the country.

In 2018, this act was amended through the MSME development bill. The government introduced various guidelines regarding SME loans, subsidies and incentives through this act. This act provides various benefits for SMEs through the registration process.

- **Exemption of Direct Taxes:** SMEs can enjoy the exemption from direct taxes. So tax burden can be reduced through registration of SMEs. Tax exemption gives more opportunities for trade and development. It is the motivation factor for doing international business. The government also provides tax exemption and export promotion schemes for SMEs.
- **Exemption of Excise Duty:** Excise duty is also exempted. Such reductions and exemptions help SMEs to trade without any barriers and it helps to improve trade relations. It provides additional benefits to SMEs for expanding their trade boundaries. Many countries prefer green products and domestic content products for import. Hence SMEs can utilize such opportunities.
- **Easy Sanction of Loans:** It is easy to access loans from various financial institutions. Banks provide various financial assistance and loan schemes for SMEs. The government provides financial

assistance to SMEs. Various government agencies take initiatives for helping SMEs and provide financial assistance. Such programs include venture capital assistance, lease financing, hire purchase assistance, and guarantee assistance etc. financial institutions sanctioned loans for SMEs without any procedural delays.

- **Various Tax and Tariff Subsidies:** They also enjoy tax and tariff subsidies. Government provide certain reductions and subsidies to SME companies. Such subsidies help to smooth functioning of SMEs. Trade barriers are generally classified in to two categories Tariff barriers and non-tariff barriers. These barriers demotivate SMEs for expanding their trade relations. Government subsidies are the solution for this problem.
- **Subsidies on Capital Investment:** Government provides subsidies on capital investment. Huge investment is needed for set up a business. It also includes risk factor. Every business organisations are expecting sufficient return from their capital investment. Hence government subsidies on capital investment help to reduce the risk.
- **SME Loans with Lower Interest Rate:** Government and financial institutions provide loans and other financial assistance to SMEs with lower interest rate and risk. Hence SMEs can conduct the business with lower risk on capital investment. Financial institutions and government agencies provide loans to small and medium scale enterprises for their expansion and development. Lower interest rate leads to motivate SMEs to utilise such loan facilities.
- **Priority in Industrial Zones and Estates:** Industrial estates and zones are the areas which are ultimately reserved for specific industries without any trade barriers. SMEs within these zones enjoy various benefits like technology access, infrastructure etc. industrial zones and estates are created for the purpose of expansion of trade. This will helps to exploit international business opportunities. Companies within these zones can conduct trade without any barriers.
- **Training and Skill Development Programs:** Human resource management is considered as the most important function of any organizations. Training and skill development programs are essential for improve the capacity and productivity of employees. Today such companies are providing attention to talent management and employee development. So SMEs should timely utilise such training and skill development programs.

ROLE OF SME SECTOR IN ECONOMIC DEVELOPMENT OF INDIA

Generation of Employment Opportunities: SME sector provide employment opportunities to peoples in India. Many employees are worked in manufacturing, chemical, and IT sectors. This helps to increase the standard of living of people and alleviation of poverty as SME sector offers huge employment opportunities. It provides huge opportunities for successful entrepreneurs. Further SME sector helps to:

- **Poverty Alleviation:** Huge employment opportunities and increased quality of life helps to eradication of poverty. Through poverty alleviation, we can solve the malnutrition problems also. Hence promotion of SME sector is needed for such benefits. Employees can utilise such opportunities and increase quality of life. Poverty is considered as the major challenge for economic development and growth.
- **Balanced Regional Development:** SMEs are concentrated on rural areas of various states in India. This helps to improve the quality of life of rural peoples and thereby facilitates balanced regional

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development. Hence the rural population can enjoy the benefits from SMEs in their areas. They can easily access employment opportunities and increase standard of living. It will help to reduce imbalances and ensure balanced regional development.

- **Curtail Migration:** Its helps to curtail migration since lot of employment opportunities arise. So people can utilise these opportunities and increase their standard of living. Quality of life motivate them to stay in current location and utilise the opportunities. Hence the development of SME sector can contribute eradication of such problems. Migration issues are one of the major problems which can reduce economic growth.
- **Reduce Income Gap between Rural and Urban Population:** Large industries are mainly focused on developed and urbanised areas. But SMEs targeted rural peoples also. Hence it helps to reduce the imbalances in rural and urban income. Both the urban and rural people enjoy the benefits from the growth of SME sector. It facilitates to reduce imbalances in distribution of income and wealth.
- **Export Promotion:** SMEs enjoy various tax reduction and exceptions. They can enter in international trade without any trade barriers. Special economic zones and industrial estates are developed for the promotion of export. Government also provide various export promotion schemes for SMES. Many of such schemes offered tax deduction, export subsidies and lower interest rate. SMEs can contribute to international trade and foreign direct investment.
- **Increase Production:** SMEs help to increase the total production in the country. They contribute towards GDP. This contribution plays significant role in India's economic development. Increased production leads to increased national income, international trade opportunities, employment opportunities, standard of living and foreign exchange.
- **Increase Purchasing Power of People:** SMEs helps to increase the per capital income of rural people. Hence their purchasing power also increased facilitates better quality of life. They can satisfy their needs and wants. The shopping habit and comparison buying opportunities also increased. It leads to healthy competition among various brands and consumers can access quality products at reasonable price.
- **Increase Quality of Life:** Large employment opportunities, increased income and purchasing power lead to increase the life standards. Such standard of living helps to investors, employers, management, owners, consumers and government to understand the need of implementing sustainable development practices in the business. It helps to increase the awareness levels of various stakeholders of SME sector.
- **Technological Innovation:** Many technological innovations are adopted by these enterprises for increasing the productivity and profit. Technological innovation and invention is necessary for achieve the business goals. It helps to create competitive advantage to business. Such innovation helps to increase efficiency and reduce wastage.
- **Technology Acquisition:** It leads to promote technological agreement between countries. SMEs help to purchase latest technologies with least cost. It further promotes investment in research and development activities. Technological acquisition helps to increase the production capacity, save time and cost, and better trade relations.
- **Reduce Trade Barriers:** Government assistance and tax exceptions lead to trade without any restrictions. Industrial relation also improved through export promotion. SMEs enjoy a list of tax reductions and exemptions. It will helps to trade without any barriers and expansion of business opportunities.

CONCEPT OF SUSTAINABLE CONSUMPTION AND PRODUCTION

The concept of sustainable consumption and production was much recognised and accepted after the world summit on sustainable development held in Johannesburg in 2002. This concept emphasis on the use of services and other related products which respond to basic preferences and facilitates a better quality of life while minimising the natural resources, ensure resource efficiency, reducing the use of non-renewable resources and control the emission of toxic materials and other pollutants over the life cycle of the product. This concept leads to the origin of green growth, which focused on use of renewable resources, promote energy efficiency, and ensure clean public transport and rail, and sustainable eco system. To achieve this, companies should change their perspectives on ecological development and redesigning the production process, use of technology, manufacturing and distribution system, and thereby reduce environmental impact. According to the World Bank report 2014, India ranked 155th position in air pollution exposure. The contribution of the SMEs to environmental degradation occurs during 3 stages.

Procurement of Natural Resources

During procurement of natural resources that further used as raw materials or inputs, environmental degradation may takes place. Air emissions and soil destruction leads to environmental imbalances. Excessive exploitation of natural resources leads to depletion of resources and increasing the scarcity of raw materials.

- **Industrial Production and Other Activities:** During the manufacturing process, many hazardous wastages are generated, mission of solid wastes and chemicals damage the entire environment. Hence companies should much more give focus on reducing wastage and minimising the effect from emission of hazardous wastage and resources.
- **Product Use, Distribution and Disposal:** Environmental degradation also occurs during the consumption of product and disposal after use. Consumer should obey the e waste rules and plastic consumption guidelines. Manufactures should also give importance to disposal and discard of the products. Companies should adopt reuse and recycle strategies.

To control and minimise pollution and emission of hazardous waste, both central and state governments introduced many initiatives. Most of these initiatives are in the forms of statutory guidelines, environmental standards, and various schemes. SME need to comply with these norms and standards. According to the existing regulatory framework, industry was classified as 5 categories based on sustainability parameters. On the basis of pollution levels these categories named as red, orange, amber, yellow and green. Ministry of environment, forest and climate change enacted six acts relating to environmental protection and sustainable development. These includes India's forest act 1927, wildlife protection act 1972, forest conservation act 1980, prevention and control act 1981, prevention and control of water pollution act 1974, environment protection act 1986 . Various ministries of government of India introduced nearly 205 public schemes for assistance to SMEs. The twelfth five year plan gives much attention to such schemes. These schemes are introduced after analysing budget documents, current environmental trends and patterns, and surveys from beneficiaries. The strong pillars of these schemes are summarised as follows:

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- Ensure energy efficiency
- Minimising waste
- Control air, water, soil and sound pollution
- Ensure occupational safety
- Skill efficiency and knowledge up gradation of workers
- Promote investment in research and development and invention of technologies
- Promote integrated auditing and reporting
- Reduce use of non-renewable resources
- Attention on waste management
- Promote green financing, green manufacturing and green distribution
- Marketing of green products
- Creating awareness on green manufacturing and sustainable development strategies
- Promote use of ICT for increase the productivity

Green Manufacturing Practices for SMEs

Green manufacturing is one of the most emerging sustainable business practices that have the capability to solve the industrial issues related to sustainable development. In initial stages green manufacturing mainly focused on waste reduction in production process. Then it focused on sustainable manufacturing, reduction of energy and toxic materials as well as use of renewable resources. Green manufacturing is the integrated approach to the reduction and elimination of waste streams related with the design, manufacturing and disposal of products.

- **Common Drivers of Green Manufacturing:** Employee demands, company culture, health and safety, working condition, financial profit, innovation, stakeholder's relations, environmental issues, competitive advantage and market trends
- **Critical Success Factors of Green Manufacturing:** Environmental protection laws and regulation, green image, competitors green strategy, management commitment and participation, employee empowerment and involvement, reduce, reuse and remanufacturing, disposal of hazardous materials, green product, current legislation, regulation driven motivation, awareness and understanding of green productivity
- **Benefits of Green Business Practices and Green Manufacturing:** Based on research conducted with SMEs in India, it was founded that SMEs enjoyed many benefits from green manufacturing and green business practices. These enterprises enjoy lower cost advantage and differential advantage.

Table 1. List of Benefits Arising From Green Business Practices

Benefit of green business practice	Generic advantage
Financial incentives from lending institutions	Lower cost advantage
Savings from use of increased recycle content	Lower cost advantage
Lowering environmental risks in business	Lower cost advantage
Advantage with current customers	Differential advantage
Advantage with acquiring new customers	Differential advantage
Export opportunities from environmental management	Differential advantage
Attracting new talents	Differential advantage
Better morale of employees	Differential advantage

Source: (Primary Data)

Greening the Product Life Cycle

Greening the product lifecycle stages is not always requires large degree of environmental awareness and knowledge. SMEs can gain significant benefits by greening not just the manufacturing stage, but the other stages like designing, distribution, and discard. SMEs enjoys various benefits like sourcing from suppliers who practice environmental management, distributing with green supply chains, and designing the products for low resource use in its life span and safe discard of such products.

Table 2. Green Questionnaires

Stage	Statements Related with Green Activities in Various Stages of Product Life Cycle
Design	We design products to use lesser materials and other resources
	We design our products to be able to use clean technologies
	We design products, which includes more recycled content
	We are ready to modify the products to reduce the environmental impact
Manufacturing	Green eco rating system is employed in manufacturing
	Environmental compliance and regulation are dealt with properly
	Water consumption level and material usage monitored in timely manner.
	Waste generated and energy consumption measured in timely manner
Distribution	We offer the packaging which reducing the transportation load
	We monitor the fuel consumption in distribution and storage
	We take back some packaging materials for reuse
	We communicate the environmental efforts to suppliers timely
Discard/disposal	We tries to promote the use of renewable resources
	We tries to recycle our products
	We tries to reuse some materials for further production
	We discard the products and materials safely and compliance with legal norms

Source: (Primary Data)

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Table 3. Exploratory Factor Analysis

Green Activities in Various Stages of Product Life Cycle		
Factor and Variance Explained	Components	Rotated Factor Loadings
Design	We design products to use lesser materials and other resources	.946
	We design our products to be able to use clean technologies	.923
	We design products, which includes more recycled content	.863
	We are ready to modify the products to reduce the environmental impact	.862
Manufacturing	Green eco rating system is employed in manufacturing	.847
	Environmental compliance and regulation are dealt with properly	.827
	Water consumption level and material usage monitored in timely manner.	.666
	Waste generated and energy consumption measured in timely manner	.664
Distribution	We offer the packaging which reducing the transportation load	.850
	We monitor the fuel consumption in distribution and storage	.825
	We take back some packaging materials for reuse	.792
	We communicate the environmental efforts to suppliers timely	.794
Discard	We tries to promote the use of renewable resources	.740
	We tries to recycle our products	.737
	We tries to reuse some materials for further production	.664
	We discard the products and materials safely and compliance with legal norms	.662

Source: (Primary Data)

The author's research examined the green practices of SMEs in various stages of product life cycle like planning, design, manufacturing, distribution and discard. The research framed a conceptual model based on the literature reviews. The model explains the level of green performance of a firm depends on green practices across various stages of product life cycle and in that way the firm can achieve competitive advantage.

Table 4. Relationship between Green Activities in Various Stages of Product Life Cycle and Firms Green Performance

Dependent variable	Independent variable	Pearson correlation	Significance
Firms Green Performance	Design	.550	.000
	Manufacturing	.647	.000
	Distribution	.559	.000
	Discard	.512	.000

Source: (Primary Data)

H01: There is no significant relationship between green activities in various stages of product life cycle and firms green performance

The above table shows the factor extraction from the loaded items. 16 statements were loaded to extract 4 factors using principal component method. The identified factors are named after thorough review of literature. The first factor identified as ‘design’ second factor ‘manufacturing’, third factor ‘distribution’ and fourth factor named as ‘discard’.

Further the researcher conducted correlation analysis for prove the relationship between variables.

Table 4 portrays the correlation between the dependent variable firms green performance and independent variable green activities in various stages of product life cycle. Green activities in manufacturing stage have shown highest significant relation with P value .000 and correlation value .647. Hence the null hypothesis is rejected and concluded that there is strong relationship between green activities in various stages of product life cycle and firms green performance.

Table 5. Significant Impact of Green Activities in Various Stages of Product Life Cycle on Firms Green Performance

Model	R square	Adjusted R square
Impact of Green Activities in Various Stages of Product Life Cycle on Firms Green Performance	0.803	0.813
Predictors: Design, Manufacturing, Distribution, Discard Dependent variable: Firms Green Performance		

Source: (Primary Data)

H02: There is no significant impact between green activities in various stages of product life cycle and firms green performance.

The above table shows the Impact of green activities in various stages of product life cycle on firms green performance. The R-Square value shows that any change in the chosen predictors will yield 80.3% changes in the dependent variable that is the firms green performance. Hence the null hypothesis is rejected and concluded that there is a significant impact of green activities in various stages of product life cycle on firms green performance.

The adjusted r-square value shows the change in the r-square value when a predictor is added or deleted from the existing regression model.

Conversion of Green Business Strategies to Competitive Advantage

We achieve competitive advantage through green business strategies. For achieving competitive advantage we should consider certain factors in the planning and design stage.

- **Environmental Risk:** The SMEs sustainable strategies should focus on reducing its impact on environment. They should adopt proper standards relating with consumption of natural resources and preservation of water, air and soil. A proactive business strategy helps the business to mitigate the environmental risks on business.
- **Industry Structure** Industry structure is another prominent factor. Many SMEs facing challenges related managing large unbudgeted cash outflows which can make them weaker performance. Competitor’s strategies can change the industry, when they introduce new changes in product

design and manufacturing or adopting innovations, which may lead to decrease the production of other firms.

- **Legal Provisions** Government makes pressure on SMEs to improve their environmental performance. The Bharat initiative stage 4 emission norms pressing various manufactures to design their products to meet the eco standards. Legal norms say that it is producer's responsibility to adopt environmental protection strategies and ensure sustainable development practices.
- **Customers:** Many SMEs in India pressurizing the vendors to implement green goals. Only some of the large firms who invested in latest technologies enjoy the technological differentiation benefits. Customer aspects should consider while implementing green business practices.
- **Society:** Community awareness is the most important factor which can influence the green performance of business. NGOs have been successful in creating awareness regarding environmental protection and need of sustainable business practices. WWF made an initiative named as 'check your paper' campaign. This campaign is a global database for eco rated papers.

SOLUTIONS AND RECOMMENDATIONS

Developing a Green Strategy

Orasto (2006) suggested that the four generic competitive strategies for sustainable developmental development of SMEs. These strategies are developed on the basis of four factors, which are competitive advantage of lowering cost, competitive advantage of differentiation, organizational process focus and products and service focus. On the basis of these factors four strategies are formulated, namely eco efficiency, beyond compliance, environmental cost leadership, eco branding.

Stage 1- Eco Efficiency: The aim of eco efficiency is to lower costs while improving environmental performance within the firm's operation limits. Such measures are generally easy to adopt and monitor. This strategy focused on legal compliance with industry provisions without make changes in the product.

Stage 2- Beyond Compliance: After setting the clear path for process improvements, the firm should concentrate on differentiation in their business operations. The SMEs need to invest in technologies and avoid old practices. The owners should clearly understand the technologies and their capabilities.

Stage 3-Eco Branding: Differentiation with green products is not an easy strategy to SMEs to implement. This requires detailed research on firms product life cycle features. Green differentiation should be based on design, manufacturing, and distribution of such products. Identifying strong marketing capabilities is a challenging task for SMEs.

Stage 4- Environmental Cost Leadership: There are many examples of green products which are less costly than lowering conventional consumption. Environmental friendly packaging with more recycled content can be helps to attain environmental sustainable practices.

Recommendations for the Stakeholders of Business

One of the major objectives of this research was to suggest a framework for policy makers to promote green business practices for sustainable development. Both policy makers and other stakeholders of the business have a prominent role to play. The recommendations are based on this framework.

Green Performance of SMEs

- Awareness of owners
- Barriers
- Influencers
- Demand for green performance from customers

The environmental sustainability and performance of an SME unit is highly depends on the awareness of owners and other stakeholders on environmental aspects. It is the most critical factor for improve the green performance of SMEs. So, every stakeholder should aware about the green performance of SMEs.

Role of Government

Some decades ago, the national safety council of India was creating a safety awareness campaign for preventing high accident rate and safety issues. The government can consider similar organizations for spreading awareness on green performance and sustainable business practices. This council mainly focused on 3 aspects.

- 1) Spread awareness on linkage between industry and environment
- 2) Communicate the green goals with managers, owners and employees through posters and slogans.
- 3) Engage the attention of SMEs towards green activities.

Role of Industries

The local chambers of commerce and trade association can also conduct environmental awareness programs. They can also set up advisory bodies for implement green business practices. Such organization should conduct environmental training programs for SMEs.

Role of Bankers

Bankers can increase their credibility through promoting environmental sustainability practices. They can help to spread awareness about the compliance and benefits of green practices. If the SMEs can lower environmental risks, then the banks can also reduce their business risk.

Reducing Barriers

The following recommendations are proposed to reduce the barriers of SMEs.

- Subsidize green certificates.
- Preferential financing of green practices
- Set up facilitation centres to promote environmental awareness and green goals.
- Improve the performance of state pollution control boards.

Strengthening Influencers

We should encourage and strengthen various influencers to promote green performance.

- a) **Personal Awareness** Personal awareness can promote the sustainable business practices. It is considered as the biggest influencer of green performance.
- b) **Bankers and Insurers:** They are another influencer. SMEs are regularly contact with bankers and insurers which provide an opportunity for promoting green awareness. Banks can ask environmental checklist at the time of loan approval and insurers can ask measures for identification of environmental risk and implementation of environmental risk control system.
- c) **Influencing Green Behaviour through Awards:** Awards and recognition promote a competitive atmosphere between SMEs regarding sustainable business practices. It can leads to various innovations.
- d) **Certification As an Influencer:** Some standards and certificates are also used for branding green products. Industries on red list are mainly suggested for implement such certificates.

SMEs can adopt many other sustainability strategies that also help to keep a good business. Such strategies are discussed as follows:

- **Going Paperless and Reduce Wastage:** Printing and publishing consumes a significant amount of wood and energy. Many documents can create and send through online. Book keeping can also do through online. Such practices help to reduce the wastage.
- **Develop Network with Similar Companies:** The concept of ecopreneurship focused on green companies should pay attention to this supply chain. They should maintain relationship with companies that are taking steps to reduce environmental impact and implement sustainable business practices. Such network definitely helps to achieve our green goals.
- **Use Green Office Space:** SMEs can reduce the environmental impact by selecting the right office space. Most of the SMEs uses buildings that are far more energy efficient than traditional office space or buildings. Apart from that they try to find a place near bus stop or railway station for doing their business. It also helps to increase energy efficiency.
- **Build Green Space:** Many consumers look for SMEs that consider environmental importance. For e.g. building a space with bamboo flooring and carpets made from recycled fibre will attract customers. Green models in your business space help to attract more customers.
- **Buy and Use Green Energy:** Some of the small firms in the country situated in the areas where they have an option to buy energy from renewable resources like wind or solar energy. They can use renewable energy sources by purchasing carbon offsets or purchasing renewable energy credits (RESs).
- **Make Recycling Part of Normal Operations:** It includes collect and recycles printer cartridges and recycle broken electronic equipment's and reuse.
- **Use Green Certified Office Products:** Manufactures of office equipment's can introduce variety of green products that use recycled paper, sustainable woods, natural ingredients etc. SMEs should buy such products that are helps to reduce environmental impact. SMEs should promote the use of greener office products.
- **Encourage Green Behaviour of Customers and Employees** Encourage the customers to use the renewable cloth bags. Provide electronic copies of catalogues and brochures to the customers.

Allow the employees to communicate through Skype or other video conferencing methods. Such virtual meetings can reduce the SMEs environmental impact.

MEASURES FOR ENHANCING SME SECTOR SUSTAINABILITY IMPACT

There are two concepts regarding developing a policy framework to improve the sustainable development practices. These two concepts are collaboration and convergence. Different institutions and bodies should be take initiatives and collaboratively participating in sustainable development. This strategy is known as collaboration. There is a need of integration of various packages under a single initiative that targeted an SME cluster. This strategy is known as convergence. So, it is recommended that various initiatives taken by government bodies and institutions should be redesigned. The most important question is how this can be implemented. There are nearly eight ministries at the national level, among these six are most prominent in sustainable development initiatives. These includes ministry of MSMEs, ministry of environment, forest and climate change, ministry of entrepreneurship and skill development, ministry of textiles, ministry of industry and commerce. Besides these ministries various non-governmental institutions, buyers, social organisations, media, and judicial bodies are the strong pillars of sustainable development practices. The following are some of the suggested measures that should be implement government and institutions with a collaborative effort.

1. **Mapping of SME Clusters for Specific Interventions:** It is the most important thing to identify and grouping the most significant contributors to pollution and environmental degradation. Foundation for SME clusters and Indian institute of corporate affairs mapping 176 clusters from 11 sectors. This list should be upgraded in every year. There is a need for clustering individual SME units based on various parameters such as emission of pollutants, energy efficiency and waste disposal.
2. **Reforming Governments Environmental Policy Mechanism:** Government introduced various schemes and policies for promoting sustainable development. But certain rules and regulations are introduced but not effectively managed. The administrative departments should be timely monitor the impact of such policies and provide feedback to SME sector. Some state governments are considered these laws as a tool for increase the revenues for the states. Hence it should adopt a development oriented approach to mitigate these issues. Compulsory educational programs for the polluters, and training plus skill development programs for workers are needed. Voluntary monitoring and forecasting compliances should be needed. Industry associations should give much more focus on these aspects. Monitoring should be done individual enterprise base and cluster base. Medias and local communities should promote such initiatives.
3. **Investing in research and development projects for developing green manufacturing technologies:** It is needed to invest in research and development activities for redesigning the existing production system and technologies and introduce production methods and technologies that ensure environmental sustainability. Efforts should be made both government and industries for identifying and implementing the best available technologies in manufacturing process. Government should provide grant for such initiatives. These technologies should be appropriate and affordable for SMEs. Credit facilities should provide to green entrepreneurs who have developed in house green technologies and manufacturing designs. Incubation facilities, venture capital for green entrepreneurs, training for green entrepreneurs, installation facilities should be promoted.

Sustainability Strategies for Developing SMEs and Entrepreneurship

4. **Developing Life Cycle Inventory (LCI) Data for SME Products:** SME is a tool to analyse the environmental impact of products through their life cycle. This technique is not widely used in Indian SMEs. Some of the companies initially implement this technique and their results showed that great impact on environment. After those results they not implement this technique. Hence proper awareness on this technique and its importance is needed for the successful implementation.
5. **Green Financing:** Lack of capital and financial assistance was considered as the big challenge for the growth of entrepreneurship. So the government policy should promote the use of institutional finance. Hence green financing facilities should be promoted with a great extent for green ventures.
6. **Setting up Platforms for Government and Industries and Promote Collaborative Effort:** Integrated programs are needed for promote sustainable development. The lead industry associations, research institutions, and government agencies should take initiatives with collaborative efforts on policy formulation, monitoring of environmental impact, and implementation of sustainable development strategies. An example for such collaborative effort is the formation of foundry development council in 2015. It implements national initiatives with the help of various public and private institutions and linking the goals and results.
7. **Formulating a National Recycling Policy:** The waste can be reuse after recycling process. Many organizations are disposed e waste, construction waste and engineering waste to the environment. The new policy should focus on waste to wealth. The waste disposed by one industry may become a raw material for another industry. For example, slag disposed by foundries can be used for manufacturing paver bricks. So the new policy should focus on recycling of disposed wastes. This recycling process can be done with the help of government and industries. Proper guidelines are needed and both organised and unorganised sectors should follow these guidelines. This will leads to inclusive growth and promote win win situation. Training should be provided for staffs of local authorities, association members and other institutional agencies. This recycling program should promote energy efficiency and effective waste management.
8. **Defining Green Manufacturing, Green Infrastructure and Green Space:** There is no globally accepted standard for recognising a product as a green product. It is generally accepted that green products are manufactured with least cost and wastage. Such products are eco-friendly and that have less impact on environment. We can determine the environmental impact with the help of life cycle assessment. Such products are manufactured without using any toxic materials. Such green manufacturing process ensures efficient use of energy, water and air. Such products follow eco-friendly packaging and distribution. Some products are biodegradable and others can be recycled or reuse. Such products promote the use of green space and green infrastructure facilities.
9. **Consumer, Producer and Intermediary Awareness:** Producers, consumers and other intermediaries such as wholesalers, retailers, suppliers, and agents need to be made aware about the benefits of going green. A nationwide awareness program should be needed as a collaborative effort of government, industry associations and other institutions. Such programs help to increase the awareness on green manufacturing, green distribution and green space. It also helps to increase the commitments towards sustainable development.
10. **Promoting Green Public Procurement and Green Supply Chain Management:** Procurement of materials should be done with the help of eco standards. Government departments should fix a minimum quantity for purchase of green products based on the guidelines provided by SMEs. Human resource management practices should be redesigned based on green goals. Green recruitment and

selection process should be promoted. Use green technologies in organization and design supply chain management based on ecological standards.

11. **Environment Regulation:** In recent years many environmental activists and protectors have been raising before the government and judicial authorities issues regarding the pollution and environmental degradation. Government has issued many notifications and guidelines for regulating industries. Such regulations should be obeying all industries in the country.
12. **Formulating and Implementing Integrated Developmental Activities:** Many initiatives can be implemented for promoting sustainable development. These activities should be implemented by government in consultation with industry associations and trade unions. Some of the areas that should get attention under these development initiatives are the following:
 - **Promote Energy Efficiency:** Fossil fuels are considered as the major source of greenhouse gases which leads to a high environmental impact. So the enterprises should be minimising the use of such energy resources. Ministries should be taken steps for promoting energy efficiency.
 - **Promote Use of Renewable Energy Sources:** Renewable energy sources like solar, wind, biogas etc. are considered as less harmful to the environment than non-renewable energy resources. Hence such renewable energy resources should be identified and properly manage its use.
 - **Supporting MSMEs in Pollution Control:** Now, government take initiatives for research and development for the invention of cleaner technologies. The cost of such invention is high. Pollution control departments should introduce more guidelines related with such cleaner technologies and provide approval for the vendors for sourcing cleaner technologies.
 - **Minimising Waste at Every Stages of Production:** Huge waste is generated in many industrial concerns. This waste may be toxic or non-toxic in nature. There is a need of develop green technologies for reduce the level of waste. Incentives should be provided to the industries which effectively follows waste management standards.
 - **Promote Lean Manufacturing Technique:** Lean production technique is a multidimensional technique that integrates a wide variety of tools such as total quality management, just in time, human resource management, supply chain management, inventory management and receivables management. This system ensures quality production with minimum waste.
 - **Compulsory Norms Regarding Green Building and Green Space:** Compulsory norms regarding green building and green space can be contributed to energy efficiency, water harvesting, healthy environment and cleaner technology. State governments should take steps in developing guidelines for green buildings and green space.

FUTURE RESEARCH DIRECTIONS

Future research may broaden the scope by analysing various sustainability strategies used by SMES in various sectors. Studies based on specific sectors leads to in-depth analysis and fact findings. The role of technological innovation in sustainable development is another area for further research. Technological innovation and digitalization plays an important role in sustainable development. Impact of environmental strategies on green performance is another research direction. Green performance helps

to analyse fulfilment of green goals of a business. Challenges of green manufacturing and strategies for further improvement have significant importance in future research.

CONCLUSION

The diversity and complexity issues related with SMEs determine the intensity of various environmental issues. Some of the SMEs are properly identified their core competencies and capabilities, they also successfully addressing environmental issues. They implement various sustainable business practices and strategies to achieve competitive advantage. However a more effective approach is needed for addressing new challenges. This approach should consider external supervision and compliance.

The author concludes that a competitive advantage can be gained through green environmental strategies and green performance. SMEs faced many challenges in the implementation stage. The awareness level of various stakeholders should increase and manage the indifferent attitudes of SME owners. SMEs should consider various factors influencing their green performance while implementing sustainability strategies.

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KEY TERMS AND DEFINITIONS

Competitive Advantage: Strategic business position of a company that made specific features to the company from its competitors.

Eco Branding: Naming the products for promotion with environmental considerations.it mainly focused on eco-friendly and recyclable branding process.

Ecopreneurship: Application of entrepreneurship principles for solving environmental issues.

Environmental Sustainability: Interaction with environment to avoid degradation of resources and ensure long term environmental quality.

Green Manufacturing: Process of adopting environmentally friendly operations in manufacturing process with least cost and wastage.

Green Performance: Indicator which used to measure the environmental goals of a business.

Green Space: The land that is partly or fully covered with trees and grass.

Chapter 26

Sustaining SMEs Through Supply Chain Innovation in the COVID–19 Era

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ABSTRACT

The COVID-19 pandemic has negatively affected the small and medium-sized enterprises (SMEs) in a significant manner. It has thrown some SMEs into a financial crunch, forced them to reduce/remove their workforce, hampered production due to prolonged lockdowns, halted their logistics and supply chain activities, and delayed their delivery schedules enormously. The revival of the SME sector is very important for the survival of the economy. One of the most important aspects of this revival strategy would be to innovate their existing supply chains for more visibility, transparency, and robustness through the adoption of affordable digital technologies. In spite of advanced studies in SC innovation, the in-depth studies related to this area of SMEs towards sustainability are still very scanty and inadequate. Therefore, this chapter proposes to develop a framework of SC Innovation for the sustainability of SMEs through a systematic literature review. This framework will be very useful to the owners and employees of SMEs and various researchers.

INTRODUCTION

The Covid-19 pandemic has affected many business sectors in the world. Most significantly, it has caused huge losses to the Small and Medium Enterprises (hereinafter abbreviated as SMEs) sector in every country and to the global economy (Ahmad et al 2020; Hakovirta and Denuwara 2020). Many SMEs have been facing several difficulties in operating their enterprises and some of them have even reached the stage of closing their businesses. Growth of SME sector is backbone for every economy due to its significant contribution in multiple businesses (Winarsih et al 2020). SMEs faced severe financial crunch, production halts due to prolonged lockdowns in several countries, problems due to the resizing

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of manpower, non-availability of raw material on a continuous basis and lack of demand (Hakovirta and Denuwara 2020; Sharma 2020; Smith-Bingham and Hariharan 2020). SMEs were unable to meet their targets and adhere to the delivery schedules given to the clients. All these problems landed SMEs in a threatening situation questioning their survival and sustainability in long run. Several governments have announced initiatives and incentive packages to these enterprises proactively to counter the situation to bring them back to the normalcy and to enable them towards achieving sustainability.

Revival of SMEs is an utmost priority and need of the hour to boost up the suffering economies worldwide (Storey 2016; Ivanov 2020). Providing tax incentives and simple announcement of financial packages may not solve the issues and challenges of SMEs totally, unless a strategic approach is adopted by them. SMEs also need an appropriate guidance and training by researchers, professionals, and practitioners towards developing such strategic approaches for their sustainability in the Post Covid-19 era. Among the strategies to be adopted by SMEs in future towards sustainability, the role of Supply Chain Management (SCM) will be highly significant. Adoption of Supply Chain (SC) practices by SMEs is found to improve the efficiency, enhance product availability, increase productivity, reduce costs and improve customer satisfaction. Many SME have already achieved these positive outcomes through SCM (Koh et al 2007; Kot et al 2020). At the same time, mere adoption of SC practices is also found to develop a saturated condition for several enterprises in achieving long-run sustainability, including the large size enterprises also. Therefore, the focus got shifted towards innovating the supply chains, known as Supply Chain Innovation (SCI), especially in SMEs to counter the pandemic situations successfully and achieve reasonable sustainability. Innovating the existing SC provides visibility, transparency, networking ability, development of mutual trust through collaboration, resilience, integration of processes by using affordable digital technologies (Sharma 2020; Shibin et al. 2020; Arunachalam 2017; Kot et al. 2020). Acquiring these abilities take SMEs towards long-term growth and sustainable situation in the post-pandemic era.

Many authors have developed theories, frameworks and models related to SC, its concepts, strategies, practices, performance measurement, and positive outcomes by focusing on large size organizations only (Hong 2006; Koh et al 2007; Ivanov 2020). Though there are studies in these areas which focused on SMEs, very few of them have focused on SC innovation in SMEs, especially by relating them to achieving sustainability during pandemic situations (Victoria 2009; Arunachalam 2017; Kot et al 2020). Therefore, considering this research gap, the chapter develops a framework of sustainability in SMEs by integrating SCM practices to be adopted during post-pandemic situation to achieve SC innovation, which leads to the sustainability of SMEs through the help of digital technology enablers. A systematic literature review methodology has been adopted to develop the framework. The framework will add value to the existing body of knowledge and provides an awareness to the owners and managers of SMEs for successfully achieving sustainability to a reasonable level during the pandemic and post-pandemic situation.

The first phase of the chapter presents a detailed analysis of published works related to SCM, its evolution, practices, strategies and its impact on SMEs. The second phase of the chapter analyzes the issues, controversies and problems by identifying vulnerable situations and disruptions in SMEs and how supply chain innovation can develop a sustainable situation in SMEs. It also analyzes the role of SC practices like coordination, integration, resilience which lead to SCI. The third phase of the chapter provides solutions by analyzing SC in digital era and by identifying digital technology enablers which can lead to SCI and develops a framework of sustainability in SMEs. The remainder of the chapter provides the conclusions, implications and directions for future research in this area.

Based on the discussions, the chapter intends to achieve the following objectives through three research questions

RQ1. What practices of supply chain management will enable the innovative supply chain in SMEs?

RQ2. How digital technology enablers can develop supply chain innovation?

RQ3: How to integrate the SCM practices with digital technology enablers to achieve the sustainable performance measures in SMEs.

BACKGROUND

Contribution of SMEs to the economy of a country is enormous in all sectors. Many SMEs got negatively impacted due to the present COVID-19 pandemic situation and started facing several additional challenges to the existing ones in their businesses (McKinsey 2020; OECD 2020). It is very important to revive these SMEs for the growth of global economy (Ivanov 2020; Winarsih et al 2020). Though, several initiatives of the government, providing them with financial incentives, tax holidays and monetary benefits have enabled SMEs to recover to some extent from this pandemic situation, there is a long way to go to bring them back to the normalcy in post Covid-19 situation (Papadopoulos et al 2020). In order to bring SMEs back to their original position, it is essential to focus on the root cause of the situation and also it is highly essential to build their capabilities through long-term strategies like developing supply chains, promoting SCI, providing training on SC practices, and encouraging large enterprises to handhold the SMEs (Ahmad et al 2020, Sharma 2020; Shibin et al 2020)

SCM has gained lot of popularity in the last two decades and promoted the growth of several businesses, especially, the large scale enterprises (Ivanov 2020). It enabled smooth flow of products and services across all the stakeholders of the chain, reduced inventory levels, reduced cost of operations, minimized the gaps in supply and demand, improved productivity, enhanced product availability and increased the overall customer satisfaction (Koh et al 2007). Supply chain practices like coordination, integration, mutual trust, vendor evaluation and rating, supplied development programs, just-in-time (JIT) procurement, production and distribution, warehouse management systems and information sharing have contributed to this growth to a large extent (Chopra et al 2012; Kukalis 1989). Most of these practices were successfully implemented by large scale enterprises with the help of information technology applications like Radio Frequency Identification (RFID), Enterprise Resource Planning (ERP), Material and Warehouse Management Systems (WMS), Transportation Management Systems (TMS), Inventory Management Systems (IMS) and Customer Relationship Management (CRM) (Christopher and Peck 2004; Scholten and Schilder 2015; Agigi et al 2016; Li et al 2017; Ramakrishna 2018; Thillairaja and Arokiasamy 2019). Also, the large enterprises have invested in some of the latest technologies like Blockchain, AI (Artificial Intelligence), Robotics, IoT (Internet of Things) by applying them successfully to their supply chains (Papadopoulos et al 2020). At the same time, the large scale enterprises have also commenced focusing on innovating their supply chains. These initiatives have been enabling some of these large enterprises to develop abilities related to SCI to move towards sustainability.

Due to their inherent strengths and advantages, the large scale enterprises are able to quickly adopt the new technologies by investing in them wisely to achieve sustainability. But, it is found that the situation in SMEs related to the achievement of sustainability through SC and implementation of strategies for its innovation is not similar to the one existing in large scale enterprises. This is due to the inherent weaknesses, disadvantages and challenges encountered by SMEs and the additional burden of managing the enterprises during Covid-19 pandemic situation through resources crunch (Blackhurst et al 2011; Jesca 2019; Maureen et al 2020).

It is found that many studies have been done on SCI by focusing on large scale enterprises, but the number of such studies are very less which focused on SMEs. Implementation of SCM is widely studied in SMEs, but at the same time studies focusing on SCI are very less in SMEs sector (Allaoui 2019; Ahmad et al 2020). Therefore, with this background, the chapter intends to develop a framework of SCI in SMEs for achieving sustainability in the Post Covid-19 pandemic situation.

LITERATURE REVIEW

SME sector is the most negatively impacted sector because of Covid-19 pandemic in the entire world. Due to their inherent weaknesses, majority of these enterprises are not adequately prepared to face this situation through a systematic approach (OECD 2020). Majority of SMEs face a variety of issues, challenges and problems even prior to the emergence of pandemic. Thus, the prevailing pandemic has added fuel to the problems of SMEs.

Studies found that SMEs face general challenges and also challenges which are very specific to SCM implementation. The general challenges such as lack of formal and professional training, lack of top management's vision in achieving long-term objectives and goals and focus on short-term operational issues rather than creating and developing a long-term vision and mission are hindering the growth of SMEs. Vertical integration, trust, sensitivity to supply, expected communication, organizational culture, time frame and relationships, problems when entering into long-term relationships, use of IT, supplier selection, attitude towards strategic planning, development of logistics, nature of workflow have been identified as major SC specific challenges in SMEs (Thakkar et al 2012). Additionally, challenges such as technological difficulties, collaboration issues, a lack of support from top management and insufficient funds (Jesca 2019) are also found to be very common in SMEs.

Challenges of SMEs are divided into three categories like country, industry and firm-specific such as global reach, lack of innovation, lack of risk taking attitude and pro-activeness. Inconsistent operational processes, lack of project management capabilities, lack of training, lack of continuous management support, heavy dependencies on consultants are also found to be the challenges in SMEs (Snider 2008). SMEs in Gulf countries are found to be facing challenges like lack of incentives, focus on short-term vision and objectives, less cooperation, lack of willingness among partners in SCM, and technological constraints in some areas (Al-Esmael et al 2019). Covid-19 pandemic situation has added many additional issues and challenges to SMEs like crunch in cash flow leading to inability to meet the production schedules, absence of digital technology usage and lack of coordination among different departments and non-availability of raw material (Ivanov 2020). This situation posed a bigger challenge for SMEs and posed a threat to their survival and sustainability.

SCI is found to provide solutions to some of these issues and challenges faced by SMEs and make them sustainable. At the same time, the existing literature related to SMEs on supply chain is very less and moreover, the literature on SCI in SMEs is highly inadequate. This is partially due to the fact that many studies of SCM focused on the practices of large firms, while small firms are treated mostly from the view point of larger firms (Chopra et al 2012; Kukalis 1989; Hong 2006; Nadeesha Abeysekara 2019; Hoang et al 2020). Therefore, it is not established in detail whether all those SCM practices applicable for large scale enterprises are equally applicable or SMEs or not (Arend et al 2005; Hong 2006; Ivanov 2020). Additionally, large enterprises have an ability to invest in initiatives to promote SCI, while SMEs lack the financial, technical, and resources ability to encourage it.

A major controversy in the existing body of knowledge is recognition of contribution of SMEs to the economy on one side and lack of adequate focus on research studies related to SCI on the other side. SMEs should focus on SCM to improve their performance and achieve sustainability through mutual coordination by minimizing the fluctuations in demand by increasing the levels of appropriateness demand forecasting (Thakkar et al 2008) and improve decision-making using information and be proactive to market dynamics (Rajesh et al 2008). Role of SC in achieving sustainability in SMEs has been an emerging topic of study in the recent past. This interest has prompted researchers to identify various practices of SC which enable sustainability. The next section of chapter focuses on analyzing sustainable supply chain management, its practices and its contribution towards sustainability of SMEs. It also focuses on practices which encourage the growth of supply chain innovation in SMEs.

Sustainable Supply Chain Management (SSCM)

Supply chain management (SCM) encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies (Council of Supply Chain Management Professionals (CSCMP 2020). Several other authors (Simchi-Levi et al 2012; Martin and Holweg 2011) have also defined SCM and they covered aspects like management of relationships across the chain, integration of activities, cooperation and coordination for overall reduction of costs, mutual trust and dependency etc.

The issue of sustainability in SC, leading the sustainability of an enterprise, especially in SMEs has gained attention in both academic literature and industry as an area of opportunity in the recent past. Sustainable development in general is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (United National General Assembly, 1987). Carter and Easton (2011) defined sustainable supply chain management in SMEs as “the strategic, transparent integration and achievement of an organization’s social, environmental, and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains’ and it is also considered as green supply chain. Sustainable business practices for SMEs have become a prerequisite for suppliers (entrepreneurs) within global supply chains (Seuring and Muller 2008). SMEs need to focus on all these three dimensions to achieve sustainability in post Covid-19 pandemic situation.

Collaborative strategies, flexible organizational structure, and risk management plan would improve SMEs performance leading to sustainability (Chatzoglou et al 2018). Also, it is found that sustainability in SMEs can be achieved through developing SCI capabilities, long-term financial resources, dependable network and digital technologies (Zalina et al 2016). SMEs should always look for alternate opportunities rather than sticking to an outdated business area (Allaoui 2019; Ahmad et al 2020).

Companies across geographic and industry boundaries are implementing sustainability initiatives in the SC in response to pressures from consumers, regions of operation, investors, and even employees (Jennifer et al 2012). Supply chains generally have a great innovation potential for sustainable development. This potential could be highlighted with system thinking and the use of knowledge related to change management, promoting not only innovations within technology but also within organizational improvement. Organizational innovation will lead to sustainable supply chains (Isaksson et al 2010). Abbasi and Nilsson (2012) studied the themes and challenges in making supply chains environmentally

sustainable and identified five major areas of challenges for sustainable SCM in SMEs such as costs, complexity, operationalization, mindset and cultural changes, and uncertainties.

Therefore, from a mere implementation of SCM, the focus of SMEs should now shift to innovating SCM (Arlbjorn et al 2011). Sustainability is closely linked with achieving supply chain performance in terms of stability, robustness, resilience, viability (Ivanov 2020), especially for sustainability in SEMS too. To understand more about SCI and its role in developing sustainability in SMEs, the next section of the chapter presents an analysis of published works in this area.

Supply Chain Innovation (SCI)

The scope of SCI has been considered in many different ways by several authors. It's a systematic process to deal with risk and uncertainty in the business environment. It uses new technologies to improve the performance in organizations and tries to fit the customer needs with the organizational operations (Herzlinger 2006). A comprehensive definition of SCI was given as – “A supply chain innovation is defined as a change (incremental or radical) within the supply chain network, supply chain technology, or supply chain processes (or combinations of these) that can take place in a company, in an industry or in a supply chain in order to enhance new value creation for stakeholder” (Arlbjorn et al 2011).

Through SC innovation, SMEs can obtain efficiency in their operations and create more value for customers. Some of the processes which enable this efficiency are management of data in a better way, reduced time to attend customer needs, quick delivery of service or goods and reduction of defects and errors, and implementation of digital technologies for reduction of lead times, order processing times, delivery times, speedy information sharing, reduction of process related errors, and increasing the quality (Andre' et al 2008). According to Lin (2008) and Stundza (2009), the innovation in SC refers to techniques and tools that can refine organizational processes needed for efficient and effective SCM through integrated and barrier-free interactions with the entities of SC like suppliers, manufacturers, distributors and customers.

SC innovation plays a key role in developing products and services in SMEs that fulfill customers' needs and values (Flint et al 2008). Drivers of SCI are market, product and partner characteristics (Ivanov 2020) which can lead to sustainability. Buyers and suppliers emphasize not only quality and delivery but also the adjustment of their competitive strategies and organizational cultures in SMEs to move towards innovation and sustainability (Pressey et al 2007; Sharma 2020).

SCI is an integral part of overall organizational innovation of an SME. It is achieved with the help of integration, mutual cooperation, trust and strategic collaboration with vendors or suppliers (Chan et al 2008; Teichert and Bouncken 2008). The prerequisite for this innovation is improvement of internal and external processes existing in SMEs which can be achieved through better and strong relationships with suppliers (Chan et al 2008). Also, SMEs need to develop risk management strategies, search for alternative sources of supply, focus on business continuity, identify disruptions and use digital technologies to achieve resilience in SC to innovate and achieve sustainability (Ivanov 2020; Sima and Mahour 2020). The SC innovation can't be achieved through any individual entity of SC. It needs collaboration from all its entities, especially through the support of large enterprises to SMEs (Hong 2006). It requires deep knowledge of SC processes and methodologies, Therefore, SMEs need to develop their resources' integration across the chain, process collaboration throughout the upstream and downstream chain to create a mutually beneficial, cooperative, trustworthy and resilient supply chain for increasing the overall supply chain profit to sustain in long run (Sharma and Modgil 2013). Therefore, the present study con-

siders SCI can be achieved through three major aspects, i.e., SC coordination, SC integration, and SC resilience (Arbjorn et al 2011; Mandal 2019; Nadeesha Abeysekara et al 2019; Ivanov 2020; Sima and Mahour 2020). Each of these aspects and their significant role in SCI is discussed in the next sections.

Supply Chain Coordination in SMEs

Coordination among the upstream and downstream activities adds value to the product or service in SMEs (Sharma and Modgil 2013). SCM requires cooperation and coordination between companies' business operations in supply chains (Xu et al 2001) to achieve sustainability. It is completely coordinated when all systems, activities and decisions are integrated and aligned to achieve the overall organizational objectives and SC objectives in particular (Sahin and Robinson 2002). This type of coordination requires alignment of internal processes (Kongkiti Phusavat 2010), usage of information technology (Taylor 2006) and it can be achieved when all the stages of the chain take actions that together increase total supply chain profits (Chopra et al 2012). But, due to the conflicting objectives of members (for example, the supplier, manufacturer, wholesaler and retailer) of SC and delay in sharing of information due to the absence of implementation of digital technologies, it is difficult to achieve coordination in SMEs (Chopra et al 2012). Terms like integration, collaboration, cooperation and coordination are complementary to each other in a supply chain as they consist of similar elements (Arshinder and Deshmukh 2008).

Collective decision-making related product flow, material flow, information flow, human flow and cash flow in SC among all the members of the chain in SMEs can improve coordination to innovate supply chains. It can happen only when these flows are synchronized (Chandrasekharan 2012) and technology plays a vital role in this aspect (Taylor, 2006). This enables the achievement of sustainability through factors like top management commitment, organizational factors, mutual understanding, sharing of information (Arshinder and Deshmukh 2008). Upstream and downstream management (Xu et al 2001; Sharma and Modgil 2013), alignment of organizational objectives with SC decisions through partners (Sahin and Robinson 2002) will improve coordination and SC performance in SMEs which leads to sustainability (Thakkar et al 2013).

SMEs should establish efficient systems of communication (Hoang et al 2020) to achieve coordination (e.g. simplifying decisions of buying, making the reception of goods easier, and minimizing operational costs for both the firm and suppliers) using digital technologies (Rajesh 2018). At the operational level, information interchange systems will be more efficient and improves communication when the transmission of information is relevant and timely (Taylor and Fearn 2006).

It also allows the suppliers to identify the buyer's needs, permits the buyer to identify the supplier's capabilities, and enables both agents to match their business philosophies and increases partner collaboration (Bordonaba-Juste 2009; Hoang et al 2020). For the understanding of how SC coordination can lead to innovation and sustainability, areas such as internal operations, supplier relationships, customer relationship, and collective efficacy were studied (Phusavat 2010).

Training of employees in SMEs is a very crucial factor in achieving sustainability through SC coordination leading to innovation (Gowen and Tallon 2002) and lack of this leads to increased costs in manufacturing, inventory, transportation, and product availability and decreases overall profitability, posing a threat to the sustainability of SMEs (Chopra et al 2012). Therefore, SMEs need to develop their SC coordination with partners to move towards innovating their supply chains and focus towards sustainability. This type of coordination builds strategic partnerships and trust within a supply chain of SMEs.

Supply Chain Integration

The second important dimension of SC innovation is SC integration. Integration of supply chain activities result in better coordination. Lee (2000) offers concept of supply chain integration, comprising various levels such as information sharing, coordination and organizational linkages.

Pagell (2004) proposes that SC integration is a process of interaction and collaboration in which manufacturing, purchasing, and logistics work together in a cooperative manner to arrive at mutually acceptable outcomes for their organizations and this kind of integration improves the performance of enterprises. An integrated supply chain is an association of customers and suppliers who work together to optimize their collective performance in the creation, distribution, and support of an end product (Kot et al 2007). Primary types of supply chain integration are found to be internal integration, backward integration with suppliers, early supplier involvement, forward integration with customers and total integration (Fawcett and Magnan 2002) and these strategies are divided into five types such as inward, periphery, supplier, customer and outward Frohlich and Westbrook (2001) to develop the popular 'arcs of integration' model.

IT and use of Internet-based Computing and Communications (ICT) is essential ingredient and backbone for the success of SC integration (Barut et al 2002) in achieving greater coordination and collaboration among supply chain partners and to automate the supply chain process. This kind of integration leads to the achievement of Just-in-Time (JIT) in SC (Chopra et al. 2012). All supply chains are integrated to some extent by focusing and coordinating the relevant resources of each participant to optimize the overall performance of the chain (Li et al 2017)

Implementation of SC integration strategies in SMEs can lower the costs of labor, increase flexibility, achieve faster response times and cut down on the occurrence of errors on paper-based operation, reduce unauthorized buying outside preferred supplier agreements, and reduce stocking, hence achieving competitive advantage (Essig and Arnold 2001; Kot et al 2007). Therefore, it is summarized that integration is a continuous process in SMEs and it can be optimized by working together to achieve sustainability in post Covid-19 situation.

Therefore, supply chain integration is a continuous process that can be optimized when supply chain members work together to improve their relationships and when all participants are aware of key activities at all levels in the chain.

Supply Chain Resilience

Globally, many SMEs have witnessed severe to extremely severe impact on their SC due to earthquakes, hurricane cyclones, sandstorms, tsunamis, floods, and terrorist attacks. Diseases like SARS in 2003, bird flu in 2005, swine flu in 2009 and the present Covid-19 global pandemic have severely disturbed in supply chain networks (Henry and Ronald 2018; Ivanov 2020). Prolonged lockdowns and closure of global logistics network due to Covid-19 have resulted in severe losses to SMEs. Sometimes, these disruptions have the ability to push the SMEs to severe losses and eventually closing down of their businesses (Skipper and Hanna 2009). Some other reasons like economic recessions, technological innovations, changing infrastructure, and suppliers and buyers non-cooperation also severely impact the smooth flow and growth of supply chains in SMEs. Some of the other reasons like lack of supply chain integration, outsourcing, excess dependency on limited partners, global dispersion of supply chain members, and concentration of suppliers in one particular geographical region also cause disruptions (Blackhurst et al

2011; Blackhurst et al 2012). Unfortunately, many of these disruptions are found to be occurring within a very short span of time (Ponomarov and Holcomb 2009).

Many research studies have established a relationship between SC resilience and SC innovation and concluded that sustainability in SMEs can be achieved by developing abilities related to resilience. Moreover, it is found that SMEs which lack plans to develop SC resilience suffer huge losses in pandemic situations like Covid-19 (Maureen et al 2020). In the post Covid-19 era, only those SMEs can survive which have a strategic approach and risk management plan towards the achievement of abilities related to SC resilience to encounter the disruptions and risks (Mandal 2019; Nadeesha Abeysekara et al 2019; Ivanov 2020; Sima and Mahour 2020). Therefore, it is very important to identify risks and events resulting into these uncertainties and designing strategies to minimize them (Chen and Paulraj, 2004; Maureen et al 2020).

Supply chain resilience (SCR) can minimize uncertainties and risks to a reasonable extent. It refers to the firm's adaptive capability to prepare for unanticipated events as well as react and recover from disruptions to resume normal operations or even be in a stronger position after a disturbance has occurred (Juttner and Maklan 2011; Klibi and Martel 2012). It is also defined as the capability of a supply chain to manage the outcomes of SC disruptions and quickly regain the original or an improved state of SC (Martin and Peck 2004; Ponomarov and Holcomb 2009).

Organizations have to gear up to build up their SC redesigning abilities (Angeles, 2017) to increase their SCR through agile supply chains, information technology, supply chain collaboration and integration (Ramakrishna, 2016), and postponement (Lee 2000; Frohlich and Westbrook 2001; Pagell 2004; Ferreira et al 2015; Ramakrishna, 2018). Also, it is found that innovative SME organizations have improved their ability to manage SC uncertainty and enhance their SCR (Henry and Ronald, 2018; Sima and Mahour 2020). It also improves the position of firms in managing disruptions easily and minimizing the severity of impact (Martin and Peck 2004; Agigi et al 2016; Mandal 2012; Mandal 2014; Mandal 2019; Ivanov 2020).

Approaches like dual sourcing, geographical distribution of sourcing, asset sharing, outsourcing, postponement, risk management plan enable achievement of SCR (Martin and Holweg 2011; Mandal 2019; Nadeesha Abeysekara et al 2019) and managing reverse logistics (Benabdellah et al 2016). Objectives of SC resilience are regenerate, share, optimize, loop, virtualize, and exchange (Lewandowski 2016; Ceptureanu 2018). Social and environmental focus (Antikainen and Katri 2016) of SMEs can lead them towards sustainability.

Supply Chain in Digital Era

Digital technologies have become the backbone of SMEs in moving towards the achievement of SCI to provide a way forward for growth and sustainability (Blili and Raymonds 1993; Winarsih 2020), but they face issues and challenges in implementing these digital technologies (Litke et al 2019).

The digital era consists of Internet of Things (IoT), Big Data and Analytics (BDA), interconnectivity of digital devices and it requires advanced technologies to capture, collect, store, analyze and interpret huge information (Savitz 2013). The IoT is a network of hardware, software, devices, databases, objects, sensors, and systems, all working at the service of humanity. With IoT smart devices, supply chain firms would be able to reduce the information acquisition costs (Fu and Zhu 2010). The current evolution of big data in the digital era and an appropriate analysis of this data would provide a huge benefit in terms of positive outcomes for companies which utilize and implement them during the next decade. The data

driven revolution is going to sweep the way the future business is done and the way supply chain is managed (McKinsey 2016). Big data analytics (BDA) refers to technology enabled capability to process large volume, high velocity, variability and varieties of data to extract meaningful and valuable insights that can help firms gain competitive advantage (Fosso et al 2017). Thus, incorporating BDA into business process can help firms to use data to gain business insights known as supply chain analytics in SCM and it reduces SC costs (Chui et al 2010; Akter et al 2016; Jeble et al 2018). In the digital era supply chain is known as 'Smart Supply Chain' (Chui et al 2010) and use of quantitative and statistical tools to improve SC performance is known as SC Analytics (Gunasekaran et al 2017). Supply chain analytics can be viewed as a mixture of IT-enabled resources, data management and supply chain planning and it provides access to timely and useful data for greater innovation (Mohamed Dawood 2019).

SCM in digital era is influenced through the analysis of wide range of data available in supply chain through various sources such as i) Product Design, ii) Supply Chain Design, iii) Sourcing, iv) Production, v) Warehousing, vi) Transportation, vii) Point-of-Sale to viii) Consumer (McKinsey, 2016). Other applications of big data analytics in SC are found in the areas of supply, production, distribution and reverse logistics (Benabdellah et al 2016). Thus, there is a great opportunity in this digital era for SC in SMEs to take advantage of this data for better outcomes. Quality data and ability to process the data can minimize disruption and also reduce uncertainty (Papadopoulos et al 2017).

Though some leading companies have already commenced to modify their customer value propositions, and attempting to transfer their operations using digital technologies (Berman, 2012), implementation in SMEs is still at nascent stage (McKinsey 2016; Arunachalam and Kawalek 2017). Impact of supply chain analytics on SCM has to be studied in a deeper manner (Lai et al 2018) and the existing literature related to this area is limited.

SMEs have to achieve new competitive capabilities like visibility, real-time response and digitization in the digital era in supply chain management. Distributed computing and cloud-based computing, which are the technological tools, will enable the achievement of transparency in supply chain which in turn would improve the visibility of it (Brandon-Jones et al 2014; Rob Handfield 2016). Today's supply chains are becoming more complex, costly, risky and unpredictable for SMEs. Usage of ICT, digital technology, and big data analysis develops traditional supply chains into smarter supply chains and enable effective management of these challenges (Butner 2010). Digital technologies are found to help SMEs towards business continuity by providing them innovation. Recent studies related to SC resilience found significant influence of digital technologies on managing disruptions and recovering quickly (Papadopoulos et al 2017; Dubey et al 2019; Papadopoulos et al 2020). Block chain technologies improve SC visibility, provide access, enable flexibility in sourcing, manufacturing and order fulfillment. By sharing trusted transaction and tracking data, block chains have the potential to replace disparate invoicing, shipping, and manufacturing systems in SMEs (Ali et al 2016).

Hong (2006) developed four growth paths for SMEs. They are efficiency to collaboration path, efficiency to coordination path, coordination to innovation path, collaboration to innovation path. Therefore, it appears that coordination, integration and resilience leads to supply chain innovation which leads to the sustainability in SMEs. Therefore, digital technologies which have capability to provide solutions to the future situations to a reasonably good extent are bound to play a major role in minimizing the impact due to disruptions in supply chain (Timothy et al 2019; Papadopoulos et al 2020). The systematic literature review done till now answers the proposed research questions RQ1 and RQ2.

SOLUTIONS AND RECOMMENDATIONS

A conceptual framework for achieving sustainability by SMEs in the post Covid-19 era is developed by integrating SC practices and digital technologies as enablers. Prior to the development of this framework, an overview of solutions, both SC and non-SC, provided by various authors for achieving sustainability of SMEs is provided here.

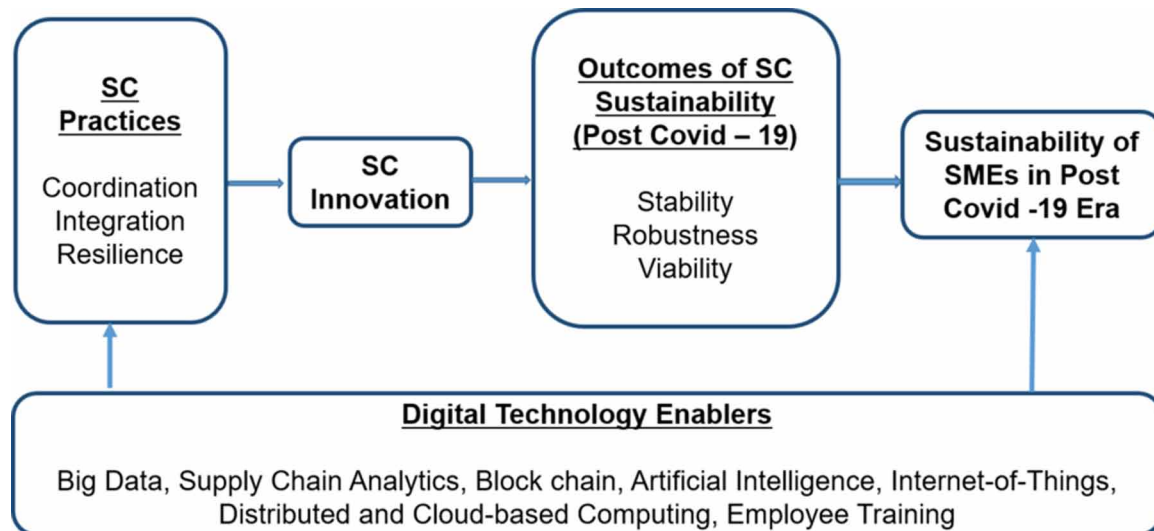
Sharma (2020) identified that business continuity, communicating with employees, and filling up shortages as some of the solutions to achieve SCI in SMEs. They should look for alternative sources of supply, redesign their organizational structures to be more flexible (Chatzoglou et al 2018) and develop structural flexibility in supply chain network to enable SC innovation (Kilpatrick 2020). Government plays a crucial role in supporting SMEs' IT adoption (Grozniak et al 2008) and it is only feasible if it is introduced hand in hand with the government and private companies. SMEs should be transparent and continue to be ethical in pandemic situations to maintain brand image of SMEs (Sharma 2020). They should develop a proactive and systematic risk management plan, train their employees, keep their motivation high and support initiatives to enrich employees' health to achieve sustainability (Hakovirta and Denuwara 2020).

Use of digital technologies (Papadopoulos et al 2020) and a change of mindset of SMEs towards digital technologies (Winarsih et al 2020) will lead to sustainability. The strategies for sustainability suggested by Winarsih et al (2020) are usage of social media, usage of online platforms for maintaining cash flow, re-budgeting and adjusting budgets to current situation, automatic reconciliation of accounts, and inventory management through digital technologies. Ahmad et al (2020) finds that the impact of Covid-19 on SMEs can be classified into the operational problems (i.e. operation disruption; supply chain disruption; fore sighting the future business direction) and the financial problems (i.e. cash flow imbalance; access to stimulus packages; risk of bankruptcy). Ahmad et al (2020) found that two major strategies will take SMEs towards sustainability. They are, financial and marketing strategy (usage of social media marketing, digital marketing etc.). Supportive policies by governments (Yi et al 2020) like relieving cash flow pressures on SMEs (increase revenue, reduce expenses, and obtain external finances), resuming work by following Covid-19 protocols, and by stimulating consumption and promoting market demand will improve the business of SMEs. Similarly, Hoang et al (2020) suggested strategies like reduction of bank interest rates, postponement of repayment, providing financial packages, providing tax exemptions and strengthening supply and demand linkage, training owners and employees of SMEs through trade associations. A viable supply chain model by integrating agility, resilience and sustainability has been developed to encounter the Covid-19 pandemic situation successfully by recommending structural designs in supply chain (Ivanov 2020). The study also found a significant relationship between resilience and viability leading to sustainability. Though the scope of this study is not specific to SMEs, the present study considers this model as a viable supply chain model for SMEs to achieve sustainability during post Covid-19 pandemic situation.

Based on the detailed literature review and author's opinion, a framework for sustainability in SMEs through SC innovation and sustainability is developed as shown in Figure 1.

Sustaining SMEs Through Supply Chain Innovation in the COVID-19 Era

Figure 1. Framework of Supply Chain Sustainability in SMEs



The above framework in Figure 1 is developed by integrating SC practices, SC innovation to achieve sustainability by SMEs through digital technology enablers. Through this framework, research question RQ3 is answered. Three SC practices, namely, coordination, integration and resilience are considered to be the major practices for achieving SC innovation leading to SC sustainability based on the detailed and systematic literature review provided in the previous sections. The details of these three practices and the related studies conducted pre and during Covid-19 pandemic situation are provided in Table 1. Achievement of *stability*, *robustness* and *viability* are considered as outcomes of SC sustainability for the present study based on the works of Ivanov (2020). This sustainability of supply chain leads to the sustainability of SMEs in post Covid-19 era. Digital technology enablers mentioned in the framework are arrived through the systematic literature presented in the sections of SC resilience and SC in digital era. These digital technologies enable the achievement of SC practices such as coordination, integration and resilience which in turn are the pillars for the achievement of SC innovation (Chan et al 2008; Teichert and Bouncken 2008; Sharma 2020; Shibin et al 2020; Arunachalam 2017; Kot et al 2020). The inter-linking of SC practices to achieve SC innovation leading to SC sustainability which is considered to provide sustainability for SMEs in the post Covid-19 situation will enable SMEs to be robust, resilient and sustainable.

Table 1. Details of SC practices – Coordination, Integration and Resilience

Supply Chain Practice	Practices	Authors
Supply Chain Coordination	Upstream and Downstream Management	Xu et al (2001); Vachon and Klassen (2008)
	Alignment of organizational objectives with SC decisions through partners	Sahin and Robinson (2002); Thakkar et al (2008)
	Information Sharing	Arshinder and Deshmukh (2008)
	Effective communication Systems	Taylor and Fearn, (2006); Rajesh et al (2019), Hoang et al (2020)
	Alignment of Internal Processes	Kongkiti Phusavat (2010)
	Usage of Information Technology	Taylor (2006), Ramakrishna (2016), Mandal, (2019)
Supply Chain Integration	Early Supplier Involvement	Fawcett and Magnan (2002); Ferreira et al (2015)
	Collaboration	Pagell (2004); Jesca (2019)
	Usage of ICT	Barut et al (2002); Dubey et al (2019); Papadopoulos et al (2020)
	Backward and Forward Integration	Fawcett and Magnan (2002); Li et al (2017)
	Outsourcing and Strategic Supplier Partnerships	Ponomarev and Holcomb (2009); Li et al (2017)
	Process Integration and Just-in-Time	Chopra et al (2012); Thillairaja and Arokiasamy, (2019)
Supply Chain Resilience	Diversified geographical base of suppliers	Sharma (2020); Ivanov (2020)
	Flexible Organizational Structure	Chatzoglou et al (2018); Kilpatrick (2020)
	Support from Government	Groznik et al (2008); Yi et al (2020)
	SC Risk Management Plan	Mandal (2019); Nadeesha Abeysekara et al (2019); Ivanov (2020); Sima and Mahour (2020); Maureen et al (2020)
	Agility, Optimization and reduced usage of resources	Martin and Peck (2004); Angeles (2017); Nadeesha Abeysekara (2019); Hakovirta and Denuwara (2020); Ivanov (2020)
	Implementation of digital technologies	Butner (2010); Brandon-Jones et al (2014); Ali et al (2016); Rob Handfield (2016); Fosso et al (2017); Jeble et al (2018); Papadopoulos et al (2017); Dubey et al (2019); Papadopoulos et al (2020);
	Use of SC Analytics	Gunasekaran et al (2017); Mohamed Dawood, (2019)
	Managing reverse logistics	Benabdellah et al (2016)
	Product Redesigning and Recycling	Angeles (2017); Nadeesha Abeysekara (2019)
	Social and Environmental Focus	Antikainen and Katri (2016); Mandal (2019)
	Training of Employees	Gowen and Tallon (2002); Ahmad et al (2020); Hoang et al. (2020); Sharma (2020); Shubin et al. (2020)

FUTURE RESEARCH DIRECTIONS

Covid-19 pandemic situation has negatively impacted almost all the government and business sectors in the world. SMEs across the world have taken a big blow due to this pandemic. Therefore, at time when

Sustaining SMEs Through Supply Chain Innovation in the COVID-19 Era

SMEs are looking for some reasonable solutions, this framework would provide them with a support to achieve sustainability. But, at the same time, the present study has its own limitations. The framework is purely based on a systematic literature review. Therefore, an empirical study of it by considering a large sample of SMEs will be a topic for future research. Also, this framework is a general framework and it is not focused on any particular business sector in SMEs. Hence, study of its application for outcomes across a cross section of SMEs belonging to diverse business sectors located in diverse geographical locations will also be a contemporary area for future research studies.

CONCLUSION

The outcomes of this research provided with many interesting aspects. Covid-19 pandemic has negatively impacted many businesses and its impact in SMEs sector is severe. SMEs have been facing many internal and external challenges prior to this pandemic. Covid-19 pandemic has added more challenges to SMEs in addition to the existing ones. Governments in respective countries have supported SMEs during this pandemic situation by announcing various financial incentives, tax holidays and relief packages. But, these initiatives have helped SMEs only to some extent and there is a long way to go for them to survive and sustain after Covid – 19 pandemic, which appears to be a very longer one. Therefore, SMEs need to identify the root cause of their problems and issues to survive in long run. It is concluded that supply chain practices leading to the achievement of supply chain innovation have the ability to achieve long-term sustainability for SMEs with the help of affordable digital technology enablers. Implementation of three SC practices, coordination, integration and resilience are found to be providing a path to innovative supply chain in SMEs. It is also concluded that SC innovation achieved through these practices enables the SC sustainability measures like stability, robustness and viability. Achievement of SC sustainability leads to the overall achievement of sustainability in SMEs through the implementation of digital technology enablers like big data, block chain, supply chain analytics, IOT, artificial intelligence through a proper training to SME owners and employees.

The implications of this framework are from two perspectives. The first one is from a research perspective. It provides the researchers with new ideas, thoughts and opportunities to extend the topic. The second one is from an industry practitioner's perspective. It provides an awareness to owners and employees of SMEs on how supply chain practices can lead to sustainability in a long run. Its implementation makes SMEs robust, resilient and sustainable. It also removes negative mindset of many SME owners on the role of digital technologies in the sustainability of their businesses.

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KEY TERMS AND DEFINITIONS

COVID-19: Coronavirus Disease (COVID) 2019 is an infectious disease caused by newly discovered coronavirus. It causes illness in humans and it spreads through the droplets of an infected person. World Health Organization (WHO) has declared it as a pandemic.

SC: Supply chain is a network of suppliers, manufacturers, wholesalers, dealers, distributors and retailers to make the product available to the customer and provide effective and efficient service to the customer.

SCI (Supply Chain Innovation): The efforts and initiatives of a firm to implement the supply chain practices by adopting new and updated processes leads to supply chain innovation.

SCM (Supply Chain Management): The activities related to the management of two-way flow of goods, information, and cash in the supply chain network to achieve maximum possible efficiency in all the processes.

SCR (Supply chain Resilience): A proactive strategy of a firm to quickly recover by reacting to the impact due to many uncertain events and disruptions in supply chain to regain to the original status.

SME (Small and Medium Enterprise): SME is an acronym for Small and Medium Enterprise. Different countries have different classifications and policies for an enterprise to be called as an SME.

Sustainability: Sustainability of a business is implementation of an integrated strategy to achieve long-term growth and survival of business by taking into consideration the influence of economic, social and environmental changes.

Chapter 27

Youth Entrepreneurship and SME Challenges: Namibia in the COVID-19 Scenario

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ABSTRACT

COVID-19 (coronavirus) has significantly affected small-medium enterprises (SMEs) and entrepreneurs in the Republic of Namibia in terms of the massive shift in which all businesses were required to go online or find alternative means to operate or function. Despite the theatrical change, there is a lack of understanding amongst SME owners and entrepreneurs as to what it means to conduct business in the new normal, and thus proper communication channels, with bold leadership need to be followed especially in developing nations such as Namibia, where language barrier and the diversity of people can create challenges. This chapter first reviewed literature that discusses how SME owners/entrepreneurs are dealing with the challenges, followed by an entrepreneurial response Namibians has to implement, brought about by the COVID-19 pandemic. Twenty Namibian SME owners were interviewed to understand how they deal with the COVID-19 pandemic.

INTRODUCTION

Towards the end of 2019, China was the epicenter of the coronavirus (COVID-19). However, the world was caught by surprise in early 2020 when the novel coronavirus spread across the global sphere (Cortez and Johnston, 2020). Covid-19 brought with its numerous challenges especially the SMEs which are critical engines of growth, employment and innovation for most developing economies (Latha and Murthy, 2019). Unlike previous viruses which were easier to contain as they were geographically specific, such as the SARS in Northern Asia and MERS in the middle East, this new form of coronavirus easily splurges to the other parts of the globe (World Health Organisation, 2020). This has indeed changed the way business is conducted across nations in the world as most of the national, regional and international borders has been closed (shutdown) (Alon et al., 2020).

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In Namibia, the way people view business or entrepreneurship has also changed tremendously. There are a number of natural disasters such as bushfires, floods, tsunamis, earthquakes and extensive drought that business owners are mostly familiar with, but a health crisis such as Covid-19 has affected society worldwide beyond what they could possibly imagine. Zooming back exactly ten decades ago from 1918-1920 the Spanish flu pandemic has hit the world very hard (Kraus et al., 2020). This has actually resulted in a number of nations adopting new health regulations and the conditions of work, however developing nations such as Namibia, who were almost non-existent in those years are indeed ill prepared for such changes.

Other worldwide crisis's such as September 11 in 200, as a result of terrorist attack in the United States of America (USA), had a major economic impact, but the impact of COVID-19 both in terms of health and working conditions/ entrepreneurship is insurmountable. Prior to COVID-19 working from home could easily be viewed as a luxury and if one would have advocated for it in developing nations such as Namibia, it was almost impossible or frowned upon. However, today and in the future conducting business following social distancing guidelines appears to be the new normal. People are forced to work from home, as the cost of living has increased and to sustain a family is a great effort (Otache, 2020). Working from home has even become more important, if you do not have medical aid and is also scared to catch the virus. Although the disease broke out in China, Namibia has recorded 12, 460 cases of which 10 609 has recovered. The first Namibian case was recorded on March 13, 2020: with Romanian couple who travelled to Namibia at that time. The total number of deaths till date are 133.

Given Namibia's small population there is no denying that the pandemic has brought hardships for the Namibian people as they have lost their jobs. Various sectors of the economy have been impacted. These are education, banking, sports, agriculture, aviation, transportation and hospitality to name a few. In addition, this pandemic has forced people from travelling abroad to conduct business or study and also cancellations on hotel and travel (Otache, 2020). The primary objective of this chapter is to discuss the impact of Covid 19 on young entrepreneurs in Namibia. In addition, the chapter intends to explore remedial actions, as to how Namibia can deal with COVID-19.

The symptoms of COVID- 19 are fever, cough, shortness of breath, sore throat, running nose amongst many others (Harapan et al., 2020). It is a highly communicable disease (Adnan et al., 2020) and the mode of transmission is from person to person. This unprecedented virus is mostly transferred through respiratory droplets released when an infected person coughs or sneezes (Harapan et al., 2020). There is no definite cure for the virus at this point in time, but hygiene habits such as the washing of hands, wearing of face masks and covering of the mouth with a handkerchief when coughing or sneezing is strongly recommended to contain the spread of the virus (Ohia et al., 2020). This chapter will first give a brief overview of the Republic of Namibia, followed by the challenges Namibian SME owner/entrepreneurs face as a result of this pandemic. Thereafter, an entrepreneurial response to the COVID-19 crises will be highlighted. This will be followed by a discussion on the research methodology and discussion of the findings. Managerial implications for practice will also be outlined, followed by suggestions for future research and conclusion. The next section of this chapter will give a brief overview of the Republic of Namibia.

Background on the Republic of Namibia

It is critical to place this chapter in the context of Namibia, as the challenges which is experienced by this nation which gained independence three decades ago due to Covid-19 is very unique. The Republic

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of Namibia is situated in the south western corner of Africa and borders with South Africa, Botswana, Angola and Zambia. Although the nation is nowadays referred to as a middle-income country the challenges of poverty, insecurity, mortality, corruption, misappropriation of donor funding and debility as have been experienced in the past still persist and Covid-19 even made it worse. The debt of most nations in Sub-Saharan Africa was approximately twenty-five (25) million in the early 2000s and two decades later that figure is much higher as the challenges the economy is facing is staggering.

Namibia is a former German colony and was also known as Sud West Afrika, annexed by Germany until 1915. When the German troops gave up arms during World War 1, South Africa obtained an allied mandate of Namibia. Under the stewardship and auspices of the League of Nations a responsibility was given to the Union of South Africa at that time to administer the land which was known as Sud West Afrika (Dana, 1993:90). The Republic of Namibia as it is known today gained its independence from South Africa on 21st March 1990, following the War of Independence (P. Erwee, personal communication, 18 October, 2020).

The Republic of Namibia is 824, 268 sq.km, and it is the fourth (4th) largest country in the world with a population of 2.5 million to date. Much of the land has been exposed bedrock and the sands of the two deserts namely the Kalahari and the Namib. This explains the small population and low density of the population. The growth rate of the population is 2,6% per annum. After Mongolia, Namibia is one of the least populated nations in the world with approximately 2 inhabitants per square kilometer. The average life expectancy of the population is about 64.4 years and HIV/AIDS is one of the factors which result in such low life expectancy (April, 2009). This improved life expectancy can be attributed to an improvement in the health sector and improvement in health and medical supplies for the people.

Namibia is currently classified as a middle-income country with a Gross Domestic Product of (GDP) growth of 4.1 and GDP per capita of N\$ 8.300. The main economic activities of the country are mining, manufacturing and agriculture. The citizens living in rural areas have very low income, and even those living in urban areas relatively few can afford a high lifestyle (NANGOF Trust, 2007). Subsistence farming is a major economic activity for those citizens who are based in rural areas (NDP 3: 2008: 195). Given this short background of Namibia the next section of this chapter will look into the main issues of this chapter such as the challenges experienced by citizens as a result of COVID-19.

Challenges of COVID-19 in the Republic of Namibia

Namibian SMEs and young Entrepreneurs are confronted with the major challenge of selling items on a digital platform, which seems to be an essential requirement brought about by COVID-19. According to He and Harris (2020) there is tremendous pressure that the COVID-19 crises has created and there is a need in all economies to find creative and innovative ways to deal with this challenge. People in rural Namibia find this even more daunting, as they are unable to go online, due to a lack of electricity, no access to computers and lack of computer literacy, which makes access to online application daunting. This challenge could be dealt with in a much more responsive and practical way if the university education focus on experiential learning activities. Real life application lessons of how to be a good business owner could have made the burden much easier and create opportunities for the owners of SMEs/entrepreneurs to think in new ways (paradigm shift) (D. Nivkelson, personal communication, 15 September 2020).

Personal lives of numerous Namibians are strained and both employers and employees lack emotional and social intelligence, as there is no good care and social support for those mostly in need, as a result of poor or lack of leadership. Investors keep on telling those who wish to make investments to return

next month. Namibian leaders are unable to comprehend and understand that leadership is not about an outcome, but it is a process and accepting the new reality of life. If you do not have a purpose, you will fail to be an effective leader. It is pertinent that life changing decisions have to be made regarding the citizens of the country, and this remains a major challenge (P. Erwee, personal communication, 15 October, 2020).

A paradigm shift will indeed open up a plethora of better opportunities in terms of market entry and additional revenue. If owners of SME's and entrepreneurs realized what is required to compete during and after the crises it could be a bold step in the right direction. To survive during Covid-19 owners of businesses need to be innovated and this is one of the many challenges they struggle with. In addition, people are struggling to deal with uncertainty and if you are not innovative during this turbulent you will certainly loose out. Innovation is one of the best ways organisations or businesses will be able to reflect on where it is currently positioning itself in the market and what possibilities exist to build a business model which is new yet unique.

Furthermore, what improvements are also required to the current business model will also be a question to answer, as alterations can bring better long-term results. Namibian business owners are struggling with thinking in novel ways and also how best to cope with the crises (P. Erwee, personal communication, 17 September, 2020). Another challenge for businesses who are unable to cope with this crisis is that they do not have a proper exit strategy as to how they will cope with the crises, especially if some of the workers have to be laid off as they are unable to pay salaries or wages. SME owners and young entrepreneurs are also struggling with imports and exports as there has been a ban on international travel, sometimes some of the markets they are sourcing to and from has been closed and there is uncertainty as to when they will open again. Even if they do open, will the business ever be the same as these times had made it so difficult for them to survive. This will require local business owners to establish local networks and try to source products locally and connect more with local people.

Furthermore, the mental health and the stress of the business owners is very high as a result of COVID-19 as people have become very uncertain as to what the future holds, due to isolation. Entrepreneurs are experiencing a lot of fear due to COVID-19 and also a sense of hopelessness. This crisis also made is very difficult for business owners to keep up with the legislation as governments release legislations on a daily basis which is making for owners to run businesses successfully. This will require SME's/ entrepreneurs' to keep up with the news on a daily basis a national, regional and community level. In some instances, in developing economies such as Namibia, the reception signal of radio is even very difficult. Without an income most entrepreneurs are forced to shut down and resort to alcohol abuse especially in poor communities, which in turn leads, to an increase in Gender based violence cases in Southern Africa and Namibia in this instance (H. Hugo, personal communication, 20 August 2020).

Another issue which has become very common is dealing with information overload and how best to deal with fake news. In most instances people do not verify information and go on hearsay. COVID-19 has also brought about the challenge of selecting the right focus. How can business owner better prioritise time and resources that they have at their disposal? For instance, the very first priority should be the well-being of the employees or your staff and also how best you can communicate with your clients better. People have to be laid off or the contracts have to be terminated and this is a huge burden for SME/entrepreneurs as the livelihoods of communities are destroyed. People often associate the quality of life with the connections they have in society or the community and business owners sometimes get a sense of belonging from doing something they are passionate about. The fact that there is no treatment for COVID-19, has also led to a very unprecedented challenge for entrepreneurs. Business owners will

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be required to continually push the envelope and find new ways and means to be entrepreneurial. Most entrepreneurs do not have the resources nor the capacity to conduct business online to cope with the new normal, and those that are able to struggle with maintenance. The digital way of conducting business has additional tools such as the use of emojis and geographic flexibility which was possible with face to face business transactions. These are technologies most entrepreneurs or small business are not very familiar with. The financial stability of organisations are also threatened as a result of this crises.

The Namibian tourism industry has been at its hardest hit the closure of hotels, restaurants and bars has been affected, because due to the rules pertaining to social distancing. Given the limited resources local entrepreneurs have the use of online business is almost non-existent. COVID-19 has not only impacted entrepreneurs, but also had a detrimental effect on their families especially those in school or institutions of higher learning as some people are unable to see them through due to a lack of income. Having discussed the challenges brought about by COVID-19 for entrepreneurs the next section will look at how SME owners and young entrepreneurs can respond to the crises to keep above float (Feris, personal communication, 15 September 2020).

Entrepreneurial Response by SME Owners and Entrepreneurs to COVID-19

According to Bogle and Sullivan (2009) COVID-19 has brought about a disruption to the businesses and entrepreneurial activities around the globe. Most business people around the globe certainly did not foresee this coming, but it had such catastrophic results. The pace at which the crises happened did not give enough time for business owners to make decisions and also an opportunity for people to plan. There was no opportunity to plan as no one was certain as to when and how all this is going to happen or occur. Crises of this nature really force companies to learn and adapt new ways of doing business (Doern et al., 2019). The response to a crisis of this magnitude depends on how well it is handled and are businesses able to see the opportunity in this crisis and see it as a favorable way to do things better (Williams et al., 2017).

COVID-19 is also a platform whereby businesses have the possibility to change the way they learn very quickly, even if one does not foresee the benefits change can bring now or in the future. There is a great danger of responding to the crises without thinking it through, thus many people are hesitant and it is also linked to a lot of emotions which might be very difficult to deal with instantly (Buchanan and Denyer, 2013).

Another great way to which entrepreneurs can respond to this crisis is through the sharing resources in the economy, which is also refer to as the “*sharing economy*”. The sharing economy represents a multi-market ecosystem that provides opportunities for individuals and organisations to derive income from assets which are underused. These assets can then be reintroduced into the entrepreneurial space and sharing it with strangers. The geographical scope of sharing initiatives can be vast and will require different business models. For example: If we look at Airbnb business models, they are prime examples of the composite entrepreneurial system. With Airbnb clients and host are connecting facilitating the transaction and also making payment security. In addition, it will be important to look at more initiatives in a local and regional context which does not necessarily involve a profit-making initiative. In Gent: Belgium Le Bal Infernal is a book café which has been used in given clients the possibility either to display one book in exchange for another or purchase one (Parenti, 2018).

The sharing economy brings with itself numerous opportunities in ensuring that there is an expansion of entrepreneurial activities. For instance; the host of Airbnb decided to invest and make an expansion

sion to their accommodation offer by acquiring new property. If the sharing economy is an option for entrepreneurs, it can indeed fulfill several socio-economic roles: These include: reduction in poverty by providing opportunities to people who are not employed or poor people to obtain revenue through the exploitation of assets which are not used. Furthermore, there is a flexible balance in terms of offer demand levels in various markets, by offering extra capacity in seasons, which are either seasonal or peak, while reducing the initiatives of sharing in periods where there is a low demand (Parenti, 2018).

In addition, countries can provide opportunities for social encounters and interactions with people who are not necessarily from the same background and cultures, in ensuring that a very positive social cultural experience is created for those who are forming part and parcel of the sharing economy. Issues pertaining to pollution and overconsumption can also be minimized through the use of the sharing economy and this can lead to very positive environmental effects. There is however a flipside to the coin in the sharing economy as it can result in an undesirable phenomenon of mass tourism if the rates of tourism facilities are reduced (in terms of lowering the prices).

According to Wenzel et al., (2020) there are at least four ways to deal with the crises, these are, but not limited to retrenchment, persevering, innovating and exit:

- *Retrenchment*: This implies to the strategic change in the manner within which resources are used in the market. This has a lot to do with changing business practices, while cutting down on cost. It can be said that retrenchment can provide immediate financial relief, but can result in hardship in the long run. Therefore, instead of making wishy washy decisions there must be a well-thought-out long-term strategy.
- *Persevering*: The organisation continues to do the same things, with the hope that change will eventually come. This will indeed require financial support until the normalisation of the organisation cash flow either returns to normal or changes can be altered. With this the culture within which the organisation operates remains stagnant with the anticipation that things will get better. This also implies maintaining the status quo and not taking any drastic change. The perseverance strategy will also make it easier for the organisation to not change and continue its operation (Ratten et al., 2017).
- *Innovation* refers to any kind of change, that is as a result of the crises and can vary from product, process and technology depending on the advantages it can bring to the organisation. Compelling reasons such as competitiveness in time of crises are some of the reasons why innovation is important.
- *Exiting* the business is only an option, if continuing the business is not feasible.

Youth Challenges due to COVID 19

According to the World Health Organisation (2020) the advent of the COVID 19 pandemic has brought about dire social, economic, physical and mental health consequences worldwide. Initially it was the assumption that young people do not contract the virus however recent statistics have shown that this is not the case and the number of infections and fatalities due to COVID-19 has caused much concern around the globe and has led to the implementation of various mitigation measures.

COVID-19 has taken everyone by surprise and the world's economy has been disrupted unprecedentedly. In curbing the virus, the government of Namibia has introduced a number of measures for lockdown to minimize the spread of the virus. The majority of the Namibian youth did not see lockdown as a viable

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alternative as they remain unemployed, informal traders saw it as a backward move and post-graduate students at institutions of higher learning, and also the matriculants have viewed it as something which could hinder the expected date of graduation (J. Jones, personal communication, 15 October 2020).

Without a doubt Covid-19 have proven to be a severe effect on people above the age of 60 and people who have compromised immune systems or underlying health conditions struggling the most (World Health Organisation, 2020). Although young people appear not to face similar health risk and conditions as the elderly, their educational, spiritual, physical and economic development suffered as a result of the pandemic.

It is evident that people living in poverty had been severely affected by Covid-19 economic effects, as they do not have the required resources and enough savings to protect themselves against financial insecurity. A number of youth in Namibia had jobs with no security which make them prone to disruptions caused by Covid-19. These are young people between the ages of 15-24 which are more likely to be unemployed post Covid-19. According to UNHCR unemployed youth are more likely to be impacted by the coronavirus compared to those who are employed.

Furthermore, young people in Namibia resort to informal trading and small businesses due to a lack of employment opportunities (Duncan et al., 2019). It is evident that there has been a ban on youth owned business, not permanently, especially those that do not fall under essential services. This has affected income generation in the lives of the young people.

Many sectors in the Namibian economy has closed due to Covid-19. Those who have been at the hardest hit is the tourism sector, which largely employs young people and make a significant contribution to the developmental initiatives. Namibia attracted 1.6 million tourist in 2019 alone (<https://www.namibian.com.na/203443/archive-read/Tourism-excells-in-2019>) and a lot of people have benefited especially those in rural areas.

The closure of the tourism sector as a result of Covid 19, resulted in many young people losing their jobs which was also the only source of their income. In addition, schools had to be closed in Namibia and that closure has resulted in numerous negative outcomes. For instance, sexual activities and teenage pregnancies increased amongst the young people coupled with sexually transmitted diseases (STDs). Given, these challenges and many more it is almost impossible for hospitals and clinics to prioritize on the distribution of contraceptives or family planning medicines and young girls are at a much higher risk of falling pregnant (UNFPA, 2017). It has been proven that pregnant women and new babies are at a much higher risk of Covid-19 infection, increasing the need for social protection for these groups which are vulnerable.

In general, the positive development of young people is normally enhanced in the school environment and when schools remained closed the impact was severe (Taylor, Oberle, Durlak, and Weissberg, 2017). The youth who have suffered the most are those in rural areas and they are more affected than those who live in urban areas compared to online teaching and learning as rural communities do not have these opportunities. Research has shown that 89% of the learners in Sub-Saharan Africa does not have access to household computers, while 82% lack access to the internet. The gap of inequality is a real threat to effective teaching and learning at a time when most young people are unable to attend school. The lockdown measures introduced by the Namibian government has forced people to be locked up with their families, while for some it was a perfect opportunity to bond for others it was an opportunity to abuse their partners and families. It is evident that during the lockdown period alone cases of domestic violence and abuse has increased. This could be attributed to the frustrations felt by families as they feel very uncertain about their future, poverty, and hunger, as many of the breadwinners are unable to

work. Research has also shown that there is a correlation between gender-based violence and poverty (Karupiah and Gopal, 2017; Slabbert, 2017). Given these challenges it is pertinent that a promotion of positive and holistic youth development is important as young people are viewed as the drivers and the backbone of the Namibian economy.

METHODOLOGY

This study employed a qualitative research approach in order to understand the effects of the Covid 19 pandemic and how it can develop youth enterprise development in Namibia. It was important to apply the qualitative methodology as the meaning that people ascribe to social and human problems is clearly understood as part of the development solutions to these problems. Given that Covid 19 is a new phenomenon it was important to conduct qualitative research in order to explore the realities from the perspective of the participants. In addition, this approach allowed the participants to tell their own stories as usually influenced by their personal life experiences (Denzin, 1978).

Information was collected from the respondents was drawn from a semi-structured online interview from individuals within their natural context, which gave room for them to be interviewed in their natural context and also allowing interaction with the researcher. All interviews were conducted online as the COVID 19 social and physical distancing measures had to be followed as outlined by the Namibian government, to minimise the spread.

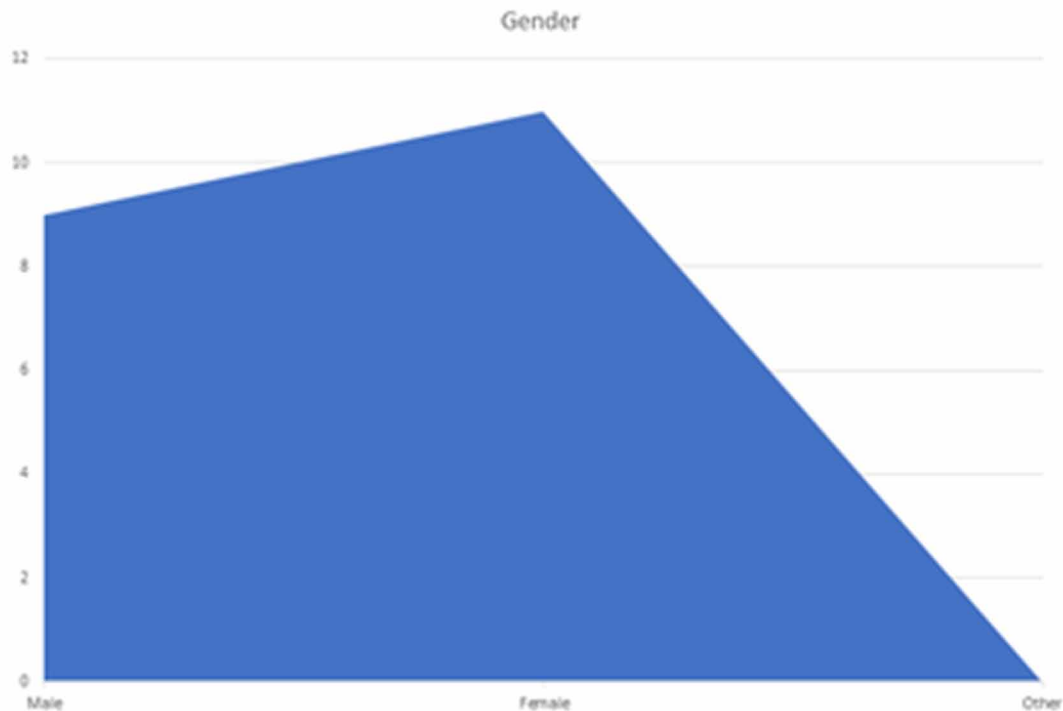
Through a systematic review this chapter is characterized by a very explicit, rigorous and transparent methodology (Greenhalgh et al., 2004). In ensuring that this objective is realised literature pertaining to COVID-19 and its implications for practice was reviewed. The study looked at entrepreneurial experiences of twenty (20) young entrepreneurs residing in Namibia. The response rate was hundred percent (100%). The interview guide has two parts namely the biographical information and open-ended questions. Open ended questions were deemed appropriate as it gives a chance to the respondents to express their feelings and give more valuable meaning to ideas for future (April, 2020).

Purposive sampling technique was used to select the participants based on their characteristics to be integrated into the research. The researcher clearly outlined the objectives of the chapter to the respondents and no one was forced to participate. For the purpose of this chapter it was not possible to explore other methods such as storytelling or in person interview as the COVID-19 are strict and does not give room for that opportunity. When analysing the data of the open-ended questions in the questionnaire answers with similar themes were categorized, which is also regarded as grouping the responses according to themes.

Sample, Data Analysis and Discussion of Results

This study elected to conduct a qualitative study through aid of a semi-structured interview with twenty (20) respondents using a purposively sampling technique from various SME sectors in Namibia in Windhoek. One of the common characteristics of the respondents of the firms are the fact that they are not exporting any of their products or services. Most of the entrepreneurs interviewed are young the managing directors or founders and also students.

Figure 1. Gender



As can be seen in Figure 1, the majority of the respondents for this study were women, who constituted over fifty (50) percent of the sample. It was evident that women were more eager to express the challenges they experience as a result of Covid-19.

As can be seen from Figure 2 above fifty (50%) percent of the respondents operate in the hospitality industry. With Covid-19 it seems that it is much easier for Namibians to venture into this sector, as they deemed it to be easier. Although the sector appears to be profitable at this point in time, it brings with it numerous challenges especially if people have to adhere to the Covid-19 protocol. The rest of the respondents were from the construction, manufacturing, health and other sectors.

In terms of how they view the Namibian governments response to Covid-19 with regard to SMEs fifty percent (50%) of the respondents felt that the government is not doing enough and issues of corruption and nepotism clouds all the good which has been done. Forty (40) percent of the respondents felt that the government is trying the best it can with the limited resources it has, while the remaining ten (10) percent are of the opinion that there are underlying issues which needs to be addressed within the economy prior to opening up the discussion.

In terms of the definition of SMEs the respondents had various definitions and the viewpoints were quite fascinating as can be seen below:

R1, R3, R5, R8, R12, R,13, R14 (Rauha, Pompom, Luke, Tatitana, Roxy,Pxy, Yedo not their real names) –They defined SMEs as consisting of 10 to 50 employees, while other respondents said 50 to 100 employees.

Figure 2. Sector of operations



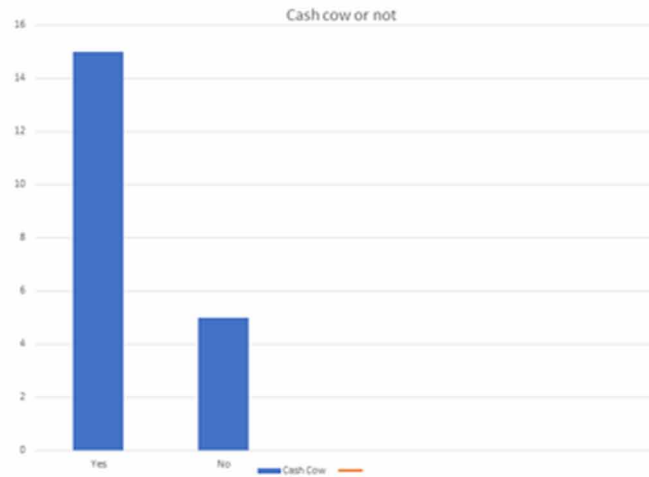
R2, R4, R6, R7, R9, R10, R11 (Micca not his real name) – Micca defined an SME in terms of turnover which is not less than ten million dollars.

R15, R16, R17, R18, R20 (Mirriam, Jack, Michelle, Maqvis and Piet not her real names) – Marriam defined an SME just as small medium enterprises. It is clear from the definitions of how SMEs are defined that there needs to be broader education and training about the role of SMEs and how entrepreneurship is defined in Namibia, to be more context specific.

In terms of the question related to how Namibia can recover from Covid-19 the respondents are of the opinion that as Namibia largely depends on the South African economy the road to recovery will not be a walk in the path, as it will require a lot of dedication and commitment. In addition, some respondents highlighted that education is key so that people are aware that living amidst this virus is the new normal. Some respondents are of the opinion that people in rural areas and also informal settlements in Namibia, should be coach in how to live in a more hygienic way. The Namibian government has also responded to the virus by giving people relief packages of N\$750, but most of the people through this study are of the opinion that in the long run it does not help much, and many Namibians also did not receive these

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Figure 3. Cash cow or not



funds. Those running businesses were also supported through the relief packages, but in the tourism and hospitality industry the respondents said that these packages are just a very small drop in the ocean.

Seventy-five (75%) of the SME owners are of the opinion that the Namibian government sees SME's as a cash cow as 30 years into democracy the country is worse off than it was in the hands of the colonial government. In addition, the quality of infrastructure also left a lot to be desired and has implications for practice. The respondents are also having the notion that resources leaving the country with little or no values, and when processed abroad return for consumption only and the government is the only beneficiary. Twenty-five (25%) of the respondents felt that the government is not a cash cow, as they believe Namibians have a lot to be proud of. Although SME's do not make a lot of money the little that the government has done this far indeed goes a long way.

The majority (over eighty percent) 80% of the respondents are of the opinion that the government is using tax to recover its expenses or stay afloat. Some of the examples and responses which were common amongst the respondents are the closing of the SME Bank and the money people who have invested have lost. SME owners were also of the opinion that they do not benefit from the natural resources of the country, only those in positions or with good connections are surviving and with the recent released COVID funds the gap of inequality seem to only increase, rather than decline.

Figure 4. Government using tax to recover expenses

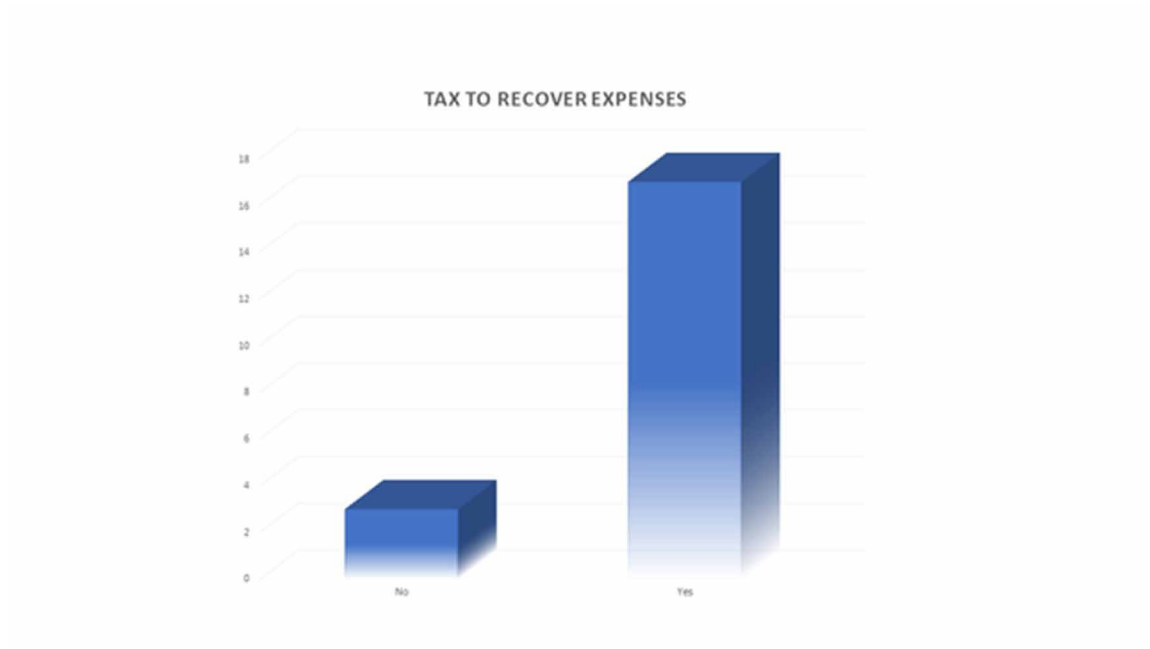


Figure 5. Leadership in Namibia

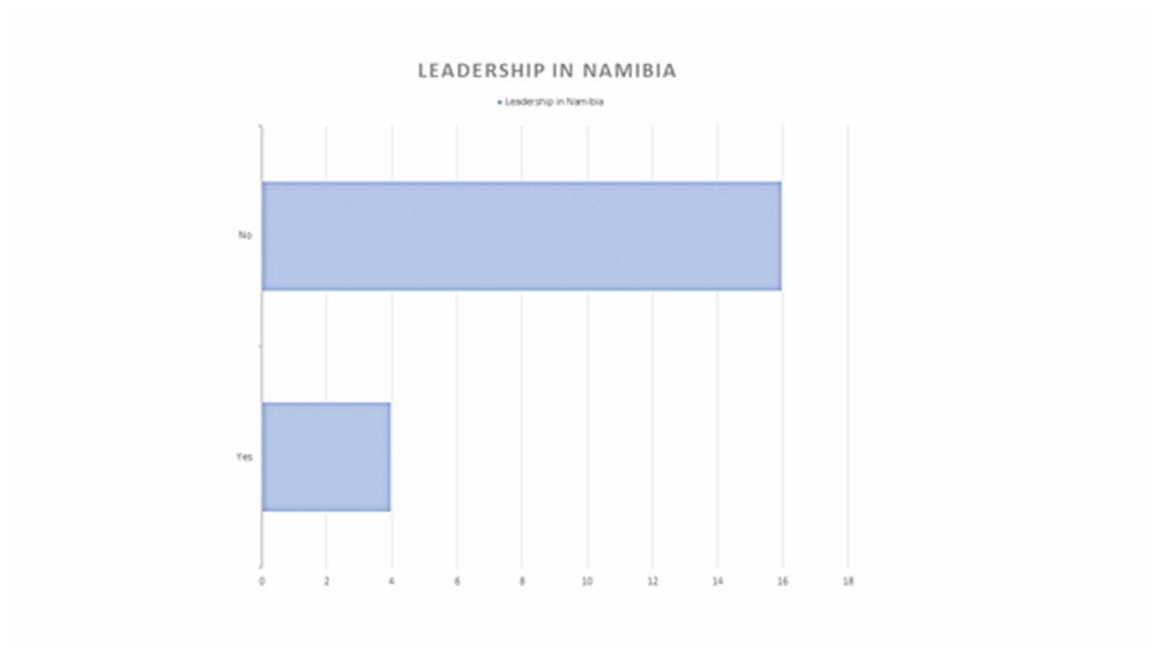
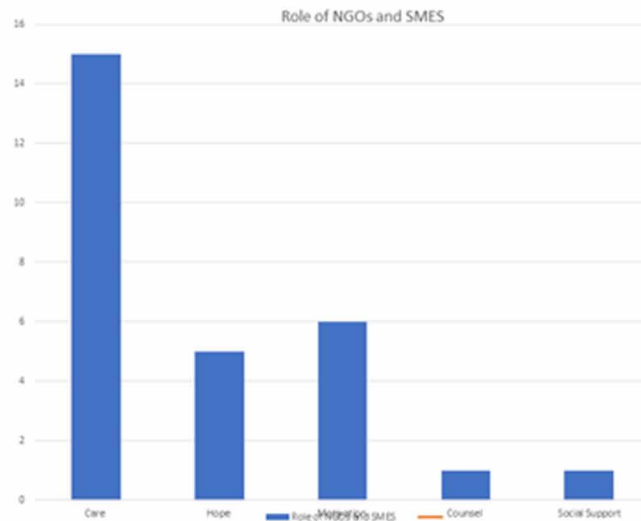


Figure 6. Role of NGOs and SMEs



Eighty percent (80%) of the respondents felt that Namibia lacks true leadership and inspiration. People are not held accountable and no one is taking responsibility for what is going wrong in the country. The blame game is the order of the day. A mere twenty (20%) percent felt that there is leadership to a certain extent but more needs to be done. The respondents felt that the government is not doing enough and owes its citizens infrastructure, better health facilities and sanitation, especially those who voted the government into power. The respondents felt that nepotism, corruption and a lack of commitment are some of the issues which puts a major strain on the economy. It is clear that Namibia as a nation is in dire need of ethical leadership, driven by purpose.

In terms of whether the lockdown was the best way to deal with COVID 19, eighty percent of the respondents were not sure, while fifteen percent felt it was as, in order to save lives and five percent said no, because a lot of people have lost livelihoods. It was clear from the responses that most of the respondents were just glad that they are alive, regardless of the turmoil that the rest of the world is experiencing.

Forty-five (45%) of the respondents are of the opinion that this is the opportunity for NGOs and SMEs to give social support. Fifteen percent (15%) of the respondents felt that it is good for counsel, while thirty percent (30%) felt is good for motivation. Hope and Care are 0.05% respectively. Most of the respondents are of the opinion that NGOs and SMEs must be sounding boards to the government, especially when it comes to alleviate poverty in communities. In response to the crises, these institutions need to be supported with the necessary technology, as custom made SMEs will suffer as their telecommunications infrastructure is relatively poor and there is limited infrastructure to support.

There are three main areas which has negatively affected the wellbeing of the Namibian young people which are the *educational development, food supply, spiritual development, economic and social development.*

- *Educational Development:* The educational careers of young people has been greatly affected and education is one of the core components for the development of any young person. The majority of the respondents affirm that the 2020 academic year has been disrupted by the lockdown and as a result, some will not graduate in the required time, leaving them with bills to pay. Some of the respondents who are studying and owning businesses had the following to say.

R1: I am so used to read very early in the morning and prepare for exams, but now we are forced to get used to continuous assessment. I feel I am just reading for the sake of reading.

R2: Closing institutions of teaching and learning was necessary, but I never expected in my life that I will be forced to study on my own, without the support of the teachers and also my fellow students/learners

These respondents above are clearly not very happy being out of school as it creates uncertainty, and at times it reduces their motivation. Failure to adequately prepare for test and exams can also result in failure of a subject. It is further evident that remote learning does not work very well for some of the respondents as illustrated by respondent 5 below:

R5: Studying in the village is almost impossible as my brothers and sisters are currently all at home and they make noise. I can't chase them away, because at I am the eldest and have to show love and care all the time. When I am at school, I at least use the library.

Research which was conducted by UNESCO, highlighted the challenges the challenges people from rural areas are faced with as studying online or remotely I almost impossible due to lack of a conducive studying environment.

- *Economic Development:* Namibia with a population of just over 2.5 people have very high level of unemployment, and with COVID 19 it has increased exponentially. For a lot of young entrepreneurs, the lockdown had a negative impact and many of them were very skeptical about their business survival after COVID 19.

R3: I am now extremely tired of coming in everyday and wondering whether my business will survive after this COVID thing.

R4: I run a barber shop and I am not sure when we will be allowed to open and I have been losing a lot of money during this lockdown period. My business is currently running at a loss and I hope to return to business very soon.

As with many businesses entrepreneurial initiatives have been affected in Namibia, as only critical and essential services were open. Young people underwent a lot of strain and fear during this period as no one knows when the pandemic will end, especially those in the tourism sector. Some of the young people who own these businesses are informal traders and at times not registered to trade and operate in the underground economy. In some cases, they did not even qualify for the COVID grant. Those who

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are registered find it hard to apply for the grant due to a lot of paperwork which results in frustration. It is evident from the above that the COVID 19 activities were hindered as a result of COVID 19 and it will also be harder in future for the people to overcome poverty. Young people have lost most of their income and those selling on the street can feel the pain the most.

- *Spiritual Development:* Another area which has impacted young people is that of spiritual development, which ensures the holistic wellbeing of young people. The participants gave a variety of responses regarding the subject as indicated below:

R6: I am so used to attend church each Sunday, but with COVID 19 that is not possible. I am going through trauma since my uncle passed on and I also use church for therapy and counselling.

R7: This pandemic has indeed brought me closer to God, and I never knew I was this spiritual.

It is evident from the response of P6 that the church is a source of spiritual support and development. The church indeed gives the youth security and also a sense of belonging. Singing in the church choir and ushering during the services can indeed improve the spiritual well being of the young people. It is interesting to note that the church plays a central role around the lives of the young people as some of them confide in their pastors and at times believe that pastors could be the solution to their problems, compared to their immediate family members. It is interesting to note that the response of R7 is very interesting as it gives us a clear indication that the pandemic has really bring people closer to God and also an opportunity for them to reflect of their personal lives. Other responses relate to the fact that the respondents felt that this pandemic has strengthen their faith and also provided them with the chance to be resilient as can be noted from respondents R8 and R9 below:

R8: As Namibian youth we need to be very strong and be resilient and this time too shall come and pass.

R9: Even if things seem dark and the way forward is dark as a result of the crises, I believe that God in heaven will get me through this.

From the responses of R8 and R9 is evident that the young people have hope as they are faced with this crisis. Although the churches are closed, we all must have faith that things will change in the long run.

- *Nutrition and Food Supply:* As a result of the lockdown and also a loss in income people are unable to buy themselves food and a lot of young people are malnourished. A number of feeding schemes and programs has been cut and are not running as they used to be as illustrated by the respondent below: R10: I was raised by my uncle who lives in the village and they can hardly afford to feed themselves as they are pensioners. If they do not eat, my chances of staying in school and surviving are slim. In addition, I can look for a job but they are not readily available.

According to a study conducted by UNESCO (2020) a reasonable number of children and young people do not have adequate access to proper food and with the institutions of higher learning closed the issue is bigger. The closure of most institutions of higher learning which young people attend is as

a result of COVID 19 and now some young people are forced to return to their villages and take care of their elderly or find alternative means to survive such as politics.

- *Social Development:* In ensuring that the spread of COVID 19 is minimised social distancing regulations has to be adhered to by everyone. This puts a limitation on the gathering of friends or family members, members of the community. In addition, you cannot even visit your neighbors in Namibia. This has a devastating impact on one's social and behavioral development as can be seen from respondent R17 below:

R17: This is a very difficult predicament we find ourselves in, as one always has to stay home and there is no chance for interaction with other members of the community or the public.

It is clear from the statement of the respondent above that the lockdown measures have indeed impacted communities negatively and as was reported by the UN can have a tremendous impact on the development of young people and better mitigation measures need to be put into place so that young people are supported fully.

Managerial Implications for Practice

SME owners/entrepreneurs need to adapt to the new normal in which most businesses are going online on a global scale. There needs to be a greater shift and focus from thinking about new ways to embrace doing business. The government of the Republic of Namibia, need to encourage people to start using local resources, as the shock and frenzy of COVID-19 requires us to move all our efforts into a new direction. People are in fear, but we need to have hope through the lockdown. Each entrepreneur or SME owner has the capacity. Colonial history did not enable to develop adequate skills on emotional and social intelligence. However, we should try and return to backyard economics as land will never disappear. Zooming back to the old days, our grandmothers will use the land in the backyard to plant vegetables and food for household consumption, however lately we tile backyards with cement. Government policies should encourage financial education, so that people learn how to save. The culture of savings and investments should start at elementary school.

SME owners and entrepreneurs in Namibia must realise the importance of the Zoom and teleconferencing industry. These industries have become very prominent lately and can generate income and also promote new ways of conducting business.

We need to think critically, what are some of the reasons why people are not saving? Institutions of training or even small business training needs to be geared more towards empower people to create jobs. Another, significant issue is that of working from home to cut cost, is it still necessary for people to occupy office space after the pandemic? Is it not high time that people leverage from online platforms and work hard on their personal development skills? However, what about the citizens in rural areas, a culture of communities of practice needs to be developed. Most people are nowadays forced to be part of the membership economy in order to promote their goods and services effectively. A culture of innovation and creativity needs to be promoted which also takes into consideration the fact that as a result of COVID 19 people need empathy. Due to the uncertainty continual innovation needs to be encouraged. It is no doubt that there is an ongoing uncertainty but a very hopeful and positive attitude needs to be fostered

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amongst the business community. This will encourage entrepreneurs to think of the positive implications of the crises while looking at what they have achieved in past and how future can look going forward.

Recommendations

COVID 19 has brought with it numerous opportunities for future research on SMEs and entrepreneurship in Namibia. New research is pertinent because we need to understand how resilient the people both in rural and urban Namibia. This will indeed give us a clear understanding about what entrepreneurs are doing to cope better with the uncertainty and the paradigm shift in terms of the way we conduct business. This new way of conducting business will also look into the training of entrepreneurs both in rural and urban Namibia and new ways and techniques of doing business.

In terms of future research, resilience in terms of entrepreneurship of business should be studied. This is important to explore the readiness or hardiness of business owners when it comes to disasters. It also has a lot to do with the self-efficacy of entrepreneurs and why some entrepreneurs and firms perform at an optimum while other simply do not (Sutcliffe and Vogus, 2003).

The outbreak of this pandemic has showed that Namibians and youth in particular need to consider multiple sources of income. A reasonable number of people have lost jobs as a result of COVID 19 and their livelihoods has been lost. The key lessons learned from this pandemic is that relying only on one source of income is not enough. It is almost as if putting all eggs in one basket is a recipe for disaster. When young people think of having multiple sources of they are able to also to switch between incomes.

Future research should also take into consideration conducting more in-depth case studies and the manner within which entrepreneurs have embedded in this paradigm. More studies and best practice models are required in particular pre-and post COVID 19 to see the changes in the Namibian entrepreneurial landscape. In future research it will be pertinent to look at the positive and negative impacts of COVID 19 on the Namibian indigenous communities as they are the one who are mostly affected. More research as to whether people have become entrepreneurs due to the crises and how they respond to the challenges of this pandemic needs to be outlined and whether there has indeed been a change. This can give some interesting lessons for practice and how entrepreneurship /SMEs have changed in Namibia and southern Africa and what needs to be done for continuous improvement in the future. There are a number of strategies that can aid in helping the Namibian government to handle the devastating impacts brought about by this virus much better. These are matters pertaining to monetary policies, fiscal policy, revamping the manufacturing sector and adopting electronic learning. Although Namibian has been able to provide relief grants to its citizens the resources did not reach all the people which still left some people in despair.

CONCLUSION

This chapter gave a commentary on the challenges of Covid-19 on SMEs and entrepreneurs in Namibia and how it has affected the people. It is evident from this study that the government needs to do more to support the people of Namibia, especially those in rural areas and who do not have access to technology. It is important to reiterate the fact that, developing a community of practice can aid in reducing the challenges experienced by business owners. The virus with itself also brings about very unique ways of doing business in Namibia and around the globe. Business owners are forced to leverage on

the concepts of innovation and creativity and what it could mean also in a rural community context. There are immense possibilities that people can leverage and take home from this virus, but with better education and awareness change can surely be realised. SME owners, youth and entrepreneurs have to think of new streams to generate revenue and alternative ways of conducting a successful business. It is pertinently hoped that this chapter will act as a springboard for many more experiments to be conducted on Covid-19 and its challenges in Namibia and beyond.

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KEY TERMS AND DEFINITIONS

Communities of Practice: Refers to a group of people or persons who share a common concern or passion for something they do and learn and different ways to do it better and also to improve. For instance, communities who help one another.

Coronavirus: Also referred to as COVID-19 it refers to any group of RNA viruses that cause a variety of respiratory, gastrointestinal, and neurological diseases in either humans and animals.

Entrepreneurship: A term derived from the French verb “entreprendre,” which means to take your hand and do something (Schumpeter, 1934).

Namibia: Namibia is a country situated in Southern Africa which gained independence on 21st March 1990 and is home to 2.5 million people.

Pandemic: This refers to a disease which is prevalent over a country or the world.

Rural: This is a characteristic of an activity or an event happening in the countryside rather than in a city or town.

Small-Medium Enterprises: The Namibian Ministry of Trade and Industry (MTI) in its SME policy from 1997 defines SMEs as manufacturing companies employing less than 10 people, reaching a turnover of less than N\$1,000,000 and having a capital basis of less than N\$500,000.

Youth: In Namibia, youth are defined as individuals or persons from 16-35 years of age.

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