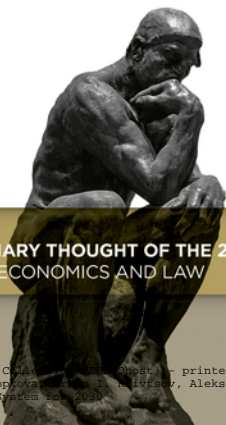


DE GRUYTER

STRATEGIES FOR THE GLOBAL ECONOMIC SYSTEM FOR 2030

*Edited by Elena G. Popkova, Artem Krivtsov,
Aleksei V. Bogoviz*



INTERDISCIPLINARY THOUGHT OF THE 21ST CENTURY
MANAGEMENT, ECONOMICS AND LAW

Strategies for the Global Economic System for 2030

Interdisciplinary Thought of the 21st Century



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Elena G. Popkova and Artem I. Krivtsov

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Introduction: Priorities for the Strategic Development of the Global Economic System Until 2030

The year 2030 is a significant timeline for the development of the modern global economic system. The first decade of the 21st century showed that at that time the trends established in the 20th century were still strong, including intensive globalization and the active development of financial markets. It ended with the global financial and economic crisis that began in 2008, which demonstrated the inadmissibility of relying on outdated development mechanisms and served as a prerequisite for launching a new trend.

It prevailed in the second decade of the 21st century and is associated with the active digitalization of society, economy, state and international relations. Although digitalization itself deserves a positive interpretation, the approach is taken to its implementation, which assumed the technocratization of society, and the economy is associated with a serious drawback – the distance between humanity and nature. As a result, this decade ended with the COVID-19 pandemic and global socio-economic crisis.

Against the background of continuing crisis phenomena in the world economy, the question of what future awaits it in the third decade of the 21st century is urgent. This book is devoted to finding an answer to this question. For this, firstly, it defines the priorities for the strategic development of the global economic system until 2030. The most obvious priority is the crisis-free development of the world economy at least until 2030.

The stable pattern of completion of each of the past decades of the 21st century with global crises needs to be refracted. The world economy demonstrates a too slow rate of growth and development to meet the needs of the growing population of the Earth and the progressing Consumption Society. The global recession in 2020 against the backdrop of the COVID-19 pandemic has significantly increased social tensions in all countries, and the world community is in dire need of a decade of stability and accelerated economic growth.

The consequences of the industrial development of the global economy in the 20th century and neo-industrialization against the backdrop of the Fourth Industrial Revolution in the second decade of the 21st century increased environmental problems. It is unacceptable to postpone their solution because, in the third decade of the 21st century, the risk of a global environmental crisis is unusually strong. Therefore, strict and universal adherence to the Sustainable Development Goals is another priority.

Finally, another obvious priority is the search for a new harmony in the international relations, which, according to most experts, crossed the line of “healthy” competition and resulted in an open confrontation between countries. The principles of free trade need to be rethought as well as the approach to international

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economic integration and migration. The world economic system needs new “rules of the game”, which must be found by 2030 and the sooner the better.

The identified priorities are discussed in the first section of the book, which presents a conceptual vision of the future context and foundations of the strategic development of the global economic system until 2030. It presents the concept of “Lean Six Sigma” as a strategic tool for optimizing management processes, formulates a new conceptual approach to develop a strategy for interaction between business partners in the global economic system. The introduction to modal economics is reflected and the evolution of liberalism, market economy and state in the context of globalization is rethought. The influence of platforms on the transformation of economic reality is shown, and the key role of the interdisciplinary approach in shaping the development strategy of the world economic system is substantiated.

Secondly, the requirements for entrepreneurship are formulated to achieve the priorities of the strategic development of the global economic system in the period up to 2030. Entrepreneurship is aimed to fulfil its basic role in the world economy, become a driving force of its development in the period up to 2030, and accelerate overcoming the global socio-economic crisis of the COVID-19. The crisis began in 2020, and its manifestations are visible in 2021 but the world community unanimously hopes that the post-pandemic period will not extend for the entire third decade of the 21st century, and the crisis will soon be overcome. In this challenging environment, entrepreneurship will have to rebuild and re-launch global value chains.

The requirements for entrepreneurship to fulfil its mission are determined in the second section of the book, which contains promising industry solutions for the strategic development of entrepreneurship and markets in the global economic system until 2030. It examines the development of a production management system in the context of the transition to a digital economy and gender education as a way to overcome cultural conflict. The prospects for the development of Islamic financial institutions in Russia are identified and the strategies of advertising communication in the global economy are studied. The transformation of higher IT education in connection with the digitalization of the world economy is considered, and scenario analysis of the future development of transport in developing countries is carried out -an example of the future of rail freight transport in Zambia – a long-term framework for 2050.

Thirdly, the guidelines for state regulation of the global economic system in the interest of achieving the priorities of its strategic development in the period up to 2030 are outlined. The state must find and successfully play its new role in the world economy, finding a balance between an unbiased arbitrator and an active participant in business activity in the economy. Perhaps the partnership will become this “golden mean”, although, of course, only if a new partnership model is retrieved and institutionalized.

The third section of the book is devoted to the above-mentioned points. It provides recommendations for improving government regulation in the interests of strategic

development of the global economic system in the period up to 2030. It defines compliance with International Financial Reporting Standards (IFRS) and identifies requirements for information disclosure using the example of evidence obtained from the listed companies in Zambia. The international aspects of the Korean experience in the implementation of public-private partnerships are investigated, the transformation of the function and role of the US dollar as a world currency is substantiated. The prospects for the socio-economic development of industrial parks in the context of digitalization are outlined, and the relationship between the Fourth Industrial Revolution and Globalization from the political and economic perspective is substantiated. Intercultural communication in multinational organizations is considered on the example of the Indo-Russian perspective, and the empowerment of women is associated with Sustainable Development.

Elena G. Popkova, Artem I. Krivtsov and Aleksei V. Bogoviz

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**Part I: The Conceptual Vision of the Future Context
and Foundations of the Strategic Development
of the Global Economic System Until 2030**

Liudmila G. Mishura, Alina I. Kruglova

1 “The Lean and Six Sigma” Concept as a Strategic Tool for Process Optimization

Introduction

Currently, many competitive companies on the market invest a significant share of their resources in self-development and strengthening of market positions. To become a leader in the industry, as well as to go global, it is necessary to ensure a high degree of customer satisfaction and introduce innovative management methods (Arenkova et al., 2019). For this purpose, many companies have already implemented or are trying to implement the concept of “Lean and Six Sigma” (Lean production & Six Sigma), which in turn represents a unique management strategy that allows increasing management efficiency, and improving the performance. The Lean and Six Sigma concept consists of two types of concepts: Lean production, which focuses on reducing waste and non-production costs and increasing process speed, and Six Sigma, which focuses on customer needs through the quality management of products and services provided, to optimize the process within the framework of available statistical tools (Vasilenok et al, 2020).

The purpose of this work is to study the stages of the “Lean and Six Sigma” concept during its implementation in the service area of the customer service department of the Japanese company “NGK SPARK PLUG CO., Ltd” for the optimization of processes and reducing the wasted time during the operations.

Methodology

The concept of “Lean” originated at Toyota in 1950 as a method of optimizing the automotive industry. In the sixties, the world market received a new strong competitor, and the US car market – a company whose cars turned out to be more reliable and cheaper than American ones. This is what caused the demand for this concept in other industries, for example, trade, energy, healthcare, banking services. Its main goals are to reduce costs and speed up the process. The tools by which the concept achieves these goals are as follows: tools for managing the speed of maximizing the process; tools for analyzing the process flow and time delays during each operation;

Liudmila G. Mishura, Alina I. Kruglova, National Research University of Information Technologies, Mechanics and Optics (ITMO University), Saint Petersburg, Russia

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means for eliminating and calculating the expenses caused by unnecessary complexity; tools to eliminate non-value-added operations and associated costs (George, 2017).

The Six Sigma concept was developed by Motorola in 1980 to reduce fluctuations in the manufacturing of electronic components. The objectives of this concept are as follows: understanding customer needs; identification of key processes related to the customer requirements; application of statistical and qualitative analysis methods to reduce process variability; structuring of the processes. Achievement of these goals allows not only to optimize production or the service sector but also ensures constant improvement of the achieved effect. According to the concept, the stages of the implementation of any project correspond to the cyclical scheme “define – measure – analyze – improve – control” (DMAIC). It was found that with the help of this scheme there is always an opportunity to discern the trigger of negative factors and offer steps to optimize the company’s processes. The concept uses standard quality tools such as cause-effect diagram, Statistical Process Control (SPC), Pareto Charts, checklists, benchmarking (George, 2017).

Figure 1.1 shows the components of the “Lean and Six Sigma” concept that have been combined to form this approach.

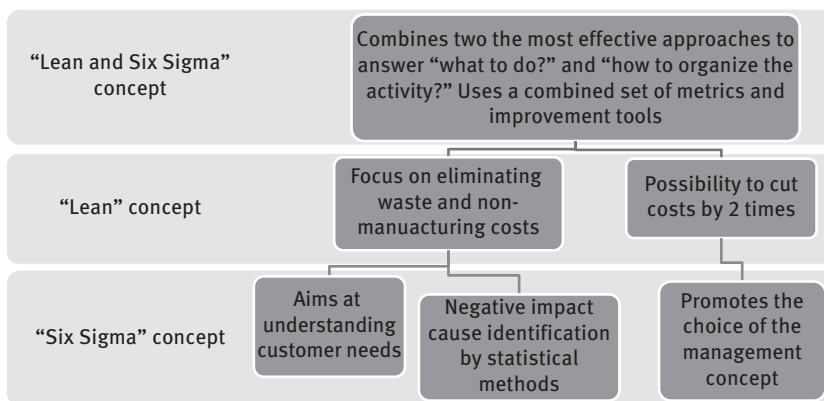


Figure 1.1: Concept of Lean and Six Sigma.

Source: Based on the book by George (2017).

Currently, critics have not found alternatives and better management techniques for implementing the strategic approach, and therefore the concept of “Lean and Six Sigma” is the standard way to optimize production in the 21st century. Let us consider the sequence of this concept implementation using the example of the Japanese company “NGK SPARK PLUG CO., Ltd”.

Results

The Japanese company NGK SPARK PLUG CO., Ltd is one of the world’s leading suppliers of automotive components and technical ceramics. Along with it, such companies as DENSO and Bosch are developing in the field of automotive components, occupying a leading position in the production and sale of automotive components and technical ceramics. To provide an advantage over competitors and to increase consumer loyalty, it is necessary to improve product quality, optimize all production and service processes. The company should pay close attention not only to the production area but also to the service area, which includes receiving an order for a product from a customer, processing it, shipping and warranty service.

To achieve this goal, a number of tasks must be completed:

1. Analyze the company’s customer service department using the Lean and Six Sigma methodology, in accordance with the DMAIC methodology.
2. To identify negative factors in this area using statistical methods of quality control.
3. To draw conclusions about the effectiveness of the company’s customer service.
4. To develop measures for improving and optimizing the work of the NGK service sector.

Define: At this stage, it is necessary to determine the object of the research, to form a team of responsible persons who will supervise the improvement process, and to establish the areas of responsibility. The object of the research will be the logistics and customer service department, namely: order processing from the customer service side. A team responsible for conducting the study has been formed, which includes a leader, manager and assistant of the logistics and customer service department, as well as a regional manager.

Measure: At this stage, data on the process progress is collected, analyzed, and assumptions are made about the triggers of fluctuations. For collecting and analyzing data, a statistical method of quality control is used – a Pareto Chart and a Cumulative Frequency Curve. The responsible persons brainstormed a number of factors that, in their opinion, have a negative impact on the entire activity of the company’s customer service. These factors are reflected in the checklist presented in Table 1.1, their registration was carried out on days of the week from 13.04.2020 to 17.04.2020.

The next step in the analysis of activities is to identify the triggers due to which negative factors arise. This could be human factors, the failure of equipment or order processing systems, or the company working method in a customer service department. Triggers such as the Performer, Equipment, and Method of Work were in the company “NGK SPARK PLUG CO., Ltd”.

To identify the significant triggers, a Pareto Chart and cumulative frequency curve on negative factors and their triggers were plotted. It is presented in Figure 1.2.

Table 1.1: Checklist.

Delays in order processing	13.04	14.04	15.04	16.04	17.04	Total	% to the total	Trigger
1. Making an order with an error	III		II	I		6	8.45	Method of work
2. Late discount message	II	I	III	III		9	12.67	Performer
3. Large quantity of orders in one day		III		II	III	8	11.27	Method of work
4. Processing a back-order upon shipment	II	II	II	II	II	10	14.08	Method of work
5. Formation of a back order upon request	II	II		I	III	8	11.27	Method of work
6. Addition of already processed order	I		I		III	5	7.0	Performer
7. Warehouse load		III		II	III	9	12.67	Method of work
8. Placing orders beyond NGK working hours	II	III		III		8	11.27	Performer
9. Breaking/updating 1C system		I		II		3	4.22	Equipment
10. Others (meetings, checks, dialogue with the customer by phone)	I	I	I	I	I	5	7.0	Method of work
TOTAL	13	16	9	17	16	71	100	

Source: Based on data obtained by the authors.

To determine the priority types of work and analyze the obtained results, we will use the ABC method – analysis of the Pareto Chart, which allows us to distinguish three groups of negative factors according to the level of importance for quality management, where:

- Group A – the most important factors to be optimized in the first place;
- Group B – triggers that must also be eliminated but after the triggers of the group A are eliminated;
- Group C – the most numerous, but at the same time the least significant triggers and problems.

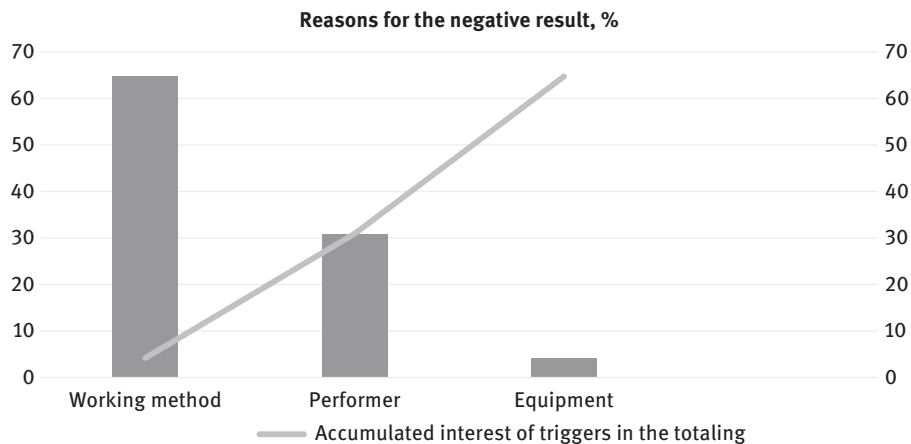


Figure 1.2: Reasons for the Negative Result, %.

Source: Based on the data obtained by the authors.

The use of ABC analysis made it possible to draw the following conclusions:

The factors of group A include the entire “Method of Work” of the company, which in turn contains: processing back orders; warehouse load; a large quantity of orders in one day; formation of a back order upon request; others (meetings, checks, inquiries of accounting, dialogue with a customer by phone). This category makes up 65% of the total number of triggers.

The factors of group B include the trigger “Performer”, which includes late discount message; addition of already processed order upon customer’s request; placing orders beyond NGK working hours. This category makes up 30% of the total number of triggers.

Factors of group C have the lowest percentage – 5% and refer to the trigger “Equipment”, which includes such factors as 1C system breaking/updating (The official website of the company “GEOLINE Technologies”, 2018).

Thus, it is clearly visible graphically that the main trigger for the negative consequences in the functioning of the logistics and customer service department is the method of work of the department, which includes the conditions for processing orders, conditions for picking orders in the warehouse, rules for cooperation between a customer and a supplier and a supplier with a customer, technical capabilities of the order processing. First of all the company needs to elaborate on measures for the optimization of the service department’s methods of work and algorithms for processing orders and customer service.

Analyze: At this stage, it is necessary to analyze the obtained results and give recommendations for eliminating negative consequences.

Such activities as processing a back-order upon shipment, late discount message from the manager to the logistics and customer service department, warehouse

load and, as a result, the very method of customer service operation are subject to optimization. To find out the reasons why the customer service method of work is poor, the responsible group used a statistical tool for quality control – the Ishikawa diagram, which was built according to the 6M principle. A tabular representation of the Ishikawa diagram for the “Working Method” of NGK SPARK PLUG CO., Ltd can be seen in Table 1.2.

Table 1.2: Ishikawa’s Map According to the “Method of Work” of NGK.

Factor	“Medium bones”	“Small bones”
Material	A Automobile spark plugs	1 Spark plugs and glow plugs
Machine	B Equipment for order picking	1 Equipment wear rate
	C Customer’s personal account	2 Convenience and clarity of the interface
	D 1C order processing system	3 The degree of the 1C program customization
Measurement	E The number of collected items per day	1 Fixed rate of parts per day
	F Speed of picking completion response	2 The degree of communication efficiency between the warehouse and NGK office system
Method	G Process management manner	1 Competent delegation of authority and distribution of responsibilities
	H Trust level	2 The degree of mutual understanding of employees
Man	J Personal qualities	1 Willingness to communicate and dedication
	K Health	2 Absence of chronic diseases and strong immunity
	L Learning ability	3 Intelligence level
Management	M Communication speed	1 The level of teamwork and interpersonal relationships
	N Speed of response to changes in the supply chain	2 Employee’s mental agility
	O Arranging areas of responsibility among employees	3 The accumulated experience of the employee and the degree of understanding of the specifics of the activity

Source: Based on the data obtained by the authors.

Thus, the main reasons for the poor work of the logistics and customer service department are low level of employee communication; unfavorable atmosphere in the office and team; average level of software performance; noncompliance of the employees’ competence level with modern technologies; low rate of customer feedback.

As measures for optimization of the processes the following should be highlighted: increasing attention to the psychological state of the company’s employees; introduction of new check and control measures of the employees’ competence level; regular monitoring of modern global trends; promotion of a high level of communication both inside and outside the company; renewal of the philosophy and traditions of the company.

Among other things, it is necessary to take into account the economic situation in the country and in the world. Therefore, 2020 has become a year of economic instability for the whole world, rapid volatility of market, changing of the consumers’ needs and demands. Today, in a pandemic, the management needs to assess adequately the ability of its employees to understand the general specifics of the company’s activities, as well as the specifics of the activities of the departments; to understand and analyze the conditions of the current situation of the city, country, and world.

So, for example, due to the pandemic, NGK’s usual chain of receiving orders from a customer was disrupted, namely: customers made an order unevenly: for example, from the 1st to the 20th of the month, the number of daily orders was 3 orders per day, from 21st to 31st their number was already 8 orders per day. Such fluctuations in receiving orders lead to the fact that the company does not have time to process, assemble, and ship every order on time. As a result, customer loyalty to the company is lost, which is extremely negative in the current situation.

In this situation, each employee and the company as a whole must daily identify and analyze operational omissions and look for ways to eliminate them: for example, employees need to note potential places for improving the existing system (in the case of NGK – a critical increase in the processing time and order picking, system failures 1C due to the large number of orders and their processing in one day); management, together with employees, find ways to optimize (in the case of NGK, rank tasks in order of importance, thereby freeing up employees’ time for processing orders, find additional human resources for the warehouse to reduce the time for picking orders, set a task for the IT department to optimize the 1C system to increase its bandwidth); the company as a whole needs to provide reports on the work of departments, compare and analyze this information, as well as compare it with the daily changing situation in the country and the world, updating the information every day.

Improve: At this stage, measures are being developed to improve the process, as well as their approbation. After successful approbation, these measures are introduced into the company’s practice. Table 1.3 provides a list of recommended activities developed by the responsible group that can optimize the investigated processes.

Table 1.3: Actions to Eliminate Inconsistencies.

No	Unfavorable factor	Consequences of refusal from optimization	Action to eliminate non-production losses
1	Low level of employee communication	Loss of information; Conflict with a customer due to non-fulfillment of agreements; Internal conflicts	An appointment of conference calls by the Head of the department or an interested person; Psychological trainings within the company; Team buildings in an informal atmosphere, which increases the level of employee confidence in each other; Optimization of the 1C system – providing regional managers with the access to 1C
2	Unfavorable atmosphere in the office and team	Conflicts within the team; Dividing the team into interest groups; Employees' resignation; Lack of initiative and creativity among employees	High-quality office renovation and cozy decor; Team buildings; Frequent short breaks
3	Average level of software performance	Failure to compete with modern enterprises; Failure to process large volumes of orders and serve a large number of customers; Increased customer dissatisfaction; Failure to carry out a large number of shipments in a short time and, as a result, the inability to generate profit	Choose a person responsible for transferring information to IT-department; A clear problem setting for the IT-department with specific examples; Drawing up a schedule together with IT-department regarding necessary software updates
4	Noncompliance of the employees' competence level with modern technologies	Failure to meet modern market requirements; Loss of competitiveness; Loss of customer interest in the company	Conducting master classes for employees; Expansion of employees' functions; Preparation of a weekly announcement of the World innovations

Table 1.3 (continued)

No	Unfavorable factor	Consequences of refusal from optimization	Action to eliminate non-production losses
5	Low rate of customer feedback	Failure of efficient order negotiations; Failure to make changes Lack of communication with the customer; Lack of information about the needs of the customer	Finding out the convenient ways of communication for the customer; Clarification from the customer about any changes/new agreements on an ongoing basis; Optimization of the 1C system – providing regional managers with access to 1C

Source: Based on data obtained by the authors.

Control: This step involves recording and standardization of the improved process. To check the effectiveness of measures, the project team controls and monitors the process optimization of measures’ implementation, providing reports from those in charge. In the course of monitoring, special attention is paid to the check of the non-compliance cause removal.

It should also be noted that all analysis tools and management methods for ensuring the greatest efficiency must be used taking into account the micrological and macrological factors of the external environment. In 2020, amid the COVID-19 pandemic, the economy of many countries has undergone significant changes. Participants of the countries’ economies and world communities are forced to introduce innovations since human values began to change significantly and at the same time business. Consequently, already existing business concepts are losing their relevance, and the economy requires innovation.

Conclusion

Thus, when implementing the concept of “Lean and Six Sigma” in the company “NGK SPAPK PLUG CO., Ltd”, it was found that this technique is a powerful tool for business optimization. It contains the world’s best practices that amend each other. Using this tool, it can be possible not only optimize production processes but also diagnose the weaknesses of the service sector, which was done in the framework of this study. In the practical part of the article, the logistics and customer service department were analyzed, namely, using the concept of “Lean and Six Sigma” according to the DMAIC methodology and statistical methods of quality control, the

weaknesses of the manufacturer of automotive components “NGK SPAPK PLUG CO., Ltd” were identified, and also the measures to eliminate negative consequences were proposed. In the XXI century, the economic situation, environmental conditions, information resources of the world are in a continuous process of development, globalization, and integration. Each company pursuing an aim of increasing competitiveness strives to develop and comply with modern trends, therefore it is so important to continue analyzing the company’s management system and look for ways for processes optimization.

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Nina S. Otvarukhina, Svetlana N. Pozdeeva, Irina L. Dimitrov

2 A Conceptual Approach to Developing a Strategy for the Interaction of Business Partners in the Global Economic System

Introduction

At the present stage of economic development, the global economic system is one of the main tools for the strategic development of organizations, combining their efforts and potentials, and identifying opportunities for sustainable and balanced activities. In accordance with the processes of globalization of the modern world economy, integration into the world economy is possible subject to the competitiveness of organizations, identifying the opportunities for accumulation, development and systematic use of competitive advantages. In this situation, organizations are forced to integrate into the processes of interaction with partners on equal terms in order to increase their competitiveness. Strategic interaction is a process of mutually complementary creation of new competitive advantages of a higher order based on the joint efforts of interacting organizations. The problem of coordinating the interaction of economic entities in the global economic system requires the formation of models and methods for managing their interaction to ensure sustainable development. Thus, further development of theoretical and methodological positions, development of mechanisms and models for strategic interaction of partners in the global economic system are necessary.

Methodology

It should be noted that in Russian and foreign publications there are quite a lot of scientific approaches to the disclosure of the essence and content of the development strategy of organizations. The existing contribution to the development of strategy as a science belongs to I. Ansoff, W. Braddock, J.-J. Lamben, G. Mintzberg, M. Porter, G. Hamel and K. K. Prahalad, A. Thomson and A. J. Strickland, N. S. Otvarukhina, and others.

Nina S. Otvarukhina, Russian Technological University, Moscow, Russia

Svetlana N. Pozdeeva, Financial University under the Government of the Russian Federation, Moscow, Russia

Irina L. Dimitrov, Moscow State Academy of Physical Education, Malakhovka, Russia

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The authors offer their own vision of the definition of this category. Strategy is a definition of the development vector of the organization based on the realization of competitive advantages, including, if necessary, such stages as maintaining the “status quo”, building up the strategic potential of the organization and providing conditions for future growth.

In the variety of approaches to the description and study of strategies for the interaction of partners in the global economic system, the following works can be distinguished: Ansoff, H. (Ansoff, 1988), Milner, B.Z. (Milner, 2011), Rogers, E. (Rogers, 2010), Hodgetts, R. (Hodgetts et al., 2006), Aaker, D. (Aaker, 2001), Kotler, Ph. (Kotler, 2004), Kleiner, G.B. (Kleiner, 2008), Polterovich, V.M. (Polterovich, 2016), Porter, M. (Porter, 1980), Tambovtsev, V.L. (Tambovtsev, 2000). The works include the basic conceptual apparatus, models of strategic interactions of organizations that solve the problems of integration, accumulation of competitive advantages and support of organizational changes either on external influences or integrating the organization into the external environment.

Study of domestic and foreign researchers shows the relative unity of views of scientists in the general vision of economic problems of organizations in the global economic system, including the need to take into account the peculiarities of the development of subjects of all levels at the present stage and the solution of problems in the “opportunities – dangers” system. Economic entities of all levels enter economic relations in pursuit of their interests, as a result of which a complex system of interaction appears. The effectiveness of each subject can be achieved through the coordination of their mutual realization.

Results

Studying the problems of business entities as elements of the global economic system, the interactions in which are quite complicated, we can conclude the following: the behavior model of the subject should be focused on the economic integration, taking into account the geographical component of its location.

The concept of “strategic integration”, from the authors’ point of view, gives the advantages to the business entity that begins to interact with various companies (design, organizational, infrastructural, etc.) on attractive terms. To solve the problems of strategic interaction of partners in the global economic system, the concept of “strategic integration” is proposed (Figure 2.1).

As can be seen from Figure 2.1, the main ideas of “strategic integration” are, firstly, getting into the chain of new technology of Russian and foreign manufacturers, and on this basis the development of competitive advantages of a “higher order”, and secondly, entering the developed markets both domestic and foreign.

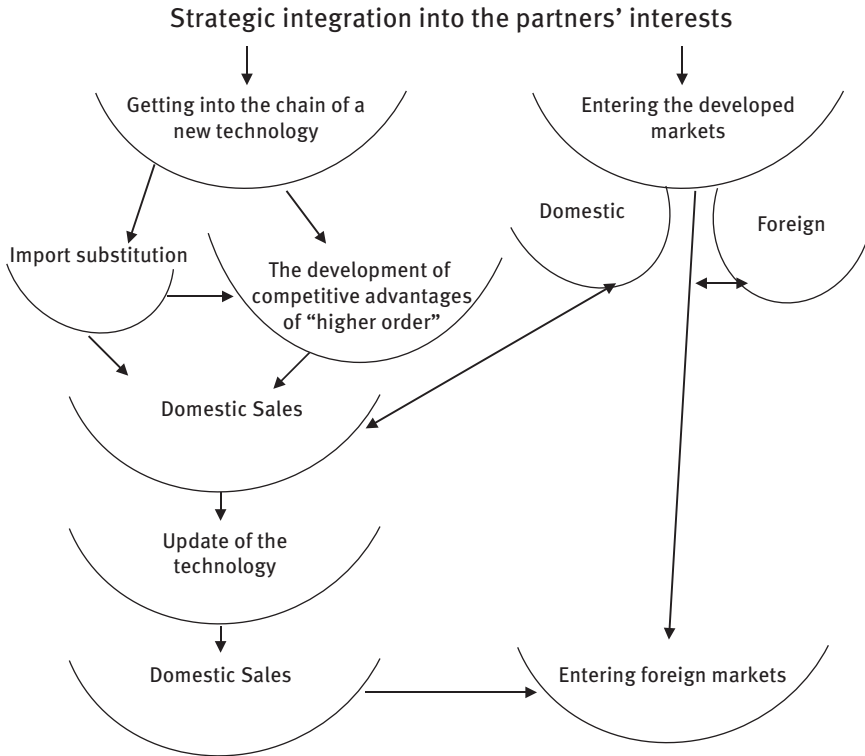


Figure 2.1: Concept of “strategic integration” into the interests of partners.

Source: developed and compiled by authors.

The system of “strategic integration” offers a variety of opportunities for the development of the company. It should be noted that the process of embedding into the system of global economic relations is becoming one of the most important factors determining competitiveness.

The concept of “strategic integration” is presented as an effective method of the global strategy for the development of organizations. We propose a sequence of analytical works for strategic integration into the interests of partners, aimed at finding initially simple embedding elements, then identifying strategic elements, compiling a list of elements and plans for strategic embedding. The content of step by step analysis of the concept of strategic integration in the interests of partners is as follows:

- identification of possible elements of “integration” within the organization. The organization searches for a foreign partner, to whom it offers, for example, the supply of its own components, thus identifying the possibilities of integration into the technological chain,

- study of interests of Russian organizations and foreign firms and identifying a set of elements of “embedding” into technological, sales, organizational, infra-structural relations,
- assessment of the elements of “embedding” of the organization with the aim of further offering them to potential partners,
- negotiations with potential partners to determine the list of elements (objects) of “integration”,
- assessment of the list of elements (objects) of “integration” and preparation of plans for strategic embedding based on the use of identified competitive advantages.

Strategic integration, it must be emphasized, starts from simple elements. Thus, “Ekran” organization for the assembly of television sets revealed the possibilities of replacing expensive imports of polystyrene from South Korea with its own production of plastic parts and, accordingly, used the “strategic integration” into the technology of packaging television sets. This approach of the enterprise allows you to determine the value of the organization’s readiness to “join the chain.” But it should be noted that if all this is produced outside the conceptual framework of the concept of “strategic integration into the interests of partners”, the enterprise will only produce and sell off packaging foam polystyrene. At the same time, the enterprise may reveal a new opportunity to use this material, for example, to form blocks of unsinkable river boats. Further, negotiations were held with two foreign companies to start assembling television sets from their components. And then there is already a “two-stage embedding”, and at the second stage, “Ekran” masters more complicated technology of printed circuit boards. By organizing the work simultaneously with two partners from different countries, “Ekran” ensures its own independence in decision-making, first of all, of a strategic nature of the direction for further strategic interaction with partners. Finally, the most significant thing for the company is to ensure stability and invulnerability in perspective in a cyclical environment.

Based on the studied policy of “Ekran” company, where all the components of its strategic development are strategically well balanced.

The activity of “Ekran” enterprise through American partners is also complemented in the development of partnerships with the company in Australia. The contract between a Russian company and an Australian company for construction products stabilizes the position of “Ekran” in a complex system of multidimensional “strategic embedding”: “products – partner – country”. We believe that the synergistic effects of “strategic integration” require a sufficient “critical mass”. The examined example of the company showed that only in the case of interaction with various foreign companies and for several product groups had helped to achieve significant synergistic potential.

Correctly using the “concept of strategic integration”, the company strategically “integrated” into the interests of foreign partners, having stabilized its export

orientation taking into account mutual interests. Having subjected the synthesis of the strategic design and based on the analysis and evaluation of tactical actions in the market in the presence of systematic methodological tools for monitoring, evaluation and management.

Strategic integration should always operate in the space of coordinates of “opportunity – danger”. The organization’s capabilities are adjusted by the external environment. Therefore, it is the development of the external environment that provides a guideline for the development of the organization itself.

Strategic development is based and possibly on the interaction and cooperation of investors, contractors, local authorities. Due to the interaction, strategic results are possible, which are the starting point for strategic development in the future. It is necessary to take into account the dangers, and above all, they should be expected from national and transnational manufacturers, actively moving in the market. Operating in the coordinate space “opportunities – dangers” occurs as follows: using a set of methodological tools that implement tactical tasks, it constantly focuses on the identification, systematization and accounting of strategic elements. Identification and subsequent implementation of opportunities within the economic system of the organization occur through the use of this complex. The next step is to identify the strategic dangers that are most likely from competitors. Strategic monitoring of environmental assessment forms an understanding of global dangers.

Using the procedure proposed by I. Ansoff, we form strategic integration zones:

- initially, based on the management zones proposed by Ansoff, we determine the “strategic integration zones” (SIZ). It can be a technology of assembly from imported components, sales, and promotion of the partner’s products,
- the assessment of the strategic priority of the SIZ taking into account the criteria: growth, invulnerability and, as a visible strategic result, profitability,
- strategies based on strategic goals are developed and determined for each SIZ,
- turnover, costs, profitability are calculated for each SIZ:
- the formation of the SIZ, as an independent structural unit, is based on a step-by-step upward change in profitability,
- the final stage is the unification of the strategy for individual SIZs.

Conclusion

The formation of strategic areas of integration precedes the definition of strategic areas of management. SIZs are the worked-out viable links of the system and they are given the “right to participate” at the time of regionalization of the organization’s strategy. Lack of features: the appearance of “developing countries”, their use of technological experience and its introduction, did not make it possible to reflect this in works of scientists.

The value of the “strategic integration” strategy is justified by the fact that the elements implemented in practice are smoothly integrated in accordance with the concept into the system of strategic plans that are effectively integrated and adjusted in the process of tactical activity.

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Valery P. Fiodorov

3 Introduction to Modal Economics

Introduction

Economics is characterized as a positive theory. The origins of this demarcation go as far back as to the life of W. Senior, who was the first one to make a proposal to separate scientific knowledge of economic reality from the discussion of ideas in the field of the art of management (Senior, 1827). Today, economics distinguishes between the study of what “exists” – a positive theory and the study of what “should be” – normative theory; in other words, it distinguishes between existing and due.

The dichotomy of existing and due is still the matter of methodological argument. Alternative ideas are offered both inside and outside orthodoxy. The history of this controversy revealed both positive and negative implications of demarcation.

Methodology

Positive implication consists in the requirement to separate the research study of objective reality from subjectively due ideas of economic administration, which are generally ideologically burdened at all times. Negative implication consists in the inevitable need to reduce the specifics of economic relations to the standard of natural sciences, turning a blind eye to the subjectivity of economic agents. In reality, this necessitates working with conditional suppositions, explaining the resulting hypothetical character of their theorems with uncertain *ceteris paribus* clauses.

Today, however, the positivity of economics is increasingly treated as a not-too-strict scientific norm. Normalization has de facto become an indispensable characteristic of a declaratively positive theory. Hence, we should point out that an important place in orthodoxy occupied normative theory of well-being. The analysis of strictly positive theorems, too, demonstrates that they are based on covert normative suppositions. However, this limited margin of normalization cannot be recognized as quite satisfactory. It is expedient to search for clear and unconcealed solutions. This paper suggests a possible hypothesis for such a solution, namely, the idea of the modal extension of the subject-matter of economics.

Valery P. Fiodorov, Kort LLC, Lipetsk, Russia

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Results

Why should we reshape the hypothesis on the positiveness of economics? Who is it able to get in the way and why? In our opinion, the main problem is the unnecessary “artificial” barrier between a priori knowledge and practice. The fundamental nature of this barrier is the indivisible unity of positive and normative principles in real economic life.

In an effort to distance itself from the flow of subjective ideological oughtness while assimilating with natural sciences, economics has gone beyond its boundaries and the whole set of objective norms that are essential in the regulation of economic life. Historically, this “self-limitation” was introduced into scientific use by J.N. Keynes, when he transformed the traditional dichotomy of scientific knowledge and the art of management into a more fundamental, philosophical dichotomy of existing and due (Keynes, 1891). In our opinion, he made a grave logical mistake in the process. Subjective ideas from the field of the art of management are definitely a form of oughtness. However, the contrary is not true. Due goes beyond these ideas. An entire world of objective norms, which should also be classified as due, remains beyond the framework of subjective oughtness. Therefore, the dichotomy of existing and due is a false idea for economics.

It is obvious that the economy within the framework of repeated circulation reproduces not only its agents and entities of economic turnover, but also the complex of norms in all of its variety. As civilization develops, the practice of scrupulous normative work emerges and develops. The balance between spontaneous and invented norms has historically been variable. However, the functioning of the economy is impossible outside a particular system of norms. Consequently, we have to associate the derivations of our theorems with normatively burdened practice.

Hence, special challenge for economics emerges during verification of its theoretical conclusions. Purely positive theory fails to find a pure positive practice. It felt like this methodological problem was solved within the framework of acceptance of Karl Popper’s ideas on the refutation of theories as a logically truer alternative to the verification procedure by economics (Popper, 1959). However, actual practice confuted this optimism. Real-life experience in refutation has shown that adepts of any theory have infinite possibilities to reform and refine presuppositions, which makes theories “invulnerable” to any facts.

Perhaps, even these issues are not critical either. And maybe we should follow the lead of M. Friedman and confine ourselves to focusing on the successful prediction for the hypotheses made (Friedman, 1953). Accurate and successful predictions of the theory will undoubtedly “wipe out” any unrealistic nature of its suppositions. However, again the practice of predictions fails to confirm that the “philosophers’ stone” has been finally found.

Global economic crises remain the clearest illustrations of the fact that theorists cannot predict even the immediate future. We might provide a textbook example of

1929 and the predictions of the leading American economic oracle of the time, I. Fisher. History also repeated itself with the prediction of another crisis during the Great Recession of 2008–2009. When Elizabeth II, at a meeting in the London School of Economics, asked why ever this science failed to predict the crisis, the leading world economists were simply and solely able to delicately repine at the lack of their collective imagination (Eichengreen, 2015).

Therefore, M. Friedman’s logically flawless thesis on the priority of predictions over suppositions of theories, again faced the specifics of the subject-matter, the fundamental difference of this science from natural sciences in economics. Maybe the time has come to have a look at this adverse trend from a fundamentally different perspective? Maybe economics should stop attempting to carry a face of natural science? Indeed, during the management of economic life of human society, despite the subjectivity of economic agents, objective laws are formed that can serve as the subject-matter. That said, however, this is special science, with its own specific research algorithm.

What is the hypothesis of such an algorithm? We shall start with the fundamental goal of the research study in economics. If natural sciences aim at discovering objective laws that are able to predict phenomena that cannot be observed for the time being or explain phenomena that cannot be understood at the moment, then economics must aim at efficient functioning of the economic system. Thus, if the law is the key target concept for natural sciences, then the incentive must serve as such a concept for economics. The goal of economics is to offer the most efficient system of incentives for the public economy management.

Consequently, the goal of the theory does not consist in passive and detached prediction of some future events, but in active and efficient development of a system of incentives. This process must be infinitely repetitive, when the practice is treated as a source of information to make rational adjustments. Efficiency is the criterion of truth. And since efficiency is always a relative and transient concept, the combinations of incentives can be recognized to be true only relatively.

It appears that all great books on economics were de facto written within the framework of this particular algorithm (that said, the nominal declaration in a similar way to natural science was searching for objective laws). Thus, in “The Wealth of Nations”, Adam Smith provided rationalization for the private interest as the pivotal motive of efficient economy management, having reconciled it with the public good using the idea of “invisible hand” (Smith, 1776). David Ricardo, putting forward the law of the downward trend of average rate of return which turned out to be bogus, insisted on the principles of free trade, which from his point of view created the most efficient system of incentives for the growth of the international economy and trade (Ricardo, 1951–1955, vol.1).

When we focus on the incentive as the epicenter of economics, we should define this concept as precisely as we can. Incentives are information bits which are produced by all economic agents and are designed to be freely and publicly used by

all other participants of the economic system. Incentive is an offer to enter into relations, a formal offer. Structurally, incentive is the ratio of result to cost from the perspective of its source. Incentives are assessed by potential recipients; as a result, the interest emerges or does not emerge, which leads to the formation of a specific structure of real economic activity.

Incentives form a system. In simplistic terms, we can suggest distinguishing micro-incentives, macro-incentives and meta-incentives. Micro-incentives form an initial primary flow of information that binds potential participants in economic relations. For example, an agreement on labor recruitment, or a purchase and sale agreement.

Macro-incentives are associated with the fact that something always occurs in the economy that cannot be controlled at an individual level (even if it is a level of a global institution). As a result, an informational flow of expectations is formed, which largely defines behavior of economic agents. Inflation expectations are the most well-known and elaborated phenomenon of this kind. The behavior of an individual depends on its assessment of the future value of his/her accrued assets and the purchasing power of his/her salary. However, inflation expectations are not the only examples of macro-incentives. We can also cite conjunctural and confiscatory expectations as an example. As a matter of principle, the list is open.

Meta-incentives are formed thanks to the fact that a man is a social animal. The public good is an indispensable component of its mental complex. Accordingly, the idea of the public good becomes the meta-incentive of its behavior. Specific forms of these ideas can be widely varied. They may imitate religious or secular ideologies. Meta-incentives usually serve as the backdrop for ideas, which is nowhere near a priority in the standard motivational complex of a human. However, in a period of public cataclysms, meta-incentives can “shift” to the center of the system of incentives and become a keynote of behavior. It is sufficient to cite any social revolution as an example.

The proposed change of the objective function of science will necessitate clarification of its subject-matter. The essence lies in the extension of the subject-matter of economics, the most accurate definition to which should be modal extension. Indeed, if positive theory insists that it only examines the “being”, then modal extension implies extension of the subject-matter to include the study of what “should be” (norm) and “can be” (incentive). Because only the combined study of all these aspects of human existence makes it possible to study current reality, rather than hypothetical one.

Conclusion

Hence, we shall define the main findings from our short essay.

First, we should stop attempting to fit economics into Procrustean bed of natural sciences. It will never become physics, no matter how much mathematics is added to it. It's just another reality. There's a lot of fundamental differences. These include the subjectivity of individuals with free will, and the diversity of aggregated communities, from the company to the society in general, that have their own motivation pattern, and the idea of time that all economic agents rely on. And that's not all. However, these distinctions do not make economic science a second-rate one.

Second, we should abandon the doctrine of the dichotomy of positive and normative economics. Today, it is already clear that positive theory itself is replete with covert normalization, and the thesis about its pure positiveness has become a rhetoric. The economy itself produces not only goods and services, but also such mandatory and non-mandatory information bits as norms and incentives, which means that modality is objectively reproduced within the framework of production circulation and is integrated into existing – allegedly purely positive – reality.

And third, the target of economic science should not consist in predicting events like it is expected from positivism; further, it should not consist in understanding reality, as was suggested by Max Weber; instead, it should consist in changing the world in an active and efficient way, to achieve more efficiency if possible.

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Tair M. Mahamatov, Saida T. Mahamatova

4 The Evolution of Liberalism, the Market Economy and the State in the Context of Globalization

Introduction

The mutual influence between liberalism, the market economy, and the state in the context of globalization is delved deeper in this chapter whose aim is to underline how a good relationship between the market economy and the state according to the principles of liberalism is but the basis for an effective development of modern society in the foreseeable future.

Given the history of liberalism as a necessary socio-political basis for the development of a capitalist market economy, we can certainly affirm that there can be no modern market economy without the principles of liberalism. However, liberalism in its original form has already outlived its usefulness as it no longer meets the requirements of the modern market economy, evolving democracy and social policy of the state. Therefore, according to our view, not only modifications of its principles are necessary, they also should merge with social democracy.

This chapter validates the idea of objective mutual conditionality of the evolution of the principles of liberalism, democracy, market economy and the state at the present stage of globalization.

The study of the characteristics of the growing role of the state in the field of the complex market economy in the context of the growing activity of civil society, migratory processes and the worsening of the contradictions of globalization also becomes an urgent scientific problem.

As a matter of fact, the role of the state (except for North Korea and Cuba) in the economic sphere is not as centralized as in the socialism era. At the same time, as shown by scientific research on the political and economic practice of modern democracies by F. Fukuyama, J. Keane, Ch. Lindblom, C. Crouch and others, the formation of new forms of democratic centralism practice in modern democracies is observed (Fukuyama, 2010; Keane, 2015; Lindblom, 2010; Crouch, 2016).

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Tair M. Mahamatov, Saida T. Mahamatova, Financial University under the Government of the Russian Federation, Moscow, Russia

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Methodology

To solve this problem, the authors use scientific approaches and conclusions of the following scholars: R. S. Greenberg (2010), D. E. Sorokin (2020), Ch. Lindblom (2010), C. Crouch (2016), F. Fukuyama (2010), J. Keane (2015), E. G. Popkova (2019), F. von Hayek (2006), N. Boltz (2014), L. Duston, P. Galison (2018) and others.

The complexity and dynamism of society, the internal contradictions of its economic and political spheres and the evolution of people's democratic way of life require the application of some theoretical principles of scientific research such as conceptual modeling, idealization, consistency, objectivity. In the philosophy of Economics and politics, the principle of objectivity, according To L. Duston and P. Galison, means the pursuit of "knowledge that is not marked by prejudice or skill, imagination or judgment, desire or aspiration". Objectivity is the desire to minimize the influence of the "subjective self" (Duston and Galison, 2018).

Evolution of Liberalism, Democracy and Market Economy

Many researchers of the problems of modern society from F. Hayek to F. Fukuyama often raise a rhetorical question about the positive or negative role of democracy in the functioning of the market economy. At the same time, research is emerging on the crisis of democracy (Crouch, 2010; Canfora, 2012).

Recently, another question has been asked and it requires an adequate answer: "Is liberalism dying?"

Such questions do not always take into account three factors which are linked with the social and economic evolution of developed societies, as a matter of fact those factors are methodologically essential in order to fully comprehend the socio-economic development of the modern world.

The first factor is globalization: The latter has a strong influence on the evolution of all spheres of modern societies. First, globalization, as a natural and historical factor in the existence of modern humanity, strengthens the mutual influence and interdependence of all countries of the world (Chumakov, 2017), promotes the spread and evolution of the principles of liberalism, democracy and market economy.

Moreover, in the era of globalization, when the countries' internal market depends on many factors such as oil prices, the policies of mutual sanctions of the main world economies, the situation on the world financial markets, various epidemics, etc., where each country is involved in numerous economic, political and environmental dynamics, it is not correct to say that the socio-economic development of society is determined only by the democratic or authoritarian political system, by the market or planned economy.

The historical experience of the USSR in the 1930 years and 1950 years and that of China from the 1980 years to today shows that authoritarian regimes under certain conditions are more effective than democratic ones. These regimes limit but do not exclude market relations in any way.

The second factor: The principles of liberalism were formed as the necessary foundations for the establishment and further development of a market economy and a democratic way of organizing the socio-political sphere of society. More F. Hayek wrote that “consistent application of liberal principles leads to democracy” (Hayek, 2003).

The development of democracy has a positive effect on liberalism, improves it, gives it a social character. As a result, a confrontation arises between the modern principles of liberalism and neoliberalism, in which democratized liberalism gradually takes precedence. According to C. Crouch, neoliberalism “can no longer be trusted to protect diversity” in a market economy and political institutions of society (Crouch, 2016; Crouch, 2012).

Studies on liberalism indicate that we should not speak of the death of liberalism, but of contradictory tendencies in its evolution. For example, V.N. Kostyuk believes that in the future there will be a unification of the political, social and economic forms of liberalism and their transformation into “Trinitarian liberalism”, “while the contradictions that arise between them will disappear” (Kostyuk, 2014). In our opinion, it is more correct to speak about the forms of manifestation of the principles of liberalism in various spheres of public life, because liberalism is a unified system of development of the principles of a free legal society. In practice, there may be a deviation “to the left”, which leads to social democracy, or “to the right” from its ideal model (Greenberg, 2010), which leads to neoliberalism. In addition, the social democracy generated by the “liberal capitalist environment” “produces a higher degree of liberalism than traditional self-presented liberalism” (Crouch, 2016; see also: Krugman, 2009; North, Wallis and Weingast, 2011).

In modern market economy societies, both models of liberalism are found. We believe that judgments about the end of liberalism can only be attributed to neoliberalism, which adheres to the principles of the first and “right” sense of liberalism.

To the rhetorical question “does democracy help or harm the economic development of society?” you can answer as follows.

After the long domination of neoliberalism in the economies of many developed countries, the question of the need to overcome deep inequality in its various forms, which generates social tension in society, has become acute (Atkinson, 2018; Stiglitz, 2017). Further even development of the economy in socially favorable conditions becomes possible only by deepening and expanding democracy. The deep development of democracy gives the economy an environmental focus (Keane, 2015) and a greater social orientation as citizens become one of the active parts of the agreements: “corporations – state – unions – civil society”.

Modern democracy is not the democracy that was formed between the late eighteenth and early nineteenth centuries. It is pressured by the contradictions of

the market economy, the activity of workers and “left” political forces. On the other side, new characteristics, factors and forms of its implementation appear. Already at the beginning of the 20th century, J. Dewey noted that for the fullness of democracy, its political form is not sufficient, it must grow into the way of life of the people (Dewey, 2002; 2003).

In our time, C. Krouch (Krouch, 2016), J. Keane (Keane, 2015) and others write about significant changes in democracy.

For example, John Keane after Michael Shadson continues to explore the new form of evolution of democracy: “monitor democracy He writes that” the democracy of our times is closely linked to the consolidation of societies saturated with multimedia, whose power structures are constantly questioned by a variety of monitoring or “controlling” mechanisms operating in a new galaxy defined by the ethos of communication abundance” (Keane, 2015). In addition to that, democracy today is not only limited to monitoring and criticizing the actions of the authorities, but includes citizens’ initiative in solving the urgent tasks of their habitat and protect the environment.

The third factor is the ambiguity and synergy of the development of a market economy and its relations with the state: As we know, neoliberalism adheres to the position of the “night watchman” state. However, the internal contradictions of the market economy, the expansion and deepening of democracy and the growth of civilization in modern societies (Makhamatov et al., 2020), the contradictions of economic globalization, environmental crises significantly change the nature of the market economy itself and the functions of the state.

According to C. Crouch, “the need to involve the state may arise when it is necessary to ensure the proper functioning of markets (for example, by destroying monopolies), regulating their work in order to prevent the abuse of market power or the complete abolition of market relations in a particular sector of the economy (if it becomes obvious that markets are not able to provide satisfactory results)” (Crouch, 2016). The state in the modern market system, according to C. Lindblom, becomes a regular market participant, an insider in the market, as “the largest buyer and seller in the market system”; “In life, the market system is the main tool of public administration” (Lindblom, 2010).

Some of the most important tasks of the state are the solution of social problems, the guarantee of social justice and the implementation of the principle of “every person is irreplaceable”, which in the economy is manifested as the principle of “everyone according to their work”. Another important task that the state can successfully solve on the basis of market mechanisms is to ensure the priority development of technologies (Sorokin, 2020; Popkova, 2019).

However, the essential task of the state was and remains to guarantee the integrity of the country, the stability of public life, the political, legal and socio-economic foundations of the free development of every citizen and of society as a whole. The contradictions generated by the new stage of globalization, the complexity of demographic situations, socio-economic problems and contradictory trends in the market

economy itself necessarily require the institution of the state to apply market and democratic forms of coercion exclusively within the framework of law.

The state that regulates the relationship of the subjects of a market economy creates legal foundations, manages money, credit, subsidies and fiscal policies; through customs duties it protects the internal market. Acting as “the largest buyer and seller in the market system, acquiring the services of teachers, scientists and highway builders, as well as agricultural products”, in some circumstances applying legal coercion (Lindblom, 2010; Crouch, 2016), the state guarantees the integrity of society, the stability of its existence and the free development of all society and every citizen. As noted by R.S. Greenberg, “Both leadership and economic liberalism are necessary for the economy. But at the right time and in the right place.”

Thus, the modern market objectively needs state participation and the state not only ensures the security and integrity of the country, but also acts on the principle of democratic centralism in the market economy (Makhamatova et al., 2019).

Are Equality and Justice Possible in a Market Economy?

Legal equality is known to be the foundation of a market economy. It is the personal legal independence of a person in society that creates the legal space of capitalist production, which is one of the objective laws of a market economy. Thomas H. Marshall wrote that “civil rights were necessary for a competitive market economy” (Marshall, 2011). In legal equality, the social essence of a person and the limits of his active, entrepreneurial freedom as a citizen are more clearly manifested. He, as a member of the community, performs a necessary social function that can be performed by other individuals as well. Here the principle of interchangeability manifests itself with objective necessity and can be formulated as “every person is interchangeable”. This principle, however undemocratic it may sound, is the objective basis for the functioning of a market economy and for guaranteeing the integrity of a social body.

However, it should be said here that equality of citizens before the law is not equal in natural capabilities. K.D. Kavelin, another 19th century Russian political philosopher, like J.-J. Rousseau considered people’s natural inequality as “the fundamental law of human societies” and wrote that the theories that deny the objectivity of such inequality are the most harmful and dangerous for society (Kavelin, 1989). The importance of his thoughts is confirmed by the position of N. Bolts, who writes that the secular ideology of equality as identity, “perpetuates the hatred generated by the reality of inequality” because “it is impossible to change the natural “unfair advantages”, i.e. the presence of people with different innate abilities and talents, without compromising the freedom of society” (Bolz, 2014).

If the interchangeability of individuals guarantees the unity, integrity of the social organism and the normal functioning of the capitalist market economy, the indispensability and natural difference in the abilities of individuals is the basis for the development of a social organism. Natural inequality as a difference in capacity forms the basis for the development of the market and of society.

Legal equality, being one of the fundamental principles of liberalism, democracy and the foundations of the free labor market, creates a certain framework for the legal regulation of the effects of inequality of capacities, including mechanisms to combat excessive monopolization.

In modern democracies, in addition to legal equality, the concept of social equality was formed. It means achieving at least relative social harmony and a stable market economy by creating equal starting opportunities, equal conditions for education, health care, establishing a minimum per capita income, using progressive taxation. We believe that social equality in union with the expansion of legal equality is the essence of social justice, which neoliberals consider to be contrary to the “principle of equality before the law” (Hayek, 2003: p. 159). Modern “left” liberalism, democratic political forces, civil society institutions, based on the principles of an evolving market economy and the social policy of the state, will be able to mitigate the problems of true inequality, thus widening the practice of social justice.

Nowadays, the level of civilization, democracy of the nation, its market economy, based on the objective principles of “Trinitarian liberalism”, is determined by the state of true social justice. We agree with the position of V.N. Kostyuk, who states that “today, perhaps, we should not speak of a pure economy, but of socio-economics. This is an economy in which social and political factors are as important as purely economic ones, and in which each of these factors does not exist independently of the others” (Kostyuk, 2014: p. 62). The implementation and development of social justice is the common goal that can unite the modern type of liberalism, a market economy, democracy and the state in a single integral system.

Conclusion

Our study about the relationship between liberalism, market economy, democracy and the state in modern conditions has exposed that in most approaches these factors are considered beyond their historical variability, beyond evolution and relationships. That is why modern critics of liberalism struggle with its previous forms, which, in fact, only protected the interests of capital, leaving social problems, including problems of justice to the workers themselves. Today’s liberalism cannot be considered outside of the context of democracy.

The market economy has also changed significantly in our time. It is based not only on the principles of modern liberalism, but is strongly influenced by democracy, and cannot work properly without flexible state intervention.

From scientific publications dedicated to the analysis of liberalism, democracy, market economy and the state, we have been able to identify, synthesize and systematize the individual thoughts that contain facts about their evolution. The reality of our time and its scientific understanding suggest that without taking into account the historicity and evolutionary nature of the principles and forms of organization of the spheres of public life, it is impossible to effectively predict the further socio-economic development of society.

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Irina P. Komarova, Kava Khodzha, Darina A. Sizova

5 The Influence of Platforms on the Transformation of Economic Reality

Introduction

In the modern economy, a lot of spheres undergo total transformation because dynamic development of technologies has reformatted the limits of modern organizations, moving or destroying the traditional division of the spheres. The architecture of modern business moves away from the market forms of interaction towards the network forms, where the role of the central agent belongs to platforms.

The coronavirus pandemic has influenced the world economy and has led to the paralysis of most companies with traditional business models. However, even in such critical time, the companies which strategies of development were initially built on the basis of online platforms are able to keep their positions in the market and even perform scaling of their business. Thanks to such companies as Amazon, consumers are able – in the conditions of self-isolation – to get all they need, without any risk of infection because of leaving their homes and visiting offline stores. The situation with the coronavirus pandemic has led to creation of a new economic reality, in which only the companies that are able to develop a new business model, which would be strong enough even in the conditions of total isolation, will survive.

The obvious advantages of platforms, as compared to traditional business structures, include the ability for quick scaling and achievement of positive network effects, which are studied here. Special attention should be paid to the issue of platforms' influence on the development of the sharing economy. Here we speak of concentric networks, where a network online platform performs the task of coordination of other economic agents' actions.

Methodology

The methodological basis of this research consists of the neo-classical and institutional theories. The research methods include the historical method, case-study, and structural and comparative analysis.

Irina P. Komarova, Kava Khodzha, Darina A. Sizova, Plekhanov Russian University of Economics, Moscow, Russia

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Results

In the modern economic realia, it takes several years even for large companies to achieve large success and then to fall down. In the past, the average life of companies from S&P 500 list was assessed at fifty years. Today, it is fifteen.

A vivid example is Nokia. There were times when Nokia was among the leaders among cell phones manufacturers. However, appearance of iPhone in 2007 and Android in 2008 changed the situation drastically. Nokia ignored the necessity to develop software, concentrating instead on hardware. The industry of mobile technologies required another approach: platform – not product – was important. Nokia used to compete in the hardware market, improving technical characteristics and functions, while its rivals conquered the market not with devices but with whole eco-systems. The approach used by Google and Apple was oriented at creation of platforms – to allow developers and consumers to interact directly. Success of these platforms was predetermined not by functions and technologies but by creation of a new market and appearance of new sources of values.

Modern transformation quickly expands the limits of what is possible. Solutions to a lot of tasks, which seemed to be unattainable only ten or fifteen years ago, are taken for granted today. That's why a lot of people do not realize the volume of changes in society and economy caused by the technological revolution.

Platforms and Their Role in the World Economy

A lot of people think that Internet is an open field for creating and distributing goods, services, and information.

However, the axiom of the Internet openness for economic agents is not undisputable. Platforms have taken this field and now dominate in it (Wong, 2014). For example, when on August 16, 2014, the Google platform stopped functioning for a several minutes, the world Internet traffic reduced by 40% (Blodget, 2013). Platforms start playing the key role in most spheres (Table 5.1).

Table 5.1 shows the diversity of platforms. It might seem that such corporations as Amazon and General Electric, Udemy, TripAdvisor, Instagram and Uber have little in common. But all of have a fundamental basis – platform: they unite their users and accelerate the interaction between manufacturers and consumers (Khodzha, 2018).

The development of platforms led to the situation when all traditional methods and tools of business management undergo a qualitative transformation.

Table 5.1: Production spheres that were transformed under the platforms' influence.

Production sphere	Examples of companies
<i>Agriculture</i>	Intuit Fasal, John Deere
<i>Consumer goods</i>	McCormick Foods Flavor Print
<i>Education</i>	Skillshare, Coursera, Udemy
<i>Games</i>	Xbox, PlayStation
<i>Logistics and supply</i>	Munchery, Foodpanda, Haier Group
<i>Media</i>	YouTube, Wikipedia, Kindle Publishing
<i>Operating systems</i>	Android, MacOS
<i>Retail</i>	Amazon, Alibaba
<i>Travel</i>	Airbnb, TripAdvisor
<i>Communications</i>	Facebook, Twitter, Tinder, Instagram, LinkedIn
<i>Transport</i>	BlaBlaCar, Uber

Source: G. Parker., M. Van Alstyne, S. Choudary. Platform revolution, W. W. Norton & Company, Inc., 2017, p. 15–16.

Traditional Business Model vs. Platforms

The traditional business model, based on which most companies in various spheres work, is a linear chain of value creation. For example, car manufacturers purchase car parts from suppliers and then assemble cars from them. Then, a car is sold to dealers, which, in their turn, sell them to final consumers. As is shown in the example, at each stage of this linear chain, economic agents create product's added value (Figure 5.1).

**Figure 5.1:** The linear flow of values in the supply chain.

To create a linear business, it is necessary to invest in fixed assets, open plants, build an effective team, and invest in human capital, as well as create effective sales channels.

One of the vivid advantages of platforms, as compared to the linear chain of value creation, is the ability for quick scaling. For example, in the traditional television industry, editors consider hundreds of various projects before choosing the ones that they think would be interesting for the audience. This is a complex process, which is not always effective – for it is based on the opinion of individual editors. On the contrary, the YouTube platform allows everybody to post a video and check the consumers' attitude to determine the demand for the presented material. YouTube does not create content – which is unthinkable in the traditional business model.

Another example of quick scaling is Uber. It took Uber only a couple of years to become the world leader in passenger transportation – due to a business model that is based on platforms. For Uber to grow, it is sufficient only to add new drivers with privately-owned vehicle.

Appearance of platform is closely connected to the sharing economy. Networks of value creation on the basis of the sharing economy could be divided into strategic alliances without a strict center and concentric networks. A concentric network is a group of economic agents that are interconnected by cooperation ties, in which the role of the coordinating center belongs to a network online platform (Uber, Airbnb, Profy.ru, Avito, etc.). Transition from benefits exchange to authorities exchange is based on shared use, not the possession of a resource (Ustyuzhanina et al., 2018).

For example, platform Turo (turo.com) could be used to share your car with others without any concerns about its damage – since the platform provides automatic insurance, due to which the issue of the partner's reliability becomes unimportant.

The Network Effect of Platforms

The notion of “scale effect” appeared due to technological innovations. In the previous age, large monopolistic structures appeared due to expansion of production and the scale effect. This allowed achieving a large scale effect, reducing the costs of unit produced and thus creating serious barriers for rivals.

In the 21st century, companies achieve the monopolistic position due to growth of demand. This phenomenon was considered by two economists – Hal Varian and Carl Shapiro (Shapiro, 1999).

Robert Metcalfe, one of the creators of Ethernet and the founder of 3Com, noted that the value of a telephone line grows with the growth of the number of users, increasing the number of connections between them (Parker et al., 2017).

Another vivid example of competition from platforms is the generation of such messengers as WhatsApp, Viber, etc. Before them, mobile operators received large income from SMS. When the messengers appeared on the market, allowing users to exchange messages for free, mobile operators were powerless against the combination of free, instantaneous, and unlimited messaging. As soon as 2016, more than a billion people were using messengers, sending more than 40 billion messages a day.

As time went on, even the devote fans of SMS started using messengers. The reason was that most of the people with which they used to exchange messages were already using these apps, and they had to start using free messengers as well.

The bilateral network effect deserves special attention (Eisenmann et al., 2006). There are two market sides in the Uber business model: passengers and drivers. The situation with Android Google and iOS Apple is the same: developers of the apps attract consumers, and consumers attract the apps developers. These are the examples of bilateral network effect with the positive feedback. Understanding the importance of this effect, platforms spend a lot of money to attract participants to one of the market sides, since they know that if they are able to convince one side to join the platform, another side will join the platform as well.

However, there are also negative network effects. Growth of the number of users could lead to increase of complexity or even impossibility of an agreement between the parties. This could be seen at the dating sites. Growth of the number of members will make the choice of the two sides more complex, and this will lead to reduction of the number of acquaintances.

The Coronavirus Virtual Reality: Strategy of the Future

While most companies suffer losses because of the COVID-19 pandemic, certain technological companies, which strategy is based on the platform solutions, experience a quick growth of sales. The consequence of companies' transition to remote work was the unseen growth of popularity of apps for video calls and video conferences. Large growth of the users' interest was observed with such apps as Zoom, Skype, Hangouts Meet, Microsoft Teams, etc.; during the last week of March 2020, the total number of downloads in difference countries grew by 90%, reaching 62 million (Perez, 2020).

A vivid example of a successful business strategy, based on the platform solution, is Amazon. Despite the crisis, the company's shares grew by more than 20%. In the conditions of large growth of unemployment and reduction of jobs, Amazon announced the hire of additional 100,000 employees, which was explained by the growth of demand. Amid the COVID-19 pandemic, the capital of Amazon CEO J. Bezos reached \$6.4 in one day (Klebnikov, 2020).

The following fact is obvious: the architecture of business will undergo serious transformation after the pandemic, and the "rules of the game" of economic reality will change. We think that only the companies that are able to develop a new strategy, aimed at creation and development of an eco-system, will be successful even in the conditions of isolation.

Conclusion

1. Platforms transform the traditional models of doing business, changing the forms of economic agents' coordination.
2. The notion of platforms is closely connected to the phenomenon of the sharing economy.
3. Chains of value creation based on the sharing economy could be divided into strategic alliances and concentric networks, where the central link is the information platform.
4. The transition from exchange of benefits to exchange of authorities is based on shared use, not the possession of a resource.
5. While in the 20th century corporations reached success due to saving on the production scale, now they emerge due to saving on the growth of demand and emergence of network effects.
6. Network effects do not always have a unidirectional influence, stimulating the growth of benefits of the interaction's participants. At present, there emerge also negative network effects – when growth of the number of the interaction's participants decreases the probability of achievement of the participants' agreement.
7. At present, when the level of macro-economic uncertainty, connected to the speed and scale of the coronavirus dissemination, is very high, competitiveness and chances of survival of companies directly depend on the possibility and the speed of adaptation to platform solutions.

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Valentina M. Bondarenko

6 The Role of an Interdisciplinary Approach in Shaping the Development Strategy of the Global Economic System

Introduction

Since the beginning of the 21st century, the interdisciplinary approach has been one of the progressive and modern approaches. But to date, interdisciplinary research has been understood, for example, to solve economic problems by methods of other sciences or to combine the simultaneous solution of certain aspects that are not systemically related to socio-economic problems by methods of other sciences. But with such approaches, as practice shows, until it is possible to solve all the problems of development, the crisis state of socio-economic development of the global world is growing at an accelerating pace. Although effective collaboration and collaboration between staff of different disciplines was expected to maximize the potential benefits of interdisciplinary research and provide the foundation for future research activities (Bridle et al., 2013). This is written by the international peer-reviewed interdisciplinary journal Futures, dedicated to the medium- and long-term future of cultures and societies, science and technology, economics and politics, the environment and the planet, individuals and humanity. At the same time, today, when the global world, which involves almost all countries, plunged into the deepest crisis, the oil collapse and shock caused by the COVID-19 virus pandemic, everyone on all sides claims that after the pandemic ends, the world will be different. But what will the world be like? Will this be an attempt to reanimate the existing development model again? Or maybe something else? It's not clear. But the need for research based on an interdisciplinary approach has increased many times, since in world science there has long been a discussion about the need and possibility of moving the global world to a new development paradigm.

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Valentina M. Bondarenko, Institute of Economics, Russian Academy of Sciences, Moscow, Russia

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Methodology

The term “paradigm” is not new. The founder of its application in science is Thomas Samuel Kuhn (Kuhn, 1975). By paradigms, he meant scientific achievements recognized by everyone, which, over a period of time, allow scientists to successfully solve problems. Beyond this, there is a need for a new scientific paradigm.

The debate about the need and possibility of moving to a new development paradigm has long been on the pages of the largest world publications of such many authors (Laszlo, 1987; Šlaus and Jacobs, 2013; Jacobs, 2014; Jacobs, 2017; Phillips, 2018), which states that the formation of a new paradigm is an extremely urgent issue, since the existing human development system has ceased to meet modern realities. But most often, scientists consider moving to a new paradigm within a specific area: politics, education, medicine, philosophy, and many other industries (Barrera et al., 2018). In Russia, as early as 2003, Professor Azroyants wrote that there was a need to discover the patterns that determine the processes that gave rise to acute problems in the development of global society, and that science could not rise above the study of individual global problems and projects even undertaken within the framework of interdisciplinary studies. (Azroyants, 2003) And academician Nikita Moiseev predicted that, since the future of globalization is unpredictable, a disaster can happen in the middle of the coming 21st century (A planetary thinker, 2000). The author’s conclusions were that globalization is a moment in the history of the development of the human community in the development paradigm that dominates the planet. Not having time to emerge, it will begin to deny itself (Globalization, 2003).

The authors justify the need for the transition of humanity to a new development paradigm by the fact that economic growth is depleting the global base of natural resources at a frightening rate, threatening long-term catastrophic changes in the climate. Competition for scarce resources exacerbates competition between countries. Humanity seems to be driven by mutually exclusive, conflicting goals that lead to clearly intractable problems. In other words, there are many reasons why the real paradigm of global society does not provide optimal solutions. At the same time, the authors write that a new scientific paradigm is needed to understand the new development paradigm, since numerous problems have common features: all of them go beyond narrow disciplinary boundaries and do not give optimal solutions, since it is based on outdated economic theories and assumptions, such as, for example, the infallibility of free enterprise. All this prompted the authors to draw a fundamental conclusion: the world urgently needs fresh thinking in order to formulate a new intellectual scientific paradigm, which should be based on a new set of ideas and new principles for their application. And already on the basis of new knowledge, on the basis of a new scientific paradigm corresponding to the request of time – the era of the deepest global crisis and inevitable transformations to form a new paradigm for the development of humanity as a system.

Results

The author of this chapter came out on the basis of the foundations of a new scientific paradigm for a complete understanding of the laws of the development of the human system. Its novelty is: it is determined that humanity in its development objectively, whether we want it or not, has only one ultimate goal; the ultimate goal is for each individual (that he or she is not yet fully aware of) to become perfect. Not only physically, but also intellectually and spiritually, and become a happy person with a high level of consciousness. In fact, the human potential to achieve this goal is the basis of the principle of unity of the entire global society (Bondarenko, 2014).

The second postulate of the new scientific paradigm is that the development of a global society must be considered from the point of view of integrity, systematics, complexity and on the basis of combining all sciences and spiritual knowledge into a single interdisciplinary, or rather, transdisciplinary knowledge. And use it only in relation to this objectively defined development goal, since the use of an interdisciplinary approach in alliance with such approaches as integrity, systemicity, complexity and all together only in understanding the need to achieve an objectively specified development goal gives a completely fantastic synergistic effect. It makes it clear that only in this way is chaos, complexity and uncertainty eliminated and the search for answers to all development problems is minimized in time and space. But today many scientists prove that chaos, complexity, uncertainty and crises are a natural, even necessary condition for development. In response, new branches of knowledge are justified, further creating obstacles in understanding development problems.

The third and fourth postulates in the new scientific paradigm are that everything is analyzed through a single indicator – “time” and through the “single criterion of effectiveness” of the development of the human system – “time between” the identified goal and the reality where the world is located. The smaller the “time between”, the closer humanity and each individual come to realizing the goal. This provides the key to understanding the existing development paradigm, to identify and prevent the causes of crises, climate change, and environmental disasters. And it also provides the key to understanding the paradigm of development, in which there will be no pre-conditions for any kind of war involving, for example, atomic and other modern weapons, or hidden wars involving climate, biological, information and other weapons, sometimes affecting not only individual States, but in general the entire global world. Today we are witnessing a form of war such as the pandemic of the COVID-19 virus.

Therefore, we see that any of the problems of the development of any country of global society is not an economic problem. It is also not a problem only of the humanities or technical sciences, not a medical problem and not any other single problem, as the author wrote about it many times in her articles. This is a systemic, societal problem, moreover, worldview (Bondarenko, 2008, 2009, 2019a). In such a way, this is the problem of the inevitable change of the development paradigm that dominates the planet today. Therefore, crises, chaos, complexities and other

adversity are replicated in this development paradigm on a global scale and with increasing speed and likelihood of global catastrophe.

The new scientific paradigm, repeatedly tested over a long time, turned out to be able to justify a new development paradigm, a new model for predicting the future from the future, a new model for the life structure of the entire human community. And also to propose an effective mechanism for its formation and implementation not only in the long term, but also in the coming years (Bondarenko, 2019a).

An adequate paradigm for the future of the global world, and at the same time any country alone, is one that takes into account the objective laws of development and creates all the conditions for achieving the ultimate goal. Studies have shown that the fourth technological revolution in today's development paradigm predetermines the emergence of numerous threats and risks. And in another new paradigm of development, it may become a prerequisite for its formation. It's like a classic political economy. The new level of development of productive forces should correspond to the new production relations. If they do not correspond, a crisis arises.

All countries of the global world quickly adopted various achievements of Industry 4.0, such as artificial intelligence (AI), the Internet of Things, biotechnology and neurotechnology. This determines that development can follow one of three potential models of global society, each of which has its own system of relations between the state, society, business community and specific individuals, depending on the chosen development goals.

First model: Society consciously or unconsciously chooses its own development goals, and a small group of people sets their own goals. All these sets of goals are different. Development takes place by trial and error, and the future is uncertain, that is, the movement towards different goals can never reach the point where it triggers the transition to a new socio-economic model, the mechanism of the functioning of which ensures the achievement in time and space of a single objectively set goal. The various objectives will inevitably be a source of unpredictable tension and conflict.

Second model: Development remains within the current system. But in the interests of a small group of people. This model has the objective set by this group. Such a model includes a tendency towards technological singularity, the core of which is AI, biotechnology and other technologies for managing and manipulating human consciousness. This model has the ultimate goal of controlling each individual and the world in order to maximize profits. This will entail increasing risks to the state, society and the individual, as well as prevent the transition to a new socio-economic paradigm of development, not to mention the fact that this is most likely a single objectively set goal will never be achieved.

Third model: digital and other high technologies of Industry 4.0 create conditions for adoption by the world community of a new model of development, a new model of life structure, which involves understanding the ultimate goal and serves the interests of society, business and each individual in full agreement and unity.

This model means prioritizing the interests of specific people, harmonizing and harmonizing the most different interests of people in real time, production based on digital technologies and meeting the personalized most diverse needs of specific people in real time. It also determines the absence of excess production, which helps to save resources, solve environmental problems, stop negative climate changes and prevent natural disasters. Most importantly, this will allow everyone to have more time for self-realization, will encourage people, especially young people, to participate in rapid and sustainable development in the pursuit of self-realization and self-improvement. In this case, the technological singularity is synchronized with the singularity of the emergence of new relationships between people and with their awareness of the need for an evolutionary and irreversible process to achieve the ultimate goal of development.

In her previously published works, the author wrote many times that until now the world was located between the first and second models (Bondarenko, 2019b). However, the pandemic of the COVID-19 virus, combined with rapidly developing and emerging digital technologies and large-scale innovations that link to a particular individual, coupled with an impending world crisis and growing conflicts that exacerbate international relations, etc., are rapidly pushing the world community towards a second development model. To the model that the apocalypse inevitably awaits. But together with the acceleration of the introduction of Industry 4.0 technologies, especially digital technologies, the pandemic of the COVID-19 virus has also prompted the fact that at the same time, awareness (growth of consciousness) comes on a large scale in the need to accelerate the change of the existing development paradigm. It is not without reason that almost 200 famous cultural figures, scientists and athletes signed an open letter calling on leaders and citizens to change their way of life in order to prevent an environmental disaster (Madonna and Robert de Niro, 2020). Thus, the ultimate objective of human and social development formulated by the author can be achieved only if Governments of all countries recognize that the introduction of various advanced technologies into society creates the conditions for the realization of the most threatening scenarios for the destruction of the existing global human system. And vice versa, based on this recognition, they can work with their people and the world community to develop a unified development strategy in which to put the implementation of the third development model and the mechanism for its implementation first.

Conclusion

The new scientific paradigm is based on four inseparable components in which interdisciplinary is a prerequisite. This allows us to form a single strategy for the development of the global economic system. An almost new scientific paradigm

allows us to solve the problems of development in the whole global world and any country separately not by “trial-and error method”, but with an understanding of the ultimate goal and in the interests of all communities and each individual living on this planet. 2030 is not a horizon for forecasting in the new development paradigm, it is a horizon for the entire future of achieving the goal.

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Part II: Long-term Industry Solutions for the Strategic Development of Entrepreneurship and Markets in the Global Economic System Until 2030

Chikusela Sikazwe, Erastus M. Mwanaumo,
Wellington Didibhuku Thwala, Richard Kasongo,
Lubinda Haabazoka

7 A Scenario Analysis of Transport Futures in Developing Countries: A Case Study of Zambia Railway Freight Future – a Long- term Framework for 2050

Introduction

Long-term policy planning, as a result of deep uncertainty, presents a challenge to policy maker and analysts alike with most traditional tools used in planning failing to account for surprise events that may occur in the future (Marchua, et al., 2019; Lyons and Davidson, 2016; Haasnoot et al., 2013). Examples of projects implemented based on traditional methods that did not achieve desired results in the transportation sector include the Infrastructure investment in the *English Channel* where it is argued that the channel is yet to achieve the desired transport outcomes and overall actual performance has below the forecasted performance that was arrived at using traditional transport planning approaches (Marchua et al., 2019).

Zambia's current transportation policy focuses on improving transportation infrastructure for Zambia to achieve the status of being a regional hub (MTC, 2019). This study focuses on railway freight transportation related infrastructure. This is against a backdrop of poor railway infrastructure and railway freight performance (see MOF,2008; MOF, 2009; MOF, 2010; Foster and Dominiguez, 2011; SADC, 2012; MOF,2015; ZIPAR, 2016; Mwila and Mwanaumo, 2016; MOF 2016; MNDP,2017; MTC, 2019; PMRC, 2019; Sakanga, L.M., Mwanaumo, E. & Thwala, W.D. 2020). One of the shortfalls of Zambia's current transport policy does not account for future deep uncertainty in relation to desired infrastructure investment outcomes. This could likely pause a challenge for the Zambia to achieve in the face of plausible future drivers of the transportation sector relative to railways.

This chapter presents a detailed discussion of Zambia's likely future scenarios from a scenario discovery perspective. The chapter presents results part of a long-length research. The study used existing literature and reports on like railway freight

Chikusela Sikazwe, Richard Kasongo, Lubinda Haabazoka, Graduate School of Business,
The University of Zambia, Zambia

Erastus M. Mwanaumo, Wellington Didibhuku Thwala, SARChi on Sustainable Construction
Management and Leadership in the Built Environment, Faculty of Engineering and the Built
Environment, University of Johannesburg, South Africa

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futures for Africa and developing countries like Zambia. The chapter concludes by providing four likely future status for Zambian railway freight-related services.

Methods and Materials

Similar to a study by Blanco and Moudon (2017), the study employed thematic approach to peer-reviewed literature, reports and documents on railway transportation futures and applied scenario axes methodology to build four plausible future scenarios. The result of the thematic analysis were key parameters for future uncertainty for railway freight transport-related activities for the year 2050.

In developing future scenarios, the study identified future drivers of railway infrastructure using the STEEP framework similar to studies by Melander et al. (2019); Blanco and Moudon (2017); Lyons and Davidson (2016); Bernardino et al. (2015). The identified drivers were then ranked by most critical uncertainty and used to develop four plausible future scenarios using the scenario axes model based on an interplay of “infrastructure funding availability” and “railway freight traffic volumes”.

Literature Review

Deep uncertainty has been noted as a challenge to policy makers and most traditional tools used in accounting for eventualities for the long-term future considered as insufficient (Marchua et al., 2019; Haasnoot et al., 2013, Goodwin and Wright, 2010, Popper et al., 2009). Underscoring the challenges associated to poor performance of traditional tools in addressing deep uncertainty, Marchua et al. (2019) postulate that the English Channel has been unable to generate its desired outcomes as the initial planning was based on traditional tools that did not consider likely changes associated to deep uncertainty at the time of planning. A number of current models that deal with deep uncertainty have been proposed to deal with the complexities associated to deep uncertainty to include the *Robust Decision Making Model* (RDM) advanced by Lempert et al. (2003), *Dynamic Adaptive Planning* (DAP) advanced by Walker et al. (2001), *Dynamic Adaptive Policy Pathway* (DAPP) (Haasnoot et al., 2013), and the *Info-Gap Decision Theory* (IG), advanced by Ben-Haim (2006). New approaches dealing with deep uncertainty are needed while current approaches require testing (Marchua, et al., 2019) and use in other domains and countries (Haasnoot et al., 2013).

While some approaches have been proposed, some of the limitations associated to such approaches (such as RDM) present in developing countries to include as data requirements, resource requirements, limited application in actual decision making and limited application to surprise events (Bhave, et al., 2016).

Uncertainty

Uncertainty, defined as could be defined as a limit in knowledge about events that are future, past or current; and in relation to decision-making, a gap in knowledge between what is available and what the decision maker requires to make best policy choice (Marchau et al., 2019). Long-term policy is more often shrouded by uncertainty (Lyons & Davidson, 2016) therefore the need to plan for ‘surprise events’ becoming critical, more so for developing countries that are invested in building key infrastructure for their economic development.

Four distinct levels of uncertainty are advanced by Marchua et al. (2019). Level 1 of uncertainty, best described in statistical terms, is captured in a single forecast and requiring a deterministic model with system outcomes providing a point estimate for each outcome and a single set of weights (Walker et al. 2010). Level 2 uncertainty requires a single system model differing from level 1 uncertainty in that single system model is stochastic (with probabilities assigned), outcomes portraying a confidence interval for each outcome and several sets of weights with probabilities associated to each set. under this level, it is argued that preferred policy alternative can be selected based on attached probabilities of the future such as risk tolerances and projected future outcomes (Marchau et al., 2019). Level 3 uncertainty requiring a few alternatives of system models (with no probabilities assigned) that provide a limited range of outcomes and a limited range of weights as postulated by Marchua et al. (2019). Level 4 uncertainty, according to Marchua et al. (2019), presents the deepest level of uncertainty which presents multiple plausible futures require many to unknown system models, presenting wide range to unknown number of outcomes, and a wide range to unknown weights.

Argued by Walker et al. (2010) and by Marchau et al. (2019) – see Figure 7.1 – on the progressive transitions of levels of uncertainty indicate that level 4 uncertainty presents a situation where many plausible futures are attainable (*level 4a*) and a situations where we only know that we don’t know (*level 4b*) – ideally presenting a challenge for both policy makers and analysts where they can either struggle to specify required treatments (models) for the former condition of uncertainty and or simply cannot provide resolution for the later. While withstanding the arguments of level 4 uncertainty, developing countries like Zambia are still faced with an immediate need to address uncertainty under levels 1–3 and forethought for level 4 uncertainty.

Figure 7.1 provides an illustration of the progressive transition of levels of uncertainty transition. Marchau et al. (2019) advances a framework for decision support to decision making under uncertainty which discloses locations where uncertainty could likely surface.

Marchau et al. (2019) identify the locations as being i) *scenario uncertainty* – relating to the difficulty associated to unfolding future external events “relevant to long-term future system performance” (p. 5), even more important the direction and size of changes in the external environment; ii) *structural uncertainty* – the way in

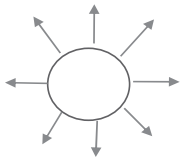
		Complete Determinism				Level 4		Total Ignorance
		Level 1	Level 2	Level 3	Level 4a	Level 4b		
		Clear enough future	Alternate futures with probability	A few plausible futures	Many Plausible futures	Unknown future		
Context (x)								
System Model (R')		A single (deterministic) System model	A single (Stochastic) system model	A few alternative system models	Many alternative system models	Unknown system model; Know we don't know		
System Outcome (O)		A point estimate for each outcome	A confidence interval for each outcome	A limited range of outcomes	A wide range of outcomes	Unknown outcomes; Know we don't know		
Weights (W)		A single set of weights	Several sets of weights, with a probability attached to each set	A limited range of weights	A wide range of weights	Unknown Weights; Know we don't know		

Figure 7.1: The Progressive Transition of Levels of Uncertainty from determinism to total ignorance. Source: Marchau et al. (2019).

which the developed systems are likely to respond to the changes in the external environment/ autonomous developments within the system – where the causal relationships within the system are likely to be uncertain; and iii) *valuation of outcomes* – likely to be under contention based on various stakeholder assessments of the importance of the future.

Railway freight-related opportunities are likely to increase in favour of railways for goods suitable for railways (African Development Bank, 2015; UN, 2019). Literature on railway infrastructure reviewed indicated key themes on assumption of factors that are likely to impact railway infrastructure in Zambia by 2050. The results obtained from literature are presented in Table 7.1.

Table 7.1: Factors Driving Future of Railway Infrastructure.

Author	Title	Assumptions related to future railway transport infrastructure
(UN, 2019)	Financing railway rolling stock: a new solution for Africa	<p>Economic opportunities have arisen for railway development in Africa as a consequence of a number of factors, including the following:</p> <ul style="list-style-type: none"> – Growing urbanization and industrialization will pose new transportation challenges that railways are well suited to handle; – Africa will produce large volumes of goods such as bulk minerals and commodities that are natural markets for railways; – The huge continental mass of Africa and the existence of many landlocked countries will encourage the development of high-capacity and efficient transport corridors; – Higher sensitivity towards environmental and safety issues will result in railways getting more public attention and social support; – The need to reduce the extremely high external costs, including those related to noise, pollution, congestion and accidents, which are associated with the constant increase in the use and ownership of private vehicles.

Table 7.1 (continued)

Author	Title	Assumptions related to future railway transport infrastructure
(Rozenberg, Julie; Fay Marianne, 2019)	Beyond the Gap	<ul style="list-style-type: none"> – In low and middle-income countries, future demand for transportation can be met with lower infrastructure investment costs and lower emission of green-house gasses (CO²) through modal shifts to rail and urban public transport, if policies are in place for high rail occupancy and urban densification. At global level, arguments on transport future to include climate change mitigation policies and technological change policies. Using IMACLIM-R model, the study arrives at – <i>Carbon prices slow growth in transport demand in most scenarios of the study</i> – <i>Future Investment Costs Are Driven by Choice of Terrestrial Mode and Occupancy Rates</i> – <i>Maintenance Costs Are as Important as New Infrastructure Costs</i>
(Fisch-Romito & Guivarch, 2019)	Transportation infrastructures in low carbon world: An evaluation of investment needs and their determinants	<ul style="list-style-type: none"> – The study quantified investment needs for transportation infrastructure over a period of time (2080 timeline) to achieve both development and climate objectives, with a comparison of investment needs between world regions and analysing their determinants. The study found that investment needs in low-carbon pathways to be lower than in baseline scenarios. Rail utilisation rates and road construction costs are highlighted as determining factors in all regions with a modal shift from road to rail can reduce investment needs only if combined with railway infrastructure occupancy. The study uses IMACLIM-R model.
(African Development Bank, 2015)	Rail Infrastructure in Africa: Financing Policy Options	<ul style="list-style-type: none"> – African economic growth leading to increase in demand for demand for transport. This will result in new demand for transportation and better transport infrastructure; – An increase in competitiveness in global supply chains leading to the need for better and more integrated logistics; – An increase in the size and number of African metropolitan cities requiring new urban mass transportation systems; – New mining developments with higher volume production requiring the need for higher capacity for increased mining bulk volumes – The existence of landlocked countries with poor connectivity to the to the sea requiring the provision of access to the sea with capacity and reliability

Table 7.1 (continued)

Author	Title	Assumptions related to future railway transport infrastructure
(UIC, 2014)	A New Lease of Life for African Rail: Destination 2040	<ul style="list-style-type: none"> <li>– Key prerequisites for achieving sustainable railways in Africa is in upgrading production methods and building networks to exploit opportunities associated to technological progress and benchmark railway as the tool for regional integration. This railway adaptation relies on ambitious investment plans focused on component renovation, track renovations, newer rolling stocks, modern safety systems: <ul style="list-style-type: none"> <li>– <i>Adapting rail networks to respond to growing demands for heavier loads, larger traffic volumes; and higher train speeds;</i> <li>– <i>Renewing of rolling stocks;</i> <li>– <i>Expanding existing capacity of existing lines including doubling of tracks in congested areas, renewal, repair, and maintenance of existing tracks, and electrification of lines;</i> <li>– <i>Extension of African railway lines</i> <li>– <i>Taking mines into account</i> <li>– The need to develop multimodality to respond to the irreversible changes experienced on the railways sector demanding for long-term innovations and sustainable solutions and the ability to harness the potential the thriving goods distributions industry. Responding to this need requires railways to provide broader choice of integrated services including door-door logistical services: <ul style="list-style-type: none"> <li>– <i>Developing integrated logistics;</i> <li>– <i>Building dry port;</i> <li>– <i>Developing industrial logistical zones that introduce rail-road that lead to multimodal platforms, relying on dry ports and collocated to industrial Logistics zones, and acting as major distribution and consumer hubs.</i> <li>– <i>Building of logistic hubs for a range of business of integrated logistical solutions</i> <li>– Building interconnections in railways are viewed as an opportunity to harness future potential of tomorrows world which lies in Africa, as argued by economist, politicians, and fund providers alike. This will imply building intra-networks, technical/ technological standardization, and opening of new railways to contribute mobility of goods and people. <ul style="list-style-type: none"> <li>– <i>Building corridors</i> <li>– <i>Expanding branch networks;</i> <li>– <i>Developing new potential railway links;</i> <li>– <i>Standardise tracks with current surveys showing diverse rail gauges across countries;</i> <li>– <i>Incorporate new information and communication technology in railways</i> <li>– <i>Improve transitions between road-rail-sea</i>

Table 7.1 (continued)

Author	Title	Assumptions related to future railway transport infrastructure
(De Bod & Havenga, 2010)	Sub-Saharan Africa's Rail Freight Transport System: Potential Impact of Densification on Cost	Increase in density goes in tandem with upgrading rail infrastructure. Potential for density is likely to improve business case for private investment in railway infrastructure. Investment in infrastructure could, by itself, create induced economic growth.
(PIDA, n.d.)	Infrastructure Outlook 2040	<ul style="list-style-type: none"> – Population growth in Africa, trade flows, and economic outputs will increase demand for freight transport and port facilities; and is likely to outstrip current regional transport infrastructure networks – Demand resulting from current inefficiency unlocked due to improvements – Structural changes in African economies to lead to value added industry reconfiguring the profile of goods traded and resulting in regional integration – Containerised cargo to dominate port traffic and growth of port traffic leading to an increased need for multimodal facilities along the transport corrido – Container growth expected to outpace total tonnage leading to a fourteenfold increase in container traffic – More than tenfold increase in traffic from landlocked countries expected over a period of thirty years – Demand forecast for 2040 expected to outstrip capacity in transport corrido with consideration of completion of existing projects – Future freight demand for Africa expected to grow in tandem with expected sevenfold global growth over a period of thirty years – Mineral development to drive bulk traffic – Need to expand cross-border railways to meet required demand for efficient modal share for railway services by 2040 – Various transport corrido's forecasted to experience increase traffic to and from landlocked countries justifying the need for new and modern railway infrastructure connecting landlocked countries to the sea

Table 7.1 (continued)

Author	Title	Assumptions related to future railway transport infrastructure
(IEA, 2019)	The Future of Rail Opportunities for energy and the environment	<ul style="list-style-type: none"> – Increased investment in railway infrastructure in high growth scenario – Railway future dependent on its ability to respond to growing transport demand and competition from other sectors – Increasing demand will require successful integration of rail into the overall transportation sector system as a way of insuring railway success – Correlation between railway freight movement and economic growth will widely depend on geography, climate, and investment climate
(UN, 2015)	Report of the Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation on its fourth session	<ul style="list-style-type: none"> – European Bank for Reconstruction and Development described launched an energy efficiency programme and developed a modified sustainable transport appraisal rating framework in support of its commitment to the Rio+20 agenda and to scale up work in sustainable transport. – International Road Transport Union had defined some voluntary targets and measures, including targets for improving energy efficiency, reducing carbon emissions and maintaining an equal modal split with road for freight by 2030 and increasing it by 2050. Examples of promoting efficient rail freight transport included effective regulation and environmental assessment of rail projects in China, dedicated rail freight corridors in India and measures to simplify border crossings in the Customs Union of the Eurasian Economic Community and the European Union. Other initiatives, such as the development of dry ports, were also important, particularly in the case of landlocked developing countries. Overall, fair competition with the road sector, the internalization of external costs and common standards to support public and private sector involvement for future network development and internal trade were essential.

Results

Literature on likely factors that would influence railways presented in Table 7.1 was analysed and grouped in themes that were developed to present likely future assumptions that would impact Zambia's freight-related railway industry. Themes identified were then used in developing the likely future driving forces that were categorised using the social, technological, economic, environmental, and political (STEEP) criteria as per other studies such as Melander et al. (2019); Blanco and Moudon (2017); Lyons and Davidson (2016); and Bernardino et al. (2015).

Zambia's 2050 Railway Driving Forces: STEEP

A total of eleven plausible futures drivers for 2050 were identified based on information consolidated based on assumptions provided in literature.

Social Drivers

Social Factor 1: Urbanisation: Zambia likely to experience growth in the number of metropolitan cities and urban settlements that require mass and bulk transport services best suited for railway services. This would be a result of the economic growth and population growth that African countries would likely experience. *Social Factor 1 likely Impact:* This would likely result in demand for railway services including overall investment in railways to respond to heightened demand for bulk and heavy cargo.

Social Factor 2: Consumer demands: consumers for Zambia's transport services would likely be enlightened on choice related to high external costs (including noise, pollution, congestion and accidents) that are associated to road transport services. *Social Factor 2 likely Impact:* This would likely result in demand for railway services including overall investment in railways and modal shift from road to rail.

Technological Drivers

Technological Factor 1: Zambia railway industry likely to exploits opportunities associated to global technological environment advances (with benefits accruing to the railway industry) to respond to changing business consumer demands to improve railway services including electrification of rail lines, renewing of rolling stock, increasing load capacity, and achieving higher train speeds. *Technological Factor 1 likely impact:* This would likely result in investments in railways that would modernise railway in Zambia in line with global technological trends.

Economic Drivers

Economic Factor 1: Zambia likely to experience significant mining development (including increase in mining activities; new mining developments; mineral development) requiring services of the railway industry including bulk and heavy transport infrastructure, branch lines, and rail line extensions to reach new mining developments. *Economic Factor 1 likely Impact:* Increased demand for heavy and bulk services rises leading to investment in railway to respond to mining needs.

Economic Factor 2: Zambia likely to achieve industrialisation (including increase in economic outputs; value addition in industry reconfiguring goods trade and distribution) leading to demand for bulk and heavy transport infrastructure. *Economic Factor 2 likely Impact:* Railway industry to provide bulk and heavy transport infrastructure and new branch lines to service industries.

Economic Factor 3: Zambia likely to experience increased freight traffic volumes (increase in containerisation; transit traffic; local traffic; export traffic) resulting in increased demand for railway freight facilities including higher rail load capacity, multimodal facilities, efficient cross-border facilities, modern railway infrastructure, and larger railway capacity for congested sections. *Economic Factor 3 likely Impact:* Railway sector experiences increased demand resulting in infrastructure capacity constraints. This leads to investment in railway infrastructure to respond to increased traffic volumes.

Economic Factor 4: Rail Corridor Development: with growing demand for access to the sea and regional integration, some landlocked countries including Zambia will experience increase demand for transit traffic and the need for access to the sea leading to the development of railway corridors, infrastructure. *Economic Factor 4 likely Impact:* Zambia will experience demand for higher railway load capacity, standardization of rail lines, multimodal facilities, efficient cross-border facilities to facilitate reciprocal access rights, larger railway capacity for congested sections, and modern railway.

Economic Factor 5: Logistical Integration: high demand for efficient distribution of goods will occur requiring a need for multimodal, and a well-developed and integrated logistical system. logistical solutions. *Economic Factor 5 likely Impact:* This will require building of dry ports, industrial logistical zones that introduce rail-road that lead to multimodal platforms collocated to industrial logistics zones, distribution and consumer hubs, intelligent logistics, and logistic hubs for a range of integrated.

Environmental Drivers

Environmental Factor 1: Energy Efficient Financing: Future financing mechanisms for sustainable transport are biased towards energy efficient and environmentally friendly transport infrastructure. By 2030, majority of financing available for railway infrastructure will focus on investments that yield energy efficiencies and provide positive results towards green economy policies such as the Rio+ 20 agenda. *Environmental Factor likely Impact:* Zambia will experience availability of this type of railway financing.

Environmental Factor 2: Climate Change Mitigation: Zambian government prioritises climate mitigation policies achieving net zero emissions by 2050 leading to increased investment railway-infrastructure facilities. *Environmental Factor likely impact:* Zambia will experience reduced carbon costs related to transportation, modal shifts from road to rail, increased railway occupancy, reduced infrastructure investment costs related to low-carbon pathways.

Political Drivers

Political Factor 1: Government Commitment: Zambia’s government will be committed to investing in railway infrastructure leading to improved railways. *Political Factor 1 likely impact:* Zambia railway likely to experience increased government commitment to railways and related infrastructure development.

Railway Scenarios 2050

Plausible future scenarios are based on a viewpoint of the future from one or more likely scenarios whose likely occurrence cannot be refuted based on existing knowledge (Lyons & Davidson, 2016). Based on the likely future STEEP drivers, the study applied the scenario axes methodology to develop Zambia’s railway futures. Four major plausible scenarios were developed based on an assumed interplay of “infrastructure financing mechanisms” and “traffic volume suited for rail”.

- ‘Traffic volume suited for rail’, referred to as *railway freight traffic*, refers to the demand for transportations services for goods suitable for railway freight services. This includes bulk, heavy, containerised and other forms of traffic best suited for railway freight services.
- ‘Infrastructure financing mechanisms’ refers to the availability of railway infrastructure financing mechanisms including sovereign and corporate financing mechanisms.

The resulting plausible scenario include four plausible scenarios that are tied to interrelation between demand for railway-suitable freight and availability of financing mechanisms focusing on increasing and improving railway infrastructure. The scenarios are *Railway freight status quo*, *Railway Freight natural growth*, *Railway freight future growth*, and *Railway freight paradise* scenarios.

Figure 7.2 illustrates the likely future scenarios for Zambia in 2050 based on the scenario axes model.

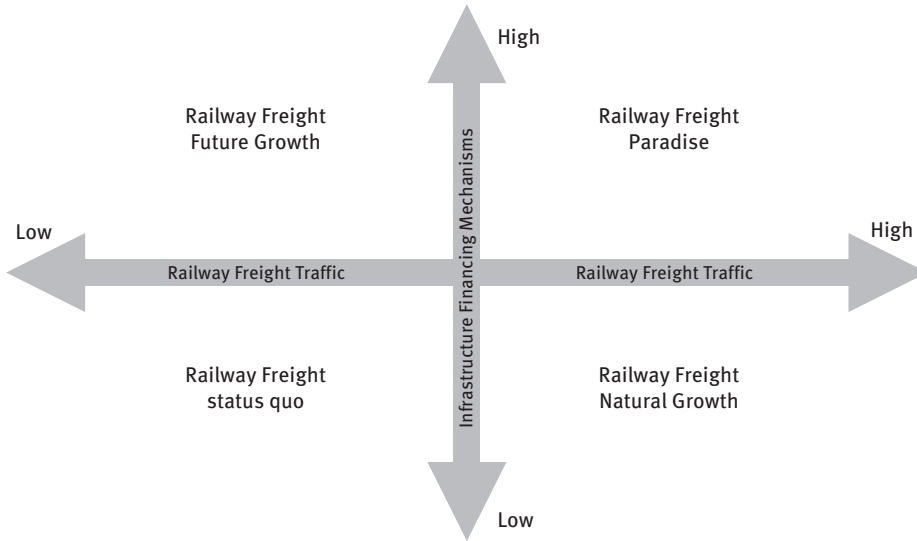


Figure 7.2: Zambian Railway Plausible Future Scenarios.

Railway freight status quo: Zambia's transport industry would likely experience relatively low traffic growth for services suited for railway services and low availability of infrastructure financing mechanisms. Under this scenario, Zambian railways would continue to operate as usual with key railway infrastructure challenges currently prevailing experienced in 2050. Infrastructure elements under the *Railway freight status quo* would include poor quality and dilapidated railway infrastructure and limited railway infrastructure, outdated railway technology and other infrastructure and performance challenges. Under this plausible future, Zambian railways would remain underdeveloped and characterised by low railway freight demand and low availability of financing mechanisms for railway infrastructure investments. Zambian railway industry would be tasked with managing challenges associated to poor railway infrastructure, poor financial performance associated to low freight volumes, and higher preferential for road transportation despite a regulatory framework supporting movement of bulk and heavy goods favourable to railways.

Railway Freight natural growth: Zambia's transport sector would experience increased railway-suited traffic volumes that would inherently outstrip existing railway capacity nevertheless faced with low availability of infrastructure financing mechanisms. Under this scenario, Zambian railways would experience improved financial performance leading limited infrastructure growth resulting from railway recapitalisation limited to growth of earnings. This scenario simulates slower growth due to low availability of infrastructure financing mechanisms for investing in railway infrastructure and growth in infrastructure depended on railway earnings resulting from high traffic volumes. Due to the limited amount of finances for infrastructure

investment, Zambian railway industry would focus on maintenance and leasing of facilities as opposed to investments in new railway infrastructure and railway procurements (such as locomotives, rolling stock, modern IT infrastructure) respectively and thereby capping its uptake of freight volumes to its design capacity. This scenario locks the growth of Zambian railways rendering it with cape gauge tracks instead of standard tracks, single track systems, and overall infrastructure that is below international standards in 2050.

Railway freight future growth: under this scenario, Zambia's transport sector experiences low traffic volumes suited for railway freight but experiences high availability of infrastructure financing mechanisms. Zambian railways experiences moderate infrastructure growth due to investments arising from available financing mechanisms responding to selected key future drivers based on governments prioritisation on leapfrogging Zambia's railway infrastructure to optimal performance standards in response to existing minimum global standard requirements in 2050.

Railway freight paradise: this presents the most desirable scenario for Zambian railways. Zambia's transportation sector experience high traffic volumes suited for railways outstripping existing railway capacity and high availability of infrastructure financing mechanisms. Under this scenario, railways experience infrastructure growth responding to majority key future drivers based on railway sector priorities. Under this scenario, Zambian railway can invest in railways to realise its full potential including technological advancements, new infrastructure to handle heavier loads, intelligent logistics, higher volumes of trains, branch lines to service industries as part of urban railway freight services among other infrastructure developments.

Conclusion

Use of scenario discovery methodology provides the railway industry decision-makers with a tool that can help them understand the likely futures that Zambian railway would face. With this information, decision-making can be developed in a manner that is best suited for the prevailing scenario. This presents a departure from the current presentations that have not considered a multiple-plausible future view point for railways in Zambia.

The scenario axes model presents future scenarios best described by the major assumptions chosen. If these assumptions are altered, new futures are likely to present. This study used major assumptions based on likely traffic volumes and likely funding availability to develop the identified railway futures. Engaging expert view points and computer aided generation of future scenario could likely increase future scenario presentations for railways. This review presents as a starting point for Zambia and simulates the likelihood that the future that faces Zambian railways presents multiple pathways that require an iterative approach and consistent monitoring

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Natalia S. Andryashina, Elena V. Romanovskaya, Olga V. Katkova,
Oksana G. Ivonina

8 Development of a Production Management System in the Transition to a Digital Economy

Introduction

Any manufacturing enterprise operating in the conditions of the Russian market faces a truly serious problem. This is the problem of its survival, which is ensuring the continuity of development. Various enterprises solve this task in different ways, sometimes depending on the prevailing conditions and circumstances. But the basis of its solution is complex, painstaking and time-consuming work on the organization of production planning.

In order to achieve the above goals of enterprises and organizations, managers must be able to find rational ways to improve work efficiency, working conditions for workers, product quality, and increase labor productivity. They must have an understanding of the system of measures developed at the enterprise with the aim of intensifying production on the basis of scientific and technological progress. Therefore, the study of the basic forms and principles of the organization of production at enterprises of various ownership forms, as well as the basic elements of production planning, including internal planning, is a prerequisite for ensuring the effective development of enterprises.

Methodology

The issues of organizing and improving production processes were considered in writings by such domestic scientists as A.P. Agarkov, M.I. Bukhalkov, A.M. Golikov, R.S. Golov, A.A. Goryushkin, I.N. Ivanov, N.I. Novitsky, M.P. Pereverzev, M.V. Radievsky, as well as many other domestic and foreign scientists.

Natalia S. Andryashina, Elena V. Romanovskaya, Olga V. Katkova, Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russia

Oksana G. Ivonina, Nizhny Novgorod Institute of Management, Branch of RANEPa, Nizhny Novgorod, Russia

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For this reason, the development of the production organization system in various regions of the world has led to the formation of various models of production organization.

The main trend of our time is the introduction of a lean manufacturing system. Also, the development of this system takes place in almost all countries and regions of the world.

The leader in the development of lean production system is certainly Japan. This country gave the world such a philosophy or theory as “Kaizen”, which in Japanese means continuous improvement.

“Kaizen” means the continuous improvement of all links and sites in the enterprise, from production to management, from the average worker to senior management. The main goal of this strategy is to maximize the efficient use of resources in order to create such a production where losses are minimized, that is, lean production.

The Kaizen system prioritizes an approach that is process-oriented rather than result-oriented, since processes must be improved in order to improve results.

This strategy includes three components, through the implementation of which success can be achieved:

- standardization;
- system of five rules;
- elimination of losses.

By implementing the Kaizen system, an enterprise can count on the following advantages:

- reduction of costs caused by various types of losses, through continuous improvement and standardization;
- increasing the share of work, which increases value, and allows us to produce better products at a low price.

Results

We consider the development of a production management system using the example of the enterprise LLC “GAZvtorresurs”. This company is a part of the GAZ Group enterprises and is a subsidiary of LLC UIK.

Also, the company is developing a product release program for each month. Between November 2018 and March 2019, there was a significant increase in production volumes due to the increase in the customer’s plan.

As can be seen from Table 8.1, the number of manufactured products was increased 2.16 times and amounted to 45,581 pcs.

Table 8.1: Production volume on two plastic casting lines for the period November 2018 to March 2019.

Machining Lines	Volume of production, pcs.				
	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19
Line 1	10,835	14,575	13,484	20,457	27,443
Line 2	10,250	19,165	19,086	21,518	18,138
Total	21,085	33,740	32,570	41,975	45,581

A slight decline in production volumes on both lines in January 2019 can be noted. This situation was caused by a shutdown of equipment in order to carry out scheduled preventive works, painting of the machines and cleaning.

The number of manufactured products on line 2 in December 2018 was 5,915 more than in November 2018, due to changes in customer volumes. In March 2019, the decline in production on line 2 was caused by a motor breakdown in Battenfeld equipment. Due to the lack of this spare part in the warehouse and preliminary placing an order for it, line 2 was completely stopped for three days. In addition, this equipment is the first in the course of the plastic molding process. At the time of ordering and delivering a new knockout grate from Germany. It was decided to switch to an alternative solution: work using only one knockout grate, since the second knockout grate did not function due to a motor breakdown. This led to the launch of the line with an increased cycle time.

Next, we consider the ratio of the number of actually produced pistons and planned indicator presented in Table 8.2.

Table 8.2: The ratio of planned and actual production volumes for the period from November 2018 to March 2019.

Month	Total for two lines, pcs.	Target indicator, pcs.	Deviation, pcs.
Nov 18	21,085	19,865	1,220
Dec 18	33,740	34,567	-827
Jan 19	32,570	35,124	-2,554
Feb 19	41,975	43,825	-1,850
Mar 19	45,581	47,152	-1,571
Total	174,951	180,533	-5,582

According to the results of five months, the deviation in production volumes amounted to 5582 pcs. of plastic products. This amount is not critical. The experience of foreign

colleagues contributed to the positive development of production. It is important that the operators of the company GAZvtorresurs LLC adopt this experience and in the future independently resolve current issues with equipment.

The planned indicator of the level of internal defect should not exceed 3%, according to the standard of the company.

Let us consider the dynamics of the level of internal defect on plastic casting lines for the period from November 2018 to March 2019, which is presented in Table 8.3.

Table 8.3: Dynamics of the level of internal defects for the period from November 2018 to March 2019.

Plastic casting lines	The level of internal defect, %				
	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19
Line 1	4.8	4.92	3.66	4.21	2.79
Line 2	5.8	3.13	3.05	3.24	2.98

For the period from November 2018 to March 2019, the level of internal defect on line 1 decreased 1.7 times and amounted to 2.79%, and on line 2 decreased by 1.9 and amounted to 2.98%, these indicators are below the planned indicator, which shows the efficient operation of the enterprise.

As a result, the increase in defects in December was due to an increase in production and a lack of professionalism among workers.

Moreover, the decrease in the level of internal defect based on the results of the two lines in March 2019 was achieved through the monthly preparation and implementation of the corrective action plan. As well as the growth of the professionalism and experience of operators, supervisors and management personnel.

From November 2018 to March 2019, downtime on both plastic casting lines was 720 minutes. Main reasons: instability of machine operation due to program failure, failure of settings and lack of parts in stock. One of the tools of lean manufacturing is Total Productive Maintenance (TPM). The use of which allows to reduce the losses associated with equipment downtime due to breakdowns and excessive maintenance.

The main idea of TPM is to involve all the personnel of the enterprise in the equipment maintenance process.

So, the equipment life cycle consists of a sequential alternation of two phases:

- exploitation;
- maintenance.

In order to achieve this goal, it is necessary to organize a working group responsible for planning activities and monitoring the results their work.

The working group should consist of the following employees – production director, workshop head, chief engineer, and procurement manager. It is possible to involve one of the engineers who will deal only with the implementation of the “TPM” project.

It is necessary to organize trainings for the working group. Also, if possible, to acquaint with the latest achievements in the field of TPM in international companies. Further, according to the cascade training system, the acquired knowledge and skills will be transferred to the site masters, repair technicians, operators, adjusters and electricians.

In production, it is necessary to allocate a “pilot” site. Since the longest downtime (450 minutes) was recorded on line 1, it is proposed to start implementing TPM principles precisely from it. One of the basic principles of “TPM” is that dirty equipment cannot be operational. Therefore, it is necessary to develop cleaning cards and fix the frequency of cleaning for each shift. This is a small but very important step on the way to working equipment.

In addition to cleaning, the autonomous maintenance performed by the operator also involves daily technical inspection of the equipment.

An alternative option to carry out the daily equipment condition check procedure is to use the cards shown in Figure 8.1. So, all parameters to be checked are recorded on double-sided cards, which are placed on the stand in front of the line. At the beginning of the shift, all the cards are turned to red side (card number 1).

As the test is conducted, the operator turns them over with the green side (card number 2), which indicates the completion of the test.

Thus, it is possible to trace the status of the equipment condition check during the entire shift. The equipment status check card is shown in Figure 8.1.

CHECK	CHECK
LEVEL	LEVEL
COZ	COZ
1	2

Figure 8.1: Equipment status check card.

Further, it is recommended to start the implementation of a system for collecting and analyzing statistical information about equipment failures and their causes. It is necessary to develop a signaling system. After seeing a defect that the worker is unable to repair himself. He will need to put on the equipment a special red label with information about the defect, as shown in Figure 8.2.

The color indication of the equipment status shows the site master about the equipment status at the moment, which helps to identify defects at an early stage. Adjuster during check notices labels and eliminates the problem.

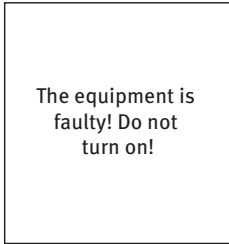


Figure 8.2: Label with information about equipment defect.

At the production site, it is also recommended to keep a single log of equipment breakdowns, presented in Table 8.2. In which the name of the machine, the time it was stopped, the faulty unit, the measures taken to eliminate defects and the start time after repair are recorded. Next, let us consider Table 8.4.

Table 8.4: A single equipment failure log.

Nº	Name of the machine	Time it was stopped	Faulty unit	Taken measures	Start time
1					
2					
3					
4					
5					

This journal will be filled in by the master and chief engineer, which will allow the analysis of the most frequently breaking components and parts. This will determine the volume of purchases necessary for repair of spare parts, due to which in the future equipment downtime will be excluded due to the lack of necessary parts. As a result, that will positively characterize the work the whole enterprise as a whole.

It is proposed to hang standard sheets over each particular machine. The development of standards is recommended as follows: several trained specialists take video footage of the process, after which the video is viewed. All irrational movements performed by the operator are noted. The operation is then adjusted and implemented into the workflow.

After the implementation of all measures, the video recording must be repeated and the result compared. In that case, the standard can be improved and changed over time.

It should be remembered that preventing damage is easier and cheaper than repairing, so it is important to form a lean attitude towards equipment in the whole team.

Conclusion

The proposed activities are of a recommendatory nature. After the equipment's operation on the "pilot" site improves, then this system must be transferred to other sites of the enterprise. According to forecasts, this proposal will allow to reduce equipment downtime by 25%.

The cost of the proposed event will be 123,420 rubles and the conditional annual savings from the proposed event will amount to 1,291,600 rubles.

As a result, the effect of the proposed event will amount to 1,273,087 rubles, which will be achieved by reducing the time spent on finding the necessary tool, and on unnecessary operator movements. Also, thanks to signaling cards, workers will not have to spend time coordinating the error with the adjuster.

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Liu Juan, Larisa S. Pichkova, Olga O. Chertovskikh

9 Gender Education as a Way to Overcome Cultural Conflict

Introduction

In the modern world, the dialogue between cultures sets a new direction for the development of world education, which is faced with the dual task of training a highly professional specialist and educating a “person of culture”, ready for intercultural communication and able to see and understand the cultural and gender characteristics of different people for successful cooperation and mutual respect. Therefore, it is no coincidence that issues of intercultural communication and gender education are becoming a priority in modern times. The main trigger of this trend is undoubtedly the acceleration of the process of interaction between cultures at many levels and the steady expansion of intercultural contacts. These global changes are not bypassing the education sector. As early as at the turn of the 21st century, the foundations of a relatively new discipline were laid – gender linguistics, the study of linguistic interaction of both sexes. In educational institutions, more attention is being paid to gender education and cultural education.

Problems of intercultural communication and its gender component are increasingly becoming the object of public interest and scientific research. This is confirmed by the interest of society, which is manifested in the desire to study the cultures of different people, the awareness of the importance of intercultural communication, the creation of research centers and associations whose activities are related to cultural issues; holding conferences and symposiums on intercultural communication, as well as the inclusion of cultural and linguistic studies and linguistic studies in the university curriculum of training specialists in universities and in secondary school programs.

The purpose of this study is to identify the reasons why there is an urgent need to study intercultural and gender differences, as well as to develop such an area of knowledge as gender education and upbringing.

Hypothesis: Gender education and upbringing is one of the ways to overcome the cultural crisis.

Liu Juan, Beijing Normal University, Beijing, China and Editor-in-Chief of the journal “Russian Literature and Art”

Larisa S. Pichkova, Olga O. Chertovskikh, MGIMO University, Moscow, Russia

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The purpose of this study and its hypothesis determine the need to solve the following tasks:

1. To determine the relevance of the problem of gender education and upbringing.
2. Conduct a survey of students in order to identify the attitude of modern students towards gender issues and stereotypes.
3. To analyze the results of the survey and identify attitudes of modern student youth belonging to different cultures towards gender stereotypes.

Presentation of the Main Research Material

The relevance of gender education and upbringing, as well as the continuity of these processes, is associated with the fact that at present the world community exists in a state of conflict between countries, often associated with the historical and cultural national code, with deep contradictions in the perception of “ours” and “alien” culture, including the gender aspect. Therefore, it is no coincidence that the issues of intercultural communication in modern times have become the subject of serious research.

With the emergence of the concept of “intercultural communication”, there appeared the concept of “gender”. This was a result of the study of socially constructed relations defined by gender.

The importance and feasibility of gender education is explained by the fact that it gives an idea of the impact of gender relations on society, the risk of conflicts due to a lack of understanding of a different culture or gender discrimination. In a truly democratic society, the rights of all citizens must be taken into account, which means that it cannot exist without gender education. As N. A. Shvedova notes in her work on gender issues, gender education equips with knowledge and promotes understanding of the interests of various social groups; expands knowledge about gender; helps to defend and promote the gender interests of women as a particularly discriminated group (Shvedova, 2002).

Studying the topic of gender education requires knowledge of gender terminology. The gender approach assumes that differences in the behavior of men and women are determined not by biological and physiological characteristics, but by the socio-cultural norms of a particular society (Goffman, 1976; Lippmann, 2016). Genderology in the broadest sense examines gender-related issues from the point of view of psychology and sociology. As for intercultural gender studies, it studies cultural differences through the prism of gender specificity. Intercultural communication is a process of communication between representatives of different peoples, cultures and languages, which is called intercultural dialogue. This means equal interaction of representatives of different nations, taking into account the originality of their culture, norms of behavior and gender stereotypes. Gender intercultural

communication focuses on the study of the gender aspect of the cultural and linguistic personality, the gender picture of the world, gender stereotypes, as well as gender verbal and non-verbal communicative behavior.

There exists such a thing as gender stereotypes. These are representations of representatives of different genders formulated in the public consciousness in relation to the social norms of behaviour, which are manifested in behaviour, habits, verbal and non-verbal speech. In modern society, gender values are associated with equality of rights and opportunities for men and women; adequate perception of their cultural and historical role and the position of men and women in modern society; humanization of gender relations; mutual respect; understanding; and equal partnership in the family.

Let us consider these examples of cultural conflict caused by gender cultural differences and gender bias across cultures:

In 1996, in the city of Uman (Ukraine), a regular congress of Hasidim (representatives of the religious movement in Judaism) was being convened. However, a conflict soon erupted with the local population and riots broke out because one of the Hasidim sprayed tear gas from a spray can in the face of a woman who, out of curiosity, was watching the event on the street. Such an aggressive act by the congress participant was explained by the fact that, according to Hasidic customs, women should not go near men engaged in a religious rite. The woman probably broke religious tradition by getting too close.

Ignorance of the norms and traditions that are so important and dear to representatives of other cultures and religions, the manifestation of disrespect for them, or ignorant curiosity can become a reason for serious conflicts and contradictions.

During the historic visit of the first President of the USSR, M.S. Gorbachev to Japan in April 1991, the president's wife, Raisa Maksimovna, unknowingly violated some traditions of Japanese culture. As the presidential cortege was passing the Japanese who stood along the streets and greeted the Soviet leader, Raisa stopped the car, jumped out of it in an emotional outburst, ran to the crowd of people, grabbed a small child in her arms and put the child, to the horror of his mother, into her car. This caused many negative comments in the Japanese press and public discontent, as it violated the historically established norm of behavior in Japan – communicating with each other at a distance, without direct physical contact. Hugs, pats on the shoulder, kissing are not allowed, everything is limited to bows without eye contact. An exception in international communication is for handshakes, subject to the initiative from the Japanese. In addition, the Japanese assign a very modest role to women in public life and do not welcome excessive initiative. Of course, this situation did not contribute to the success of the negotiations.

In all countries, during interstate contacts, knowledge and observance of the cultural traditions of negotiating partners are highly valued (Neverov, 2001). This is especially true for business communication, if we want to avoid difficulties in negotiations due to differences in national cultures.

Edward Twitchell Hall (1914–2009), an American anthropologist and researcher of cross-cultural management issues, divided all cultures into high-context and low-context ones (Hall, 1976). In countries with a culture of low context in the process of communication, it is customary to call things by their proper names, to clearly express their thoughts, avoid ambiguity of interpretation, and clearly express their attitude to the problem. Low-context communication is typical for the Anglo-Saxon group of countries (Northern Europe, North America, Australia, and New Zealand). This type of culture also includes the culture of countries such as Germany, Switzerland, Finland and the Scandinavian countries. From this list, the Germans who are known for their pedantry and punctuality stand out. The situation is different while communicating with representatives of high-context culture countries, which includes almost all countries of the East. In these countries, obtaining reliable information is very problematic. Representatives of these cultures never give a detailed description of the situation, do not share information, prefer understatements, and value the ability to express themselves in a streamlined way. In such cultures, they will never say no to their partner, but simply smile and turn the conversation to another topic.

Similar differences can be found in gender approaches, in particular, in the participation of women in business communication. In highly contextual cultures, women's participation is minimal. This attitude even extends to advertising. An example is from the experience of a European pharmaceutical company. The decision was made to promote a popular pain reliever drug to the Arab market. Three pictures were used for advertising. The first depicted a woman suffering from pain, the second showed her taking a pill, and the third depicted a relaxed and calm state. Nevertheless, it turned out that this drug was not in demand because the company did not take into account that the Arabs not only read from right to left, but also look at the pictures in the same order. It turned out that at first the woman took the pill, and then suffered from pain. In addition, the portrayal of women in different states was contrary to Arab culture.

Business relationships can sometimes suffer from ignorance or ignorance of how a partner, due to cultural differences, can relate to a token in the form of a gift.

In Russia, it is customary to give gifts, flowers and souvenirs much more often than in the West. Often, Western guests perceive this not as the hospitality and cordiality characteristic of Russian culture, but as eccentricity and a desire to show their superiority. That is why the journalists of German tabloid "Bild" considered it inappropriate and even offensive that Vladimir Putin presented Angela Merkel with a bouquet of flowers at a meeting in Sochi. The author of the material explained that the world's leading politicians should shake hands, not give bouquets. He is convinced that the flowers were given with the intention of emphasizing that Ms Merkel is a woman who holds a position in an originally male field. The journalist regarded these actions as humiliating. On the other hand, State Duma Deputy Irina Yarovaya pointed out that to interpret a bouquet of flowers beautifully presented,

as an insult instead of as a sign of respect, shows the loss of aesthetics and beauty of human relations.

However, it should be noted that the wave of pseudo feminism that has swept Western countries in recent years, in essence, has nothing to do with the real equality of women. The main motive for promoting such a feminist ideology is not the struggle for women's equality, but the war of the sexes. The goal of this attack is not to achieve social peace, but to dominate men, whom they accuse of historical dominance over women. Hence, the hysterical campaigns against "harassment" and the concept of so-called gender diversity actively imposed on society, which led to the fact that a heterosexual man committed to traditional values becomes a real outcast. The transformation and distortion of natural gender relations often leads to undesirable social consequences that are increasingly evident in our times.

For example, it is known that today European women are often caught in the net of terrorist recruiters. Although many of these young women are quite prosperous, successful, and educated. What makes them go to a radical change in their lives; leave their homeland, family and friends? Among the many reasons, we should undoubtedly single out one that is associated with a changed, and sometimes distorted, gender picture of the world. Why does the ideology and values promoted by ISIS (an organization banned in Russia), appeal to some young people and attract representatives of both sexes? This is largely due to purely psychological reasons. As for women, who value the masculinity and the corresponding masculine attitude of men towards women, they are ready to sacrifice a lot to fulfill their aspirations. In turn, men, for whom masculine behavior is typical, seek such admiration and support from a woman.

Research Results

In April 2019, within the framework of gender studies, the authors of this article set the task of analyzing the responses of young people to the question: "Why do young women fall into the traps of terrorist recruiters and voluntarily link their fate with terrorists, joining the ranks of terrorist organizations?" A survey of MGIMO students was conducted where young people were asked not only to choose an answer to a question from the proposed options (it was possible to choose several options), but also to offer their own detailed answer. The average age of the respondents was 21 years. A total of 80 people participated in the survey. The research results are presented in Figure 9.1.

Having analyzed, and summarized the results obtained, it should be noted that, in the opinion of students (75%), such a factor as "Dissatisfaction with life" is one of the main reasons for the search for something new, a different reality. Statistics show that most often single girls, separated from their families, between the aged between 18 and 35, are at risk. In difficult times for a person, various sects and movements that

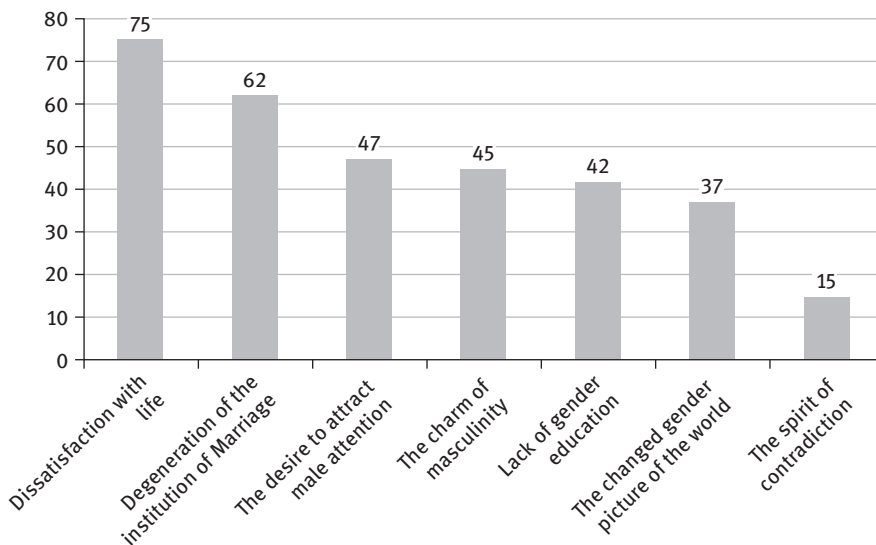


Figure 9.1: Students opinions on why young women are trapped by the terrorist recruiters and voluntarily link their fate with terrorists by joining the ranks of terrorist organizations.

promise an easy solution to life's problems become especially popular, and it is easier for militants to impose their "values" on people. Young people, especially girls, entangled in difficult life situations, being left to their own devices in a big city, become easy prey for terrorist recruiters, who create an illusion that everything will work out in their lives, meaning of life, hope and perspective will appear.

"Degeneration of the institution of marriage," as indicated by students (62%), is the second most important motive. Young women, especially representatives of Western culture, link their fate with terrorists for the most banal reason – the desire to get married. In modern society, the institution of marriage is devalued, for some unknown reason the desire to get married, have a family, raise children and take care of a husband has become a sign of philistinism. In this regard, men, especially representatives of Western culture, are in no hurry to take responsibility, preferring an easy relationship in a civil marriage.

A factor such as "The desire to attract male attention" can also be a decisive factor, as noted by 47% of respondents. As mentioned above, educated, successful women often fall into the hands of terrorists. The reason lies in the fact that, in general, they are evaluated in terms of professional qualities and achievements, while the desire to receive recognition and admiration from a man remains unsatisfied. This problem is especially acute in Western countries, where men, fearing prosecution, often avoid such communication with representatives of the opposite sex. From this, quite obviously, follows the next reason – "Charmed by masculinity" (45% of young people indicated this in their questionnaires). The modern educated woman wants to see a strong,

confident man next to her. In addition, there is a persistent stereotype that any representative of the Eastern culture is an ardent defender of his wife and family. Being in captivity of stereotypes, and sometimes from despair, women attribute these mythical qualities to the man they like and do not see his true face. Overall, 42% of young people responded that “Lack of gender education” could be the reason why a young woman gets into the networks of terrorist recruiters, which once again confirms the hypothesis that gender education and upbringing is necessary to overcome the cultural crisis and intercultural conflicts. 37% of respondents pointed to such a factor as “Changed gender picture of the world”, and only 15% – to “Spirit of contradiction”, arguing that each person has certain life attitudes. However, often in their search for justice, young people when faced with a harsh reality get disappointed, and those who are not inclined to accept the reality will look for an opportunity to defend their ideals while continuing to fight for justice. Unfortunately, sometimes such searches end up in cooperation with terrorists.

Another important factor that deepens gender differences is the problem of gender stereotypes. Modern society is characterized by stereotypical thinking and perception of gender differences. A person is initially assigned those qualities that are expected of him/her as a representative of a given gender, and not the qualities that they actually possess.

A researcher at the University of Utrecht from the Netherlands, Naomi Ellemers, in her work on Gender Stereotypes, argues that gender stereotypes have an implicit impact on our expectations about the qualities, preferences and needs of individuals of both genders, as well as on the criteria or standards by which we evaluate them. The implicit nature of stereotypical gender thinking is manifested, for example, in the fact that women are judged mainly by their appearance, and not by their achievements. Naomi Ellemers cites as an example the case of Anna Hopkins, who has proven her professionalism as a consultant to the company. But at the same time, she was refused to take a higher position and become a partner in the company, as the management felt that her behavior, makeup and clothing were overly feminine (Ellemers, 2018).

Implicit gender stereotypes also affect men who are underrepresented in professions or family roles that are considered purely female in society, which may contradict their interests and ambitions.

It is important to note that gender stereotypes are formed, first of all, within the framework of a certain culture, when men and women are assigned different social roles, taking into account the differences in their psyche, behavior and activities. Gender stereotypes have developed into a stable system and have become entrenched in the minds of society. Such stereotypes can be divided into different groups according to three criteria:

1. Perception according to the principle of masculinity and femininity. Wherein, masculinity is characterized by active-creative activity, and femininity is characterized by passive-reproductive activity.
2. Distribution of social roles, in which the woman, largely, is assigned the role of the mother and “keeper of the hearth”, and the man is the role of the “breadwinner”, actively involved in social and professional activities.
3. Labor activity and its essence. Women are predominantly employed in service sector (health care, education, trade). Men are mainly engaged in creative, production and management activities.

The search for a solution to the problem of overcoming stereotypes based on gender differences has been going on for many years. In modern conditions of social, scientific and technological progress, gender differences are becoming less pronounced, and sometimes exaggerated. Gender stereotypes are resilient, so it is extremely important to work on gender education in order to broaden the consciousness of members of society. In order to solve this problem, it is necessary to understand clearly, what stereotypes prevail in a particular culture. This will provide an opportunity to choose the right algorithm of actions to overcome gender bias.

An example of such research is the experiment conducted at the Moscow State Institute of International Relations (MGIMO), in which students of the Faculty of International Economic Relations, the Faculty International Journalism, as well as students of Moscow State University took part.

In general, 80 students took part in the psycho diagnostic study of gender stereotypes, of which 50% were female students and 50% male students. The survey involved representatives of Western and Eastern cultures, which made it possible to divide the respondents into groups. Thus, the main sampling condition was observed – equal representation of male and female students of both Eastern and Western culture. The survey was conducted anonymously, the questions of the questionnaire were designed in such a way as to determine the gender stereotypes characteristic of respondents, namely: 1) stereotypes of masculinity and femininity, which impose certain ideas about mental and behavioral qualities characteristic of men and women in a particular culture on people; 2) stereotypes of family and social gender roles; 3) stereotypes of professional gender roles.

The aim of the study was to identify the attitude of modern students towards gender stereotypes, as well as differences in the perception of gender roles depending on gender and culture. The research results are presented in Figure 9.2.

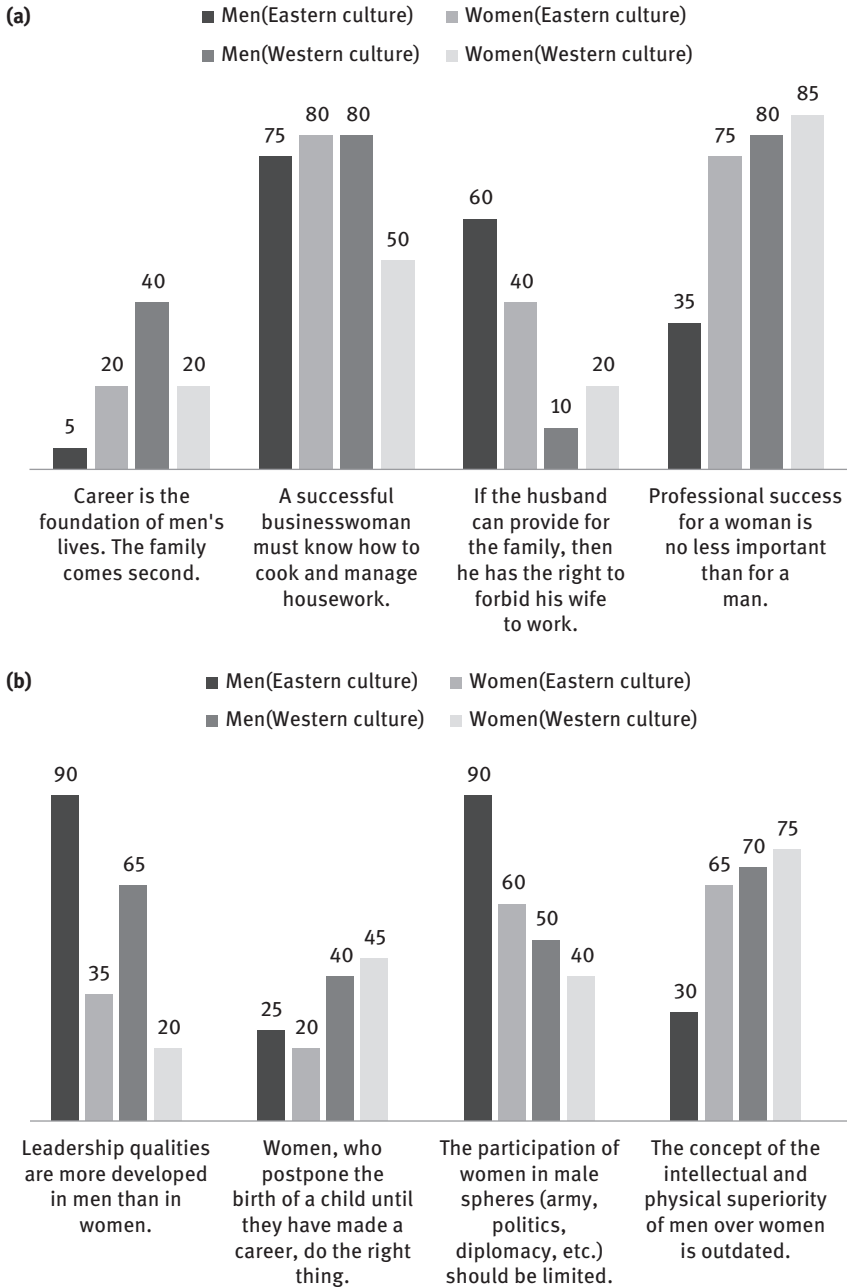


Figure 9.2: Attitude of modern students towards Gender Stereotypes.

Research Findings

Analysis of the results obtained allowed us to divide the considered stereotypical statements into five groups:

- *Stable*: statements that the majority of respondents of both sexes agree with, regardless of which culture they belong to;
- *Stable for respondents of the same culture*: statements with which the majority of young people of both sexes and belonging to the same culture agree;
- *Protesting*: statements that reflect the disagreement of the respondents with the gender stereotypes proposed in the questionnaire;
- *Debatable*: statements in which the ideas of boys and girls, regardless of their cultural affiliation, are different;
- *Debatable for the respondents of the same culture*: statements in which the ideas of boys and girls belonging to the same culture are different.

In the course of the study, the following was revealed regarding stereotypical statements:

- 1) *Persistent stereotyped statements*: The stereotype that a successful business woman should be able to cook and run the house is supported by the majority of young people surveyed – 80% of women of Eastern culture; 80% of men of Western culture; 75% of men of Eastern culture and 50% of women of Western culture.
- 2) *Persistent stereotypical statements characteristic of the respondents' culture*: 80% of men and 85% of women in Western culture believe that professional success is as important for a woman as for a man. The same group of respondents support the assertion that the idea of the intellectual and physical superiority of men over women is outdated – 70% of men and 75% of women.

In Eastern culture, both men and women believe that women's participation should be limited in such male spheres as in the army, politics, diplomacy, etc. (men – 90%, women – 60%).

- 3) *Protest stereotyped statements*: Most of the respondents rejected the statement that career is the basis of men's lives, and family ranks second (only 5% of men of Eastern culture and 20% of women of Eastern and Western cultures agreed with the statement).

The majority of men and women, representatives of Western culture, also rejected the statement “If a husband can provide for his family, then he has the right to forbid his wife to work” (only 10% of men and 20% of women supported this stereotype). Also, the majority of men and women, representatives of Eastern culture, are convinced that it is not worth postponing the birth of a child until the woman has made a career (only 25% of men and 20% of women supported this opinion).

- 4) *Controversial stereotyped statements*: Debatable stereotypes include the statement that men have more developed leadership qualities than women do (in the eastern group – 90% of men and 35% of women supported this stereotype; in the western group – 65% of men and 20% of women, respectively).
- 5) *Controversial stereotyped statements typical of the respondents' culture*: Only 35% of representatives of Eastern culture support the opinion that professional success is no less important for a woman than for a man, while the majority of women in the same group (75%) cannot agree with this gender stereotype. In the same group, 65% of women agreed with the statement that the idea of the intellectual and physical superiority of men over women is outdated, while only 30% of men in Eastern culture hold the same opinion.

Based on the results of the study, we can conclude that, although a significant part of the surveyed students supported gender stereotypes of masculinity and femininity that have developed in the respondents' culture, men adhere largely to the traditional gender stereotypes. At the same time, it should be noted that women of Eastern culture expressed more progressive views on the role of a modern woman in society than men of the same group – in their opinion, a modern woman has the qualities of a leader and her professional success is no less important than the success of a man. In Western culture, there is greater gender equality. Women of both cultures are more likely to disagree with statements that impose some restrictions on the lifestyle of both men and women. They equally support stereotypes about the values of men and women, but they also confidently declare the values of women's financial and personal independence. Leadership, domination, and power remain for the majority of young men and some girls as steadily "a man's business".

Moreover, the study showed that family values remain the universal life values among representatives of both sexes and cultures, even with an ambiguous approach to the distribution of the roles of men and women in the family.

Taking into account the results of the study, we can talk about an urgent need for gender education – both in terms of educational approaches and concerning educational activities on gender issues.

Gender education should cover all age groups. Its content presupposes the harmonization of the role interaction of different sexes based on equal rights and opportunities for the individual. Gender education equips people with knowledge and promotes awareness of the socio-economic interests of representatives of various social groups, including women.

The idea of gender equality should be actively promoted in society through state and public institutions, and, above all, through educational structures.

In the context of gender education, all educational efforts should be aimed at consolidating in the minds of society the idea of the key principles of a truly democratic and legal society free from gender discrimination. These include:

- The principle of democratic gender representation, in particular, broad participation of women in the decision-making process at all levels.
- Economic independence, ensuring gender equality and eliminating unjustified professional restrictions for women.
- The possibility of a harmonious and effective combination of professional and family responsibilities, both for women and men.
- Educational activities focused on knowledge about the equal distribution of gender roles, ways to eliminate social disparities and the redistribution of responsibilities of both sexes.

The results of our research show that the establishment of intercultural dialogue, including gender education, should be considered as a priority task for overcoming contradictions and conflicts associated with cultural differences.

The above examples show that in the modern conditions of existence of differences in the culture of different people, gender stereotypes and values, their misunderstanding, distortion or rejection can adversely affect society as a whole, causing a conflict of cultures and a crisis of morality. Collision with other cultures can be unforeseen and often painful, and cultural contradictions, including gender, give rise to many awkward, unpleasant and even tragic situations. Therefore, in the context of studying intercultural communication, it is also important to study the intercultural gender component and engage in gender education. Each unique national culture has its own historically developed system of gender relations. The dialogue of different cultures is akin to the dialogue of two worlds with their specific norms, traditions, values.

All this sets the following priority tasks for science and education:

- To study and analyze the origins of the manifestation and evolution of cultures of different peoples;
- To teach people tolerance, respect for other cultures.

The experience of Russia, which has always been a multinational country, shows that these tasks can be successfully achieved and the peaceful coexistence of different nations and nationalities with their cultural identity can be ensured. Russian scientists are actively involved in the problems of intercultural and gender relations, scientific conferences are held, associations of scientists and teachers are being created, cultural disciplines are introduced into the curricula of secondary and higher educational institutions, including those aimed at gender education.

The practical benefits and use of these research results are manifested in the possibility of implementing a gender approach in the field of education. The issue of the need to apply a gender approach is especially acute when it relates to the education and upbringing of migrant children and adolescents. The current migration situation in the Russian Federation, characterized by a steady increase in the inflow of migrants, as a result of the difficult socio-economic situation in their countries,

requires the state to pay great attention to the adaptation of children and adolescent migrants, whose life experience is insufficient to resolve many of the problems they face in a foreign culture.

It is equally important to understand the need for gender education among adults, in particular in the educational environment. The peculiarity of gender education of adult migrants is expressed in the urgent need to familiarize them with the basic knowledge necessary to solve specific problems of existence in a different culture faced by women and men who emigrate to another country and strive to adapt to new conditions. Special training is needed for educators who work with migrant children and adolescents. It is necessary to use new educational technologies that take into account the gender characteristics of students and conduct new research in the field of gender education.

Conclusion

In conclusion, we would like to note that in recent years, large-scale economic, political and social upheavals in the world have led to unprecedented migration assimilation and mixing of people, which has inevitably led to a conflict of cultures.

It is obvious that there is a need to study intercultural and gender differences for several reasons: awareness and study of the culture of other nations make it possible to better assess the peculiarities of the native culture; knowledge of intercultural and gender characteristics allows us to more successfully interact with representatives of another culture; studying and knowing the culture, customs and gender characteristics of other nations teaches tolerance, respect and awareness of the possibility of co-existence of different cultures; comprehension of intercultural and gender differences allows avoiding inter-ethnic conflicts and contributes to their resolution.

In connection with the above, it becomes obvious that there is a need to develop such an area of knowledge as intercultural, gender education, and explore modern educational methods of transferring this knowledge, as well as to develop teaching and methodological manuals that reflect the features of intercultural communication and gender differences.

In general, intercultural and gender upbringing and education should create conditions for the development of a free personality, for understanding the national culture of other people, for the formation of such thinking, forms of communication and human actions that will help overcome the cultural crisis and resolve cultural conflicts.

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Tatyana A. Ason, Ol'ga A. Gorbunova, Ol'ga V. Ignatova,
Oksana N. Petrova

10 Prospects of the Development of Islamic Financial Institutions in Russia

Introduction

Islamic finance has recently become one of the most fast growing segments of international financial systems to have the estimated 20% rate of growth and total assets \$1 trillion dollar worth. The global financial crisis of 2008–2010 provided the world economy with the opportunity to test the flexibility of the Islamic financial system and contributed to the discussions about if it is an alternative to the traditional financial system. Islamic financial institutions offer an effective alternative to the conventional western approach with its focus on fairness, spreading risk and economic growth based on the system of share participation. The Islamic banking system does not accept charging interest and excessive speculation. In addition there exist a close link between Islamic finance and real economic activity. The concept of Islamic finance is much more than prohibition to charge interest – Islam calls for moderation in all spheres of life. Social responsibility, business sustainability and morality are the new issues which attract attention of academics, politicians, civil society activists and professionals. The above issues are of great interest for the international economic system and should be increasingly taken into consideration when undertaking economic and financial activity.

This paper hypothesizes that after the global financial crisis Islamic finance entered a new stage of development and could play a crucial role in the change of global financial order. However the current stage of development of the Islamic financial system may not be sufficient to take the lead in providing stability and soundness of the global financial market in the near future.

Materials and Methods

Traditional structural and functional analysis became methodological basis for the study of the impact of the problem on Russia. The impact of the ongoing processes on the Russian finance was also assessed using a regional approach based on statistical

Tatyana A. Ason, Ol'ga A. Gorbunova, Ol'ga V. Ignatova, Oksana N. Petrova, Financial University under the Government of the Russian Federation Moscow, Russia

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analysis. Moreover, the study used is carried out with the help of scientific methods of generalization and analogy.

Documents published by the state bodies of Russia, statistical data of the Sberbank of Russia and Vnesheconombank, documents published by the state bodies of foreign countries and international organizations are used as an empirical base.

The study has examined the main features of the Islamic financial system, foreign experience in the formation and development of Islamic financial institutions. The experience of Islamic financial institutions in Russia has been considered and the main problems have been identified.

Results

Islamic finance is a fast-growing segment of the financial system and an alternative to the traditional financing system. It can play an important role in changing the global financial order.

However the current stage of development of the Islamic financial system may not be sufficient to take the lead in providing stability and soundness of the global financial market in the near future. For Russia, the prospects of taking advantages of Islamic financing are particularly relevant due to the trend of capital outflows, as well as the problems of finding new sources of investment.

Some measures have been taken in Russia to introduce the Islamic financing system. However the Russian legal and regulatory system requires reform for its effective functioning.

A financial system based on a number of religious prohibitions is no more an exotic event in the world of finance. Islamic finance is much more than a niche segment, it is a full-fledged participant of the global financial system. By 2021 the increase of total global assets of Islamic finance will presumably have reached \$3.5 trillion (United Nations Development Programs).

The main distinction between Islamic finance and the conventional system is the prohibition on charging interest and excessive speculations. Islamic finance also imposes certain restrictions on running some types of business which religious beliefs consider unethical. Among them are a lot of traditional types of banking and stock market transactions, an entertainment industry including gambling, alcohol and tobacco production as well as pig farming. As an alternative some new financial instruments which can be used without violating the principles of Muslim laws were developed and some existing ones were improved to comply with Shariah principles.

Islamic finance traditionally emerged in the countries with prevailing Muslim population such as Saudi Arabia, the UAE, Malaysia, Iran and Egypt. Different forms of partnership agreements (musharakah, mudaraba) based on fair profit and loss

sharing are widely used. In addition there were developed Islam equivalents of conventional rent and leasing agreements, insurance contracts, sales and purchase agreements. Islamic banking is the largest sector. Its total assets amount to 1.5 trillion dollars. Other large sectors in Islamic finance are Takaful (Islamic insurance) and Islamic investment funds totaling 40 billion dollars and 180 billion dollars accordingly (Islamic Financial Market, 2018). Malaysia is considered to be one of the founders of Islamic finance. This country was one of the first to launch the process of systemization of regulatory and legal spheres of Islamic finance and its incorporation in the already existing national system. During the past 30–40 years this process was taking place in a phased manner.

Currently Islamic finance and banking are a key element in diversification of the financial system in Malaysia. According to the data of international rating agencies assets of Islam banks in this country amount to 159.985 billion dollars. Islamic banking sector covers about 21% of the total assets of the Malaysian banking system. Now there are 14 Islam banks in Malaysia. One of them is listed at stock exchanges (Bank Negara Malaysia). The Persian Gulf countries possess about a half of the global Islam funds the largest share of which (about 40%) belonging to Saudi Arabia. The first banks which can be classified as Islamic in the Gulf countries were the Islamic Bank of Dubai and Kuwait Finance Bank founded in 1975.

Nowadays more than 50 banks in the Persian Gulf countries offered a full range of Islamic banking services and products. Nowadays these countries possess everything to position the Islamic financial system as the most developed one in the world. In the Gulf countries this system consists of a large banking sector with a well-developed interbank monetary market. There is also a growing market of Sukuk (Islamic securities) and Takaful (Islamic insurance). One of the key aspects of the Islamic banking in the Gulf countries is its coexistence and successful co functioning with conventional banks.

Currently there is a clear trend towards diversification of Islamic banks in Arabic Gulf countries. Well-established and reputed banks being in existence since the seventies of the previous century now cooperate with new market players. Some financial organizations who initially practiced conventional banking nowadays fully implement the Shariah-compliant financial system. The Emirate National Bank of Sharjah, currently known as Sharjah Islamic Bank pioneered the process. The process of its conversion started in 2001 and was over in 2002. Apart from it a lot of other banks in Arabic countries have undergone the process of conversion into Islamic financial institutions. One of them is Kuwait International Bank (KIB) which was founded in 1973 and transformed into Islamic bank in 2006. The largest bank of Saudi Arabia National Commercial Bank gradually switches to the system of Islamic banking. Currently two thirds of its assets can be treated as “Islamic” and almost 80% of its financial operations are Shariah-compliant. Moreover many conventional banks in the region offer Islamic banking products as a special service.

The Islamic Republic of Iran is a prominent example of a country where the economy is officially declared Islamic. Apart of strict Islamic censorship, charging interest by banks, usury, commerce in “kharam” spheres, etc. are prohibited in the country. Nowadays only 5–6% of the country’s economy is not “Islamic”.

Altogether since 1970s there have been created more than 500 Islamic financial institutions among which 300 are Islamic banks. During the last two decades the Islamic industry demonstrated in average 14% of annual growth. Islamic financial institutions now operate in 75 Muslim and non Muslim countries (Kipkeeva and Zolotarjuk, 2017: p. 120–123). Islamic finance is found not only in Muslim countries. In Great Britain the laws are adapted to the requirements of Islamic financial institutions and there exist at least a dozen of Islamic banks. The first in Eurozone full Islamic bank (Eurisbank) with the starting capital of 60 mln. euros was opened in Luxemburg in 2014. The Bank offers retail, wholesale and private banking services. It plans to open affiliates in Belgium, France, the Netherlands and Germany. According to the EY data by the year 2020 the largest growth of bank assets among QUSMUT+3 countries (Figure 10.1) will have been in Saudi Arabia. Their assets will have grown to the amount of \$766 bln., which is more than two-fold increase comparing with the year 2015.

The considerable growth of assets will also take place in the United Arab Emirates (up to \$250 b., the increase of 66% compared with 2015), Malaysia (up to \$218 b., the growth of 47% compared with 2015), Kuwait (up to \$148 b., the increase of 57% compared with 2015), Qatar (up to \$179 b., the growth of 115% compared with 2015), Turkey (up to \$93 b., the growth of 78% compared with 2015), Indonesia (up to \$50 b., the increase of 100% compared with 2015).

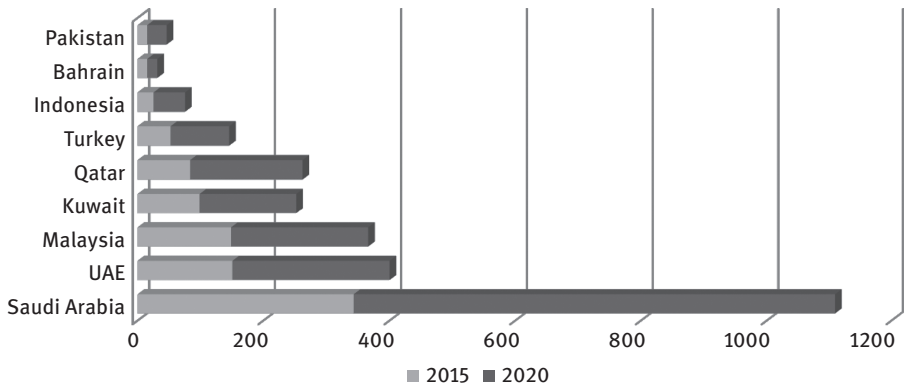


Figure 10.1: QUSMUT+3 banking assets 2015–2020 (b.\$).

Source: based on the World Islamic Banking Reports.

Islamic financial sector is developing rather quickly. The growth of the Islamic banking sector in U.A.E. is specifically worth paying attention to. In 2017 in Malaysian Islamic finance being the main driver of their banking system overtook conventional

lending. This sector has gone beyond the major centers such as U.A.E and Malaysia and now encompasses new players from the East Africa and the Central Asia. The issuance of Islamic securities (Sukuk) keeps increasing – one of the key events was the first issue of Sukuk denominated in the US dollars, 1billion US dollars’ worth, the issuer being from GCC region. In 2017 the estimated value of the assets in the developing sector was 2.4.trillion US dollars, and it is expected to reach 3.8 trillion US dollars by 2023.

Significant steps have been taken in Russia to consistently introduce Islamic financial services into the Russian economy. At the moment Russian legislation does not provide for an establishment of Islamic banks in the country.

But regardless of the lack of legislative acts regulating the Islamic banking there are some companies in Russia providing Islamic banking services:

- Bks Fund Khalal – mutual investment fund investing only in Shariah-compliant securities;
- Financial House Amal which offers funding consistent with murabaha principle;
- International Investment Company “Tatarstan” providing the services of investment consulting;
- Lariba Finance Trust – partnership which offers funding consistent with murabaha and mudaraba principles.

None of these organizations is a bank and offers traditional banking services. Such companies strive to work following Shariah principles and using the legal instruments stipulated in the Russian civil law. But such an approach restricts their development and makes them uncompetitive in the non-Muslim market.

In Russia the first attempt to use the Islamic tool Takaful on the insurance market was made in 2004 by ITIL. Tatarstan, but the project has closed as ITIL and the reinsurance company Dubai-Islam has not come to an agreement. The projects of the following years in the insurance sector “Renaissance Insurance” (2008–2010) and “ROSNO” (2011) seemed also to be unsuccessful.

During the period 2008–2012, some companies tried to break into the Russian market with Islamic insurance services. An example is the joint venture of Safinat Logistics Investment Group and Kazan-Alliance Investment Group in the late 2009 – early 2010. It was supposed that the participation of a client in a company’s profit would take a form of the discount for the next year insurance period and in case the contract is terminated the client will receive a special payment (Magomadova, 2017: p. 88–94). It is important to note that the partial refund of premium when the insurance contract is terminated for some reasons (e.g. the possibility of insurance case occurrence no longer exists) is stipulated in the art.958 of the Civil Code of Russia (The Civil Code of the Russian Federation, part 2).

In 2012, the insurance company “ISK Euro-Policy” PLC opened a Takaful-window and in June 2012 they sold the first five insurance policies to those who travelled abroad. The mentioned insurer provided property insurance services to individuals

and legal entities; it arranged insurance coverage for pilgrims and offered full coverage auto insurance (AUTO CASKO). There was some interest to and demand for Takaful services but soon the project was suspended. Hence the first experience of offering Takaful services in Russia demonstrated that the efforts of separate insurers were not sufficient to reach the success. The joint effort and cooperation between the government and business and the development of special tools of Takaful adapted to the Russian conditions are necessary to succeed.

In general, the main obstacle impeding the development of Islamic finance institutions in Russia is a large number of gaps between the Russian legislation and the principles of Islamic banking to follow according to Shariah.

Sberbank which is the largest Russian state bank also became interested in Islamic finance. In 2017 Sberbank declared the pilot mudaraba transaction providing funds to the large Tatarstan's leasing company (Sberbank, 2018). The transaction was certified as compliant with the standards of the AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions) by Shariyah Review Bureau, a consulting partner of Sberbank. Nevertheless mudaraba is not the only Islamic financial instrument that Sberbank can use for future transactions. The bank also plans to develop financing of musharakah and murabaha. Vnesheconombank has also officially stated its interest in attracting investments using Islamic finance (Vnesheconombank, 2018).

Currently the Russian legislation does not provide banks with the opportunity to fully comply with the principles of Islamic finance in its activity. The organizations which already offer certain Islamic banking services are heavily restricted in their activity and that is why are hardly competitive. Hence, regardless of the public interest and the fact that some organizations already render certain Islamic financial services, their practical implementation and economic attractiveness in Russia are extremely complicated because of the lack of particular legal provisions. In order to ensure the functionality of Islamic banking in Russia a complex reform of banking and tax legislation is necessary. If these measures are taken new serious players adhering to the principles of Islamic finance will appear at the Russian financial market. But so far there is no common understanding what this reform will look like and when it can be implemented.

Conclusion

The successful integration of Islamic financial instruments in Russia certainly calls for a lot of changes in the legislation. The point that the effective laws meeting the demands of the market can be developed only after many years of practical application of different financial instruments appears to be the most reasonable. Development of special laws on Islamic banking and finance is important for the future growth of the industry but this process is not quick. However Islamic financial instruments should

be used and tested right now. That is why the best solution is to test Islamic financial instruments in the existing regulatory and legal environment with the minimum of relevant amendments. The necessary changes in the laws can be made after their effective adaptation.

It is also worth mentioning that even in such regions as Tatarstan, Bashkortostan and all over Russia the challenge for the development of Islamic finance among other things are people's attitudes and the level of financial literacy. People are used to the conventional banking system. But some layers of population (non Muslims) may be interested in using alternative ways of financial investments because in this case the client understands that his funds may be used to develop a particular enterprise. Two more aspects to mention are that first, the number of the Muslims, for whom the adherence to religious rules in financial relations is important, is not very big and second, there is a lack of qualified specialists in the sphere of Islamic finance. To solve this problem it is desirable to organize some educational programs together with Islamic Development Bank (IDB) which among other things is the major driver of Islamic financial literacy.

The cooperation with Islamic Development Bank in the sphere of consulting on forming systemic and flexible legislative base to accelerate and simplify the development of Islamic finance is of particular interest and importance for Russia. One more sphere of cooperation is increasing the number of Russian specialists in Islamic finance who will organize the activity of Islamic financial institutions and practically implement the principles of Islamic finance.

Thus despite the fact that Islamic finance is an integrant part of the global financial market it nevertheless is to a certain extent self-standing which allows using it as an instrument to make an air cushion to raise financial reserves during the periods of financial instability at the financial markets and in times of global economic recessions.

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Vladimir A. Polyakov, Irina V. Fomicheva, Natalia E. Efremova,
Tatyana V. Medvedeva

11 Strategies of Advertising Communication in the Global Economy

Introduction

In the course of development of the process of economy globalization, the development of national strategies of opposing globalization or, on the contrary, strategies of quick integration in the global economic ties, should be considered as a task of development of external strategies of promotion in the global media environment, which is to be solved by national manufacturers and national mass media and public authorities.

The declared positive factors of economy globalization economy under the guidance of the Western civilization include the creation of a unified communication environment, which stimulates the increase of living standards, information exchange, technological development in view of the interests of economic subjects that act in this environment, etc. At the same time, emergence of new “centers of decision making” in the Asian region and the experience of self-identification of developing countries, as well as anti-globalist movement in Europe, show that development of strategies of national economies’ development in view of historical value is a factor of globalization opposition. This is due to the fact that the declared comprehensive increase of living standards and consideration of interests of all countries are, as a matter of fact, fully or partially ignored by the largest subjects of the world. Among development countries, there are certain concerns regarding a possible loss of their self-identity, which might lead to transformation to a completely new type of consumer with the externally imposed standards of life style, commodity values, organoleptics, etc.

Thus, the issue of relevance of global advertising communications to national or regional demands and the formation of national strategies, which stimulate the integration in the global media environment of the global economy, have to be studied more thoroughly.

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Vladimir A. Polyakov, Irina V. Fomicheva, Natalia E. Efremova, Tatyana V. Medvedeva, Tula branch of the University of Finance, Tula, Russia

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Methodology

The necessity to develop strategies of integration process of regional advertising's entering the global communication environment, in which companies position themselves as a part of the global economy, is emphasized in the works of N.V. Alikperova (Alikperova, 2019), A.V. Buzgalin (Buzgalin and Kolganov, 2012), A. Demidova (Demidova, 2020), J.-J. Lamben (Lamben, 2007), T. Naumenko (Naumenko, 2020), L.G. Orekhova (Orekhova and Mumaka, 2020), M.E. Mikulyak (Mikulyak and Polyakov, 2008), O.V. Polyakova (Polyakova, 2013), N.V. Starykh (Starykh, 2020), E.N. Chukcheeva (Chukcheeva, 2020), F.I. Sharkov (Sharkov and Ponedelkov, 2018), M.B. Shchepakina (Shchepakina, 2016), A.V. Shlyakov (Shlyakov, 2020), and Th. Weiss (Weiss and Thakur, 2003).

In the works of foreign and Russian scholars, communication strategies are considered in the micro-environment during the development of advertising and PR campaigns within the strategic marketing. Consideration of strategic communications is connected to a hierarchical system of strategy formation, which is inherent to management (Starykh, 2020). Usually, external communication strategies are considered at the corporate level and competitive level (Mikulyak and Polyakov, 2008). From the position of marketing, four variants of strategies of communications of promotion are distinguished: strategy of indrawal, direct marketing, outsource marketing, and trade marketing (Lamben, 2007).

For the integration of national companies in global marketing, the following communication strategies are considered: multinational, global, transnational, and imitation (Chukcheeva, 2020).

When selecting a strategy of promotion, the individual characteristics of a brand could be distorted in the global communication environment, and commodity market is replaced by the simulacra market, in which the market cost of a product is replaced by its significant cost (Buzgalin and Kolganov, 2012), (Shlyakov, 2020). This is observed in countries with developing economy. Of course, such type of strategy of product imitation wouldn't stimulate the development of national economy.

However, despite the rather deep elaboration of the issue of regional advertising communications' entering the global media environment at the theoretical level, it is not studied sufficiently at the empirical level. The scientific works do not fully analyze the changes in society and economy of regions under the influence of the Internet and satellite TV. The reaction of regional consumers to the influence of advertisements that come from the international agencies and to perspectives of economy globalization economy is not studied sufficiently. Specific offers that allow regional companies providing the organization of advertising campaigns of the international level are very rare in the existing scientific works, and thus they have to be further developed in view of the specifics of regions' economic position. In this chapter, we use the materials of empirical research that were obtained with the help of the survey of various groups of consumers from the regions of Central Russia.

Results

Development of globalization was stimulated by a powerful breakthrough in communication technologies, connected to growth of the network forms of interaction and doing business. Having appeared spontaneously under the influence of the objective factors, the modern stage of globalization is a process that is controlled in the interests of the largest world economies. Global management is treated as a complex of formal and informal institutions, mechanisms, relations, and processes that exist between and are connected to governments, markets, individual citizens, and organizations, through which group interests are determined at the global level (Weiss and Thakur, 2003). The main subjects of the global economy management are transnational (TNC) and multinational (MNC) companies and their global advertising and communication agencies, which implement the policy of provision of their products' competitiveness through imposition of the stereotypes of consumption and "right" life style.

Having concentrated huge advertising budgets, these large international companies literally monopolized the national advertising markets of developing countries, thus ensuring the promotion of their products and interests. The largest share in the world advertising belongs to the USA – 34.3%, while Russia accounts for only 2% (Sergeeva, 2016); the share of advertisements of foreign companies in Russia exceeds the share of regional advertising agencies' products. Due to large budgets of regional media, global companies promote the Western strategy of consumer society's development more successfully. This promotion is becoming more intense, accompanied by the imposition of the value of brands that are present in the world advertising. That's why the economic benefits from using the concept of global communication are received by countries that are integrated in global marketing.

To be able to control the global media environment, TNC's and MNC's must have their own structures that manage communications. Operators of communications management in the global economy are complex socio-economic systems and sub-systems, which include advertisers, advertising producers, advertising distributors, intermediaries, controlling bodies, and consumers. They have developed a promotion platform in the form of the global advertising and communication environment, which has been built on the basis of trans-national mass media, trans-national satellite and cable TV, the Internet, and mobile communications.

Communication environment was one of the most important factors of accelerating the global economy through the world communication technologies, the concept of internationalization of life style, unified legal provisions, etc. (Shchepakina, 2016). Communication environments of countries become extraterritorial, with the global and network character, and without a specific control HQ (Sharkov and Ponedelkov, 2018).

The process of globalization is a "two-way street". Entering the markets of developing countries, these TNC's and MNC's engage internal communication environment of these countries in the global one. The forced reaction to integration of

the Russian manufacturers in the global advertising and communication environment is connected to organization of promotion of domestic products in foreign markets. This promotion could be implemented only according to the rules and laws and through the communication means of foreign advertising agencies. This required the creation of the Russian advertising market, which structure is largely determined by orders of foreign global companies, which ensure the inflow of capital and technologies and which are the leaders in top 50 advertisers of Russia. Using the strategy of integration of the domestic advertising market in the global market, the Russian communication environment has become a part of the global economic system; the final results of this integration for Russia cannot be predicted.

The choice of the type and form of advertising message in the international advertising depends on the mass character of its presentation in the national TV and radio channels. However, the largest growth rate of advertising budgets in Russia has been recently observed in communications that ensure the possibility of targeted influence on the consumers of brand products via the Internet and mobile communications. Development of the targeting strategy allows ensuring the transition to personal interactive communication strategy – customization. This market strategy of personalized communication is aimed at subtle and influential consumers who wish to express their individual life style through the purchase of a brand product in single quantities. Specialized companies use Internet means to interact with such customers for the purpose of full satisfaction of their life demands.

The strategy of integration of the national advertising and communication environment in the global one cannot be implemented without consideration of the specifics of regional consumers of advertisements. Each consumer makes a decision on the acceptance of an advertising offer mainly on the basis of their economic position and interests, which might not correspond to the ad's idea. Each advertised product is considered by a consumer from the position of satisfaction of a specific need and from the economic position, which would bring him additional profit that is expressed in such attributes as sale price, exploitation costs, convenience, fashion, and added value from the prestige of owning the brand. If the demand is low – due to the economic reasons in a region – the consumer loses interest in the commodity advertising. If the indicators of people's profitability are high, they have large interest in advertisements of consumer products.

In this situation, it is expedient to consider not the contents of advertising communications, but consumer demand for them, depending on such economic factors as consumer's income, place of residents, age, and family status (Mikulyak and Polyakov, 2008), (Polyakova, 2013).

The attitudes towards perception of global advertisements with the consumers of small towns and large cities are different, which is due mainly to living standards, education level, and traditions. Regional consumers seek in advertising communications the satisfaction of their real – not supposed – needs, based on the

existing life conditions. Residents of large cities value comfortable life style that is above average and that is close to the standards of the most developed countries. Based on such approaches, communication strategies of adapting the federal and regional advertising to the global advertising are developed – thus stimulating the development of the global communication environment.

The authors have studied the attitudes to advertising communications of various consumers from regions of the Central Federal District of Russia. The following has been determined:

- 61% of well-to-do people in the world are more loyal to the global advertisements of brands. For them, it is important to receive the required information on the offered products, methods of its consumption, prestige, and other valuable attributed. 61% of buyers purchase products which advertisements reflect their values, ideals, and class life style. For Russia, these segments account for 62% and 53%, accordingly (Demidov, 2020);
- growth of advertisements consumption is active until the age of 4850, and then the need for its decreases. However, according to the forecast, 30% of Russians will be older than 50 in 2025, and these people will account for 80% of purchasing power (Polyakova, 2013). In this case, advertising has to accept the strategy of social direction – and the economy has to do the same;
- the higher the socialization level, the more perceptible a human is to global advertising; only 20% of people treat advertising as the main motivating means for choosing a brand and making a purchase. Its insufficient motivation is caused by the crisis of culture and morality (48% of people with higher education), low level of advertising management by public authorities (38%), and the insufficiently high level of advertising with regional media (15%);
- human need for global advertising is proportional to the population of a village/town/city;
- of the need for an advertised product does not reflect the person's life style, he wouldn't accept such advertising;
- perception of advertising communications is directly connected to the level of development of telecommunications and the Internet in the place of residence. Digital means of communications change human's consumer behavior. For example, 63% of Russians check the information on a product before buying it online;
- the potential of global advertising in a region is calculated as a difference between consumer's income and the volume of consumption of global brands.
- Regarding the assessment of the causes of insufficient demand for advertising from regional consumers, the following should be noted:
- low paying capacity of people, due to which the segment in the age 55+ of 89% and the segment of unskilled workers of 85% ignore the advertisements of foreign brands;

- absence of well-paid jobs for consumers with secondary education (62%) and young specialists with higher education (75%) does not stimulate the demand for advertising. They accept global advertising positively and understand its contents, but it does not stimulate them to purchase the products, the reason being low salary and the problems with saving money to start a family, purchase own accommodation, food, healthcare, education, etc.

It should be noted that these tendencies and dependencies manifested themselves in the conditions of a regular life style. However, the situation that formed due to the crisis on the sphere of healthcare, caused by COVID-19, influenced the economy of countries on the whole and the global communication environment in particular. The restraining measures, adopted by national governments, quick toughening of conditions in financial markets, changes in the structure of population's expenses, quick decrease of external and domestic demand, and changes in behavior led to multi-level crises in almost all countries of the world. This "crash test" allowed determining the economy's resilience. According to the IMF's forecast for 2020, the decrease of GDP in developed countries and Russia will be almost similar, constituting 5.9–9.1%, for developed countries, and 5.5% for Russia. Economies of China and India will slow down – China's economic growth rate will decrease from the expected level of 6.1% to 1.2%, while India's – from 4.2% to 1.9% (IMF, 2020).

Such difference in the results of the pandemic's influence on the indicators of economic development could be partially explained by the contribution of the modern global media. Communication operations of management created a situation of a "mortal threat" in mass media, making governments close the service sphere enterprises – which led to the crises phenomena in weaker economies and their own countries.

In the conditions of the pandemic, communications allowed reconsidering a lot of public value. Thus, actively advertised simulacra, which are well-paid athletes, movie stars, resorts, and brands – ceased to be interesting for consumers; advertising budgets that were invested in various entertainment events and brands were not returned. Communications have adopted the strategy of population's survival during the pandemic. The positive interest of population is drawn to the spheres of healthcare, education, transport, volunteer movement, etc., which are not advertised.

Conclusions/Recommendations

Studies of the global and federal advertising mass media in the region have shown that the leading advertisers do not always effectively invest in regional advertising means, because they do not take into account the paying capacity, culture of consumption, and local specifics of consumption of the audience at which the advertising communication is aimed.

As a result of analysis of the questionnaires, the specifics of treatment of advertising by a regional consumer depending on the demographic factors, of which the main is economic ones, were determined. Most of the population is not interesting for advertisers of global brands due to low paying capacity, remoteness from large cities, weak transport communications, underdeveloped sales, and ethnic and religious factors.

Development of the communication environment with the help of local advertising means is a reaction to low demand for global advertising from central mass media.

The presented approaches to development of the strategies of advertising communications could be used by advertisers when developing the plans of promotion of regional and national brands to enter the global market.

The main communication strategies of integration of Russian brands in the global marketing is multinational, global, trans-national, and imitation, where the main object of advertising positioning is the unique value of the regional brand.

The specifics of the influence of targeting communications on consumer with the use of digital means are distinguished, which stimulates the transition to personal communication strategy – customization.

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Svetlana N. Pozdeeva, Mikhail V. Koroteev

12 Transformation of the Higher IT Education Due to Global Economy Digitization

Introduction

Today, the digital economy has been firmly embedded in all spheres of public life, information has become the basis of public consumption, digital technologies easily and quickly penetrate all spheres of human life, and digitalization has a strong impact on the labor market. The spread of digital technologies in all business processes requires significant changes in technological and operational processes in the creation of new products and services, and the digital economy, relying on big data, neurotechnologies and artificial intelligence, robotics and sensors, virtual and augmented reality technologies, gamification, is instrument of new industrialization. Information technology has penetrated the business environment and changed business processes, thereby digital services have changed a person's life, reduced the time to coordinate the basic issues of life support. Today, during the formation of the labor market into an employment market, most of the participants in this market are transformed from the sphere of production of traditional types of goods and services and participate in the processes of accumulation, storage, retrieval, processing, redistribution of information, and information becomes a consumer product.

Digital transformation has influenced the educational environment, changing the profile of all participants in the educational process. The modern concept of education is focused not on the transfer of knowledge, which is gradually losing relevance, but on the mastery of basic competencies that allow you to acquire knowledge on your own in the future. In modern realities, in the context of a practice-oriented approach to teaching, in orientation to applied areas, it is important not to lose the fundamental foundation of education. The use of IT tools in the educational process will allow to form individual trajectories of training and development, quickly respond to the changing needs of employers, and organize interaction with business. IT education makes it possible to use innovative learning technologies (for example, Advanced Learning Technologies) and modern information tools, introduce robotic information systems, virtual computer laboratories, software and technology complexes, computer simulators into the educational process, involve students in real projects, work with big data (Big Data), with distributed registries (Blockchain).

IT education forms a culture of information among students, which is determined by knowledge of the “digital”, information, information technology and systems; skills

Svetlana N. Pozdeeva, Mikhail V. Koroteev, Financial University under the Government of the Russian Federation

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in applying information technology in the educational process and in future professional activities; presentation of a single information space as an open system; information hygiene.

For the modern economy, at the stage of universal exchange of digital data, information education is becoming one of the most sought-after courses for training business analysts, specialists in protecting economic and information security, programmers, system architects and other specialists in the field of IT technologies. The widespread use of information and communication technologies has altered not business models and processes only, but also the ways of thinking of top managers and all employees of the company. The process of formation and activation of creative thinking among students in education fosters free thinking, involving them in the educational process through scientific discussions at seminars, round tables using technical means. Thus, the teacher (or tutor) forms their competencies, including information, helping to satisfy their needs in creativity and production and technological activities.

The formation of information competencies is oriented towards the society as a whole, and not just specialists in the field of information technologies, determines the direction of development of the information society, determines the level of economic and cultural condition of the individual, society and the state.

IT education is a focused process of personality formation, which has special knowledge, skills, and competencies in the field of informatization and information and communication technologies, and is actively used in both professional and everyday activities.

IT education is being transformed under the influence of the development of information technology in two different senses – as a direct object of education, and as a general cultural and technological phenomenon.

Methodology

At the present stage, the pedagogical community pays great attention to the issues of digitalization of education, linking it with the progressive development and dissemination of information technologies and tools and the possibility of their use in the learning process. Thus, the essence of the digitalization (informatization) of education is presented in the writings of foreign authors: Skinner, B. (Skinner, 1968), Crowder, N. (Crowder, 1960), Audouin, F. (Audouin, 1971), Hao Wu, Yu Licin, Li Wei, Naylor, A., Gibbs J. (Naylor, Gibbs, 2018), Chicos, C., Kovacs, J., Kereji, O. (Csaba et al., 2018), D.Bardach and others.

In the works of the report focuses on the theory and practice of the use in the educational process of information tools, the main approaches to the computerization of educational institutions, but the authors primarily based on national experience, which is different in different countries, in view of the intensity of technological

processes and the influence of national and ethnic component. This affects the theoretical constructs and practical tools, which are sometimes very different among authors from different countries. At the same time, all scientists highly appreciate the possibilities and prospects of using information and communication technologies in education.

In the works of domestic teachers A. Dzhurinsky (Dzhurinsky, 2019), L.V. Shmelkova (Shmelkova, 2016), Yusupova S.A. and Pozdeeva S.N. (Yusupova and Pozdeeva, 2018), Soloviev V.I. (Soloviev, 2018), Koroteeva M.V., Gendina, N.I., Ryabtseva, L.N. (Gendina & Ryabtseva, 2014), Volkova G.N. (Volkova, 2007), Ignatova N.Yu. (Ignatova, 2017), issues related to information culture and pedagogical problems in the era of economic transformation are being studied.

However, the studies conducted by these authors do not fully characterize the specifics of IT education as a fundamentally new concept of education in relation to the specifics of an innovative society in the context of information technology.

Results

There are many problems and challenges in building and managing a modern educational system. We single out and consider the main challenges in IT education.

The selection of relevant technologies for the preparation of training programs. Often, the choice is made based on the existing competencies of the teaching staff, although the program of compulsory courses should be formed solely on the basis of market demand for them. Teachers should be ready to constantly learn new technologies and methodologies (which can be very difficult). As a result, the specialization of teachers is desirable, which can be offset by constant cooperation in scientific and applied activities. This problem especially stands at the organizational level, since in order to maintain the consistency of the educational program, this issue should be addressed at the level of departments and heads of educational programs and controlled by the relevant authorities.

Integration of educational and scientific activities. The practice-oriented training helps to attract students to project activities. Often you have to face several significant barriers. Firstly, the low qualifications of teachers for practical activities. Second, the problem of the rhythm of the educational process. Thirdly, fair harmonization of the principles of equal opportunities and competitive selection. Coursework and diplomas (projects) should not be academic works within the framework of one subject, but project team activities that are tied on the subject exclusively to the direction of student learning. Such work should be assessed in a more diversified way, but with clear and well-known criteria, the purpose of which is to ensure that a student is highly appreciated who has clearly shown an increase in professional competencies in the course of the work, and not just fulfilled all the guidelines.

The need for continuous creation and methodological support of new courses and redrawing the entire educational program. This feature most clearly distinguishes the sphere of information technology from more conservative ones. The dynamic development of the information industry itself, the emergence of new specialties, professions, tools and methodologies not only imposes increased requirements on the intensity of maintaining a teacher's professional qualifications, but also places an additional, often overwhelming methodological burden on the creation and updating of academic disciplines. It is necessary to organize support for this process in a systematic manner, including the organization of existing professional and methodological seminars, liaising with employers and joint project activities.

Competition with massive online courses and short-term professional programs. Recently, there has been an increase in the number and availability of online education, which forces the mobilization of representatives of classical higher education. Noticeably, such pressure is higher in the field of information technology, since in the professional environment one can often hear about the uselessness of higher education for a programmer. It seems to us important to pay attention to two theses in this area, which are often perceived separately, or as maxims contradicting each other.

The first is the importance of self-education motivation for gaining professional skills. A student who is expecting a school attitude toward vocational education can be doomed to low qualifications, and the educational organization, in which the learning process is based only on the transfer of knowledge from the teacher to the student, is doomed to lose competition. It becomes obvious that the classical educational model ceases to be a central element of modern professional growth.

The second thesis is the need for substantial methodological support of the educational process. Based on the fact that the process of knowledge transfer is not the main one today, the question arises: what is the main thing in professional information training? It seems to us that the formation of professional competencies based on meaningful and guided actual practical activities. Thus, scattered narrow-specific courses also cannot become the basis of systematic professional growth, although they can give a temporary effect of overcoming the threshold of entering the profession.

Speaking about the competitive advantages of the university as an educational institution, we want to emphasize the importance of creating an educational environment, professional communications, and a platform for project activities.

Lack of any systemic approach for the formation of basic IT competencies. There is no single, universally accepted and worked out for decades, methodological sequence for the formation of general professional competencies in the field of information technology. All existing low-level courses are focused on the training of specialized staff and implement methodological planning from top to bottom. In modern conditions, it is important to create an information culture that would allow the graduate to be competitive in the employment market.

In connection with that, we would like to propose the most likely model of transformation of the educational system of higher information education in our opinion. This model consists of these key components:

Forms of education will increasingly diversify and new ones will appear. Instead of the “offline – online” poles, a whole spectrum will exist.

Only those teams will survive that will be able to timely and flexibly respond to the challenges of the time. This primarily concerns the increased level of competition between subjects of educational activity.

The rapid development of corporate and other educational programs will continue. The market is in search of the most effective form of organizing the educational process, which involves opening new niches.

Conclusion

IT education is a much younger industry compared to all other subject areas, which is also formed during the period of radical transformation of the educational system, which makes it difficult to understand even the basic methodological principles. The secret to survival under such conditions will be openness to change and a conscious strategic rethinking of ongoing global processes.

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**Part III: Recommendations for Improving
Government Regulation in the Interests
of the Global Economic System Strategic
Development in the Period Up to 2030**

Lubinda Haabazoka, Junis Malambo Hamududu,
Chanda Sichinsambwe, Eledy Sakala, Erastus M. Mwanaumo

13 Compliance with International Financial Reporting Standards (IFRS) Disclosure Requirements: Evidence from Listed Companies in Zambia

1 Introduction

Globalization is making drastic and noticeable impact on the world economies and human activity in general. Globalization has brought about greater openness in international trade, integration of markets, proliferation of multinational corporations, mutual dependence and a shift towards a borderless world (Mueller et al., 1994; Sidik and Rahim, 2012).

Arising from many years of relentless trends of globalization, the business community has realized that accounting has become a universal language of business and that financial reporting is the medium for the expression of that language (Bhattacharjee and Islam, 2009). To ensure its usefulness, financial information should not only be of high quality, transparent, widely understood and consistent, but also be comparable so that investment decisions by various stakeholders are made from an informed standpoint (Shil et al., 2009; Ikpefan and Akande, 2012).

The process of international convergence towards a global set of accounting standards started in 1973 when sixteen professional accounting bodies agreed to form the International Accounting Standard Committee (IASC) with the mandate to champion the global uniformity of accounting standards (Bhattacharjee and Islam, 2009; Isenmila and Adeyemo, 2013). In 2001, the IASC was reorganized into the International Accounting Standards Board (IASB) with the objective to take over the responsibility of developing global standards and related interpretations that are now collectively known as International Financial Reporting Standards (IFRS) (Zeff, 2012; Isenmila and Adeyemo, 2013).

Over the past decade, many countries all over the world have adopted IFRS as a framework for financial reporting in an attempt to improve reporting quality and

Lubinda Haabazoka, Graduate School of Business, University of Zambia
Junis Malambo Hamududu, MBA Finance Student, Copperbelt University, Kitwe, Zambia
Chanda Sichinsambwe, Eledy Sakala, School of Business, Copperbelt University, Kitwe, Zambia
Erastus M. Mwanaumo, University of Johannesburg, SARChi on Sustainable Construction Management and Leadership in the Built Environment, Faculty of Engineering and the Built Environment, Johannesburg, South Africa

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financial information disclosure in annual reports (Mutawaa and Hewaidy, 2010). Kolsi (2012) argues that corporate financial scandals as revealed by the subprime crisis have raised much apprehension regarding the fairness and completeness of financial disclosure practices by many firms. The growth of capital markets, especially in developing countries like Zambia, has signalled the need to implement high quality financial disclosure practices to attenuate information asymmetry and agency problems, lower market risks and attract both local and foreign direct investment (Mutawaa and Hewaidy, 2010; Kolsi, 2012). In the face of agency problems, Galani et al., (2011: p. 16) reveal that “corporate financial reporting has been under the spotlight of regulators, investors and the press and there has been increasing demand for greater transparency and quality in corporate financial communications with stakeholders.”

In response to demands for improved financial information comparability, transparency and disclosure and also to attract investors, IFRS was officially adopted in Zambia as a basis for financial reporting by all companies operating in Zambia beginning January, 2005 (World Bank, 2007). Specifically, all Lusaka Stock Exchange (LuSE) listed companies were required to prepare their financial statements according to IFRS. Lin et al. (2012) found out that research on compliance with IFRS by firms in developing countries was scant. In Zambia research on the level of compliance with IFRS by companies, to the best of our knowledge, is none existent. To fill this gap in literature this study draws on Mutawaa and Hewaidy (2010) framework to examine the compliance level with IFRS by LUSE listed companies. The study examines company-specific variables that influences IFRS compliance in Zambia a sub-Saharan African country.

In order to assess the level of compliance with IFRS disclosure requirements and examine the drivers of compliance in Zambia, a study was conducted whose findings are presented in this paper. This research contributes to existing literature in three ways. First, no research have been done in Zambia on this subject. This study therefore provides direct empirical evidence from Zambia, a developing sub-Saharan African country with a not well developed capital market and relatively weak policy on IFRS enforcement. Second, many research on this subject were done in developed countries and little is known about compliance of IFRS in the African context (Christensen et al., 2008, Gallery et al., 2008, Glaum and Street, 2003, Street and Bryant, 2000). This research is done in the African context. Third, the study contributes to research findings of Assenso-Okofu et al. (2011) who found out that among other factors, institutional factors affects accounting and reporting practices by providing empirical evidence that firm size, age, rofitability, liquidity, leverage and audit quality affects the level of compliance with IFRS by Zambian stock exchange listed firms. This report is organized into eight main sections. The first section introduces the subject of IFRS compliance and stresses its importance in the context of corporate financial reporting. The introductory section also presents the problem statement and the research questions addressed by the study. Section 2 reviews prior research on financial disclosures and presents the hypotheses developed for testing the drivers of compliance

while section 3 describes the research method employed in the study. The results and discussions are presented in section 4. Section 5 gives a summary of the conclusions of the study while sections 6, 7 and 8 present the implications of the study, limitations and recommendations and future research areas, respectively.

1.1 Problem Statement

While extensive studies have been conducted relating to compliance with IFRS disclosure requirements and the determinants of compliance in developed and other emerging markets (Larson and Street, 2004; Kolsi, 2012), there has been no published study examining the level of compliance and its drivers in respect of listed companies in Zambia since the adoption of IFRS in 2005. Therefore, this study seeks to fill this gap by testing a set of hypotheses on the factors that influence corporate financial disclosure and also assess the level of compliance in 2016 annual financial statements of LuSE listed companies.

1.2 Research Questions

To assess the level of compliance and the factors that influence compliance with IFRS disclosure requirements, the following two questions were examined.

RQ1 To what extent do LuSE – listed companies comply with IFRS disclosure requirements?

RQ2 What factors explain the possible differences in the levels of compliance by LuSE – listed firms?

2 Literature Review and Research Hypotheses Development

Following the achievement of IFRS adoption milestone by many adopting countries, efforts that were directed at IFRS implementation have now been shifted to ensuring that implementing entities comply with IFRS disclosure requirements. The assessment of the extent of compliance with IFRS has been studied extensively by many researchers in various parts of the world (Wallace and Naser, 1995; Owusu-Ansah, 1998; Street and Bryant, 2000; Street and Gray, 2001; Glaum and Street, 2003; Al-saeed, 2006; Hossain and Reaz, 2007; Al-Shammari et al., 2008; Hodgdon et al., 2008; Alfaraih, 2009; Al-Shammari, 2011). However, these studies have concentrated on developed countries and very little is known about the level of disclosure

and the company attributes that influence disclosure in developing countries (Karim and Ahmed, 2005; Kolsi, 2012).

The empirical evidence from prior studies show that deviations from IFRS compliance requirements are significant and widespread despite auditors and entities claiming full compliance as stated in audited financial statements (Chamisa, 2000; Hodgdon et al., 2008). A study done by Apostolos found that the average compliance rate of firms with IFRS under the dichotomous approach was 75% and under the partial compliance unweighted method was 71.2%. Unfortunately, even researchers have been caught in the web of assuming that a firm's attestations regarding its use of IFRS in its financial statements is sufficient evidence in support of compliance with IFRS requirements (Chatham, 2004).

This subject has become increasingly popular because it has been realized that "when compliance with IFRS varies among firms, comparability of financial information may be compromised" (Hodgdon et al., 2008: p. 3). Hodgdon et al., (2008) further argue that, if the assessment of the level of compliance is not included in the studies of IFRS adoption, research conclusions may be incorrect especially if the level of noncompliance is high and widespread.

The adoption and implementation of IFRS was announced by ZICA in December 2004 for application, effective January 2005, by listed companies and public interest entities operating in Zambia. This study assesses the extent to which LuSE listed companies are complying with IFRS disclosure requirements as per assertions in the respective audited financial statements. The study hypothesizes company factors or characteristics that could explain the possible differences in IFRS compliance levels attained by the listed companies. Studies conducted by prior researchers (Street and Bryant, 2000; Street and Gray, 2001; Glaum and Street, 2003; Chatham, 2004; Al-Shammari et al., 2008; Alfaraih, 2009) found varying compliance levels across countries and firms. These studies have attributed the varying IFRS compliance levels among firms to the age of the firm, size of the firm, liquidity, profitability, leverage, audit quality, existence of an audit committee, board independence and industry type, among other factors. For the purpose of this study, the effects of the age of the firm, size of the firm, liquidity, profitability, leverage and audit quality are examined.

2.1 Age

The age of the firm is the number of years a firm has been in business since its inception. Previous research work has established that the age of a firm may affect a firm's compliance with IFRS disclosure requirements (Owusu-Ansah, 1998; Alfaraih, 2009). Glaum and Street (2003) argue that new firms do not have well established accounting systems and lack capacity to disclose adequate accounting information in comparison to older firms. While a larger portion of extant literature reports that there is a

relationship between a firm's age and compliance with IFRS disclosure requirements (Owusu-Ansah, 1998; Glaum and Street, 2003; Alfaraih, 2009; Al-Shammari, 2011), Hossain and Reaz (2007) report no relationship between the two variables while Kingsley et al. (2016) found a significant negative relationship between the two variables. For this study, it seems reasonable to hypothesize that:

H₁: *The level of compliance with IFRS disclosure requirements is positively related to a company's age.*

2.2 Size

Empirical research has identified company size as one of the firm-specific characteristics that determine IFRS compliance (Wallace and Naser, 1995; Owusu-Ansah, 1998; Al-Shammari, 2011, Demir and Bahadir, 2014; Kingsley et al., 2016). These scholars argue that the relationship between compliance with IFRS disclosure requirements and company size stems from the effort by large companies wanting to be in good standing with accounting regulators and government. Therefore, large firms will comply with IFRS in order to avoid public criticism and government intervention. In addition, the cost of information processing, investment in accounting systems and availability of qualified accounting staff in large companies lend themselves to full information disclosure in line with IFRS. Investigations relating to the association of IFRS compliance and firm size have reported conflicting results. Studies conducted by Wallace and Naser (1995) and Owusu-Ansah (1998) reveal that there is a positive relationship between IFRS compliance and company size. Kingsley et al. (2016) study reveal that there is a positive relationship between IFRS compliance and company size. However, the results reported by Street and Gary (2001) suggest to the contrary. This study assumes a positive relationship between IFRS compliance and firm age.

H₂: *The level of compliance with IFRS disclosure requirements is positively related to a company's size.*

2.3 Profitability

Profitability has been found by empirical studies as a major determinant of the extent of disclosure in annual financial reports (Wallace and Naser, 1995; Owusu-Ansah, 1998). Inchausti (1997) uses agency theory to argue that when a company is profitable, its management will provide the shareholders with greater information revealing the company's profitable position with the aim of justifying management's personal utility motives. Conversely, management of less profitable companies will have low financial and non-financial information disclosure in a bid to hide the poor performance of the company. The studies on the relationship between profitability and disclosure have

produced mixed conclusions. While Wallace et al., (1994), Demi and Bahadir (2014) and Kingsley et al. (2016) find no relationship between profitability and information disclosure, Owusu-Ansah (1998) and Gallery et al., (2008) document a significant positive relationship between profitability and level of disclosure. A positive relationship between profitability and the level of compliance is assumed as follows:

H₃: *The level of compliance with IFRS disclosure requirements is positively related to a company's profitability.*

2.4 Liquidity

Liquidity is measured as a ratio of current assets to current liabilities and gives an indication of a company's ability to meet its short-term financial obligations as and when they fall due without resorting to selling noncurrent assets of the business. The higher the liquidity, the more confidence lenders and investors will have in the operations of the company and the going concern basis of financial statements preparation (Belkaoui and Kahl, 1978). Wallace et al. (1994) argue that companies with low liquidity may disclose more information in order to explain the cause for poor liquidity position. In addition, audit firms would not want to risk their reputation in the event of company failure arising from poor liquidity. Therefore, auditors are more likely to demand for full disclosure of liquidity problems a company could be facing. As such, liquidity is considered to be negatively associated with the level of disclosure (Wallace et al., 1994) as stated by the hypothesis below.

H₄: *The level of compliance with IFRS disclosure requirements is negatively related to a company's liquidity.*

2.5 Leverage

Al-Shammari et al. (2008) posit that companies that are highly geared are likely to disclose more information in order to reduce agency costs and satisfy the needs of debenture holders. Therefore, capital structure has been used in IFRS compliance empirical studies to examine the extent of association between leverage and the level of compliance with disclosure requirements. However, empirical studies have revealed mixed results. While Al-Shammari et al. (2008) have reported a significant positive relationship between the level of disclosure and the degree of leverage, Wallace et al. (1994) and Gallery et al. (2008) provide no evidence of such a relationship. Further more Demi and Bahadir (2014) reported a negative relationship between level of disclosure the degree of leverage. It is not clear what to expect in terms of this variable, but the hypothesis has been developed as follows:

H₅: *The level of compliance with IFRS disclosure requirements is positively related to a company's leverage.*

2.6 Audit Quality

Prior research has used auditor size as a surrogate for audit quality (DeAngelo, 1981). Karim and Ahmed (2005) suggest that the size of the company's audit firm and/or its international link may influence the amount and quality of information disclosed in annual reports. Karim and Ahmed (2005) further argue that annual financial reports audited by Big-4 audit firms are more credible than those audited by smaller firms. The perceived credibility of annual reports audited by larger audit firms has been attributed to the fact that larger firms have the financial capability to invest more to maintain their reputation for providing higher audit quality than smaller audit firms (Ahmed and Nicholls, 1994).

However, studies on the relationship between audit quality and the level of disclosure have not been conclusive. While Malone et al., (1993) and Hossain et al., (1994) find no significant relationship, Ahmed and Nicholls (1994) and Gallery et al., (2008) report a significant relationship between audit firm size and the level of disclosure. To study the association between compliance and audit quality, the following hypothesis was developed.

H₆: *The level of compliance with IFRS disclosure requirements is positively related to a company's audit quality.*

3 Research Methodology

3.1 Sample Size and Data Collection

For the purpose of this study, the population consisted of 22 Lusaka Stock Exchange (LuSE) listed companies as at 2016 year end. The year 2016 was chosen because at the time of conducting the research toward the end of 2017 and the beginning of 2018 the only available annual financial reports of the listed companies at LuSE and the company offices were for 2016. As per LuSE listed companies register, there were 22 listed companies. However, 2 companies were excluded from the study. The 20 listed companies from which data was collected are categorised into seven economic sectors as follows: Manufacturing (7 companies), Energy (2 companies), Services (7 companies), Real Estate (1 company), Agriculture (1 company), Retailing (1 company) and Investment (1 company).

3.1.1 Development of Disclosure Index (Dependent Variable)

The assessment of the level of compliance was based on the level of disclosure in 2016 annual audited financial statements of LuSE listed companies. Using a self – constructed IFRS compliance checklist, a disclosure index was calculated which in turn was used to investigate the hypothesized relationship between selected company attributes and IFRS compliance. The IFRS compliance checklist format used by the World Bank (2008) was adapted for this study. The checklist contained 154 measurement and disclosure requirements of 15 accounting standards IAS 1 (presentation of financial statements), IAS 2 (inventories), IAS 7 (Statement of cash flows), IAS 16 (Property, Plant, And Equipment), IAS 17 (Leases), IAS 19(Employee Benefits), IAS 24 (Related Party Disclosures), IAS 32 (Interest In Joint Ventures), IAS 31 (Financial Instruments: Presentation), IAS 36 (Impairment Of Assets), IAS 37 (Provisions, Contingent Liabilities And Contingent Assets), IAS 40 (Investment Property), IAS 41(Business Combinations), IFRS 3 (Business Combinations) and IFRS 7 (Financial Instruments Disclosure). Following a dichotomous procedure, each measurement or disclosure requirement was scored without weighting. Accordingly, each item was scored as disclosed (1), not disclosed (0) or not applicable (N/A). Thus, if a disclosure item is applicable to a company such an item would score (1) if it appeared and disclosed in the company’s annual report or scored (0) otherwise. An ‘N/A’ is given to a disclosure item if not disclosed by the company because the item is not applicable to the company (Alfaraih, 2009). The 20 annual reports were analyzed and data collected by the researchers to ensure consistency in the mode of awarding disclosure scores and also to identify a sample company’s compliance with applicable disclosure requirements (Juhmani, 2012). This approach is in line with other IFRS compliance studies conducted by Karim and Ahmed (2005), Al-Shammari et al. (2008) and Hodgdon et al. (2008), Kingsley et al (2016). The extent of compliance with IFRS was then measured using a disclosure index (DI) calculated using the formula below.

$$DI = X/n$$

where:

X = the number of disclosure checklist items applicable the company that actually disclosed

n = the total number of disclosure checklist items that the company is expected to disclose

3.1.2 Company Characteristics

In line with Alfaraih (2009), the variables that affect the level of compliance with IFRS were operationalized using the number of years a company has been in existence (age), ratio of current assets to current liabilities (liquidity), ratio of total debt

to shareholders' equity (leverage), total assets (size), return on equity (profitability) and type of auditor (Big 4 or non- Big 4). Audit quality was identified as a dummy variable assigned a value of one (1) for a Big-4 or zero (0) for a non-big-4 firm.

3.2 Data Analysis (Multiple Linear Regression)

The data collected was analyzed using the Statistical Package for Social Scientists (SPSS) and Megastat employing multiple linear regression. The generated frequency distributions, means, t-tests, F-ratios, p-values, percentages and correlation coefficients were used to draw conclusions about the stated hypotheses and the overall objective of the study. The normality of the data was tested using Skewness and Kurtosis statistics. The regression equation used to study the relationship between the level of compliance and the predictor variables was presented as follows:

$$\text{LogOdds DI} = \beta_0 + \beta_1 \text{AGE} + \beta_2 \text{SIZE} + \beta_3 \text{PROFIT} + \beta_4 \text{LIQ} + \beta_5 \text{LEV} + \beta_6 \text{AUDIT} + \varepsilon$$

where:

LogOdds DI = Disclosure Index transformed into a log odds ratio ($\log = [DI/1-DI]$)

AGE = number of years since the firm was established to the end of 2016

SIZE = Total assets value as at end of 2016

LIQ = Expressed as a ratio of current assets to current liabilities at end of 2016

PROFIT = the return on equity (ROE) at end of 2016 calculated as a ratio of net income to common shareholders' equity

LEV = the ratio of debt to shareholders' equity at end of 2016

AUDIT = Is used as a dummy variable coded one (1) if the firm is audited by one of the Big-4 audit firms and zero (0), for a non-Big 4 audit firm

β_0 = a constant, β_i = regression coefficient, ε = error term \cong zero

4 Results and Discussion

This section presents an analysis and discussion of research results. Descriptive statistics are presented first followed by the presentation and discussion of multiple linear regression and correlation results.

4.1 Descriptive Statistics

4.1.1 Disclosure Level of Sampled Companies

The results in Table 13.1 show that the level of compliance with IFRS disclosure requirements ranged from 74.6% to 91.6%, with a mean compliance level of 84.9%. The compliance data obtained shows that of all the twenty listed companies assessed, none of them was 100% compliant despite unreservedly declaring that the financial statements had been prepared according to IFRS requirements. Further, Table 13.1 shows that the modal DI class is 81–85% representing 40% of the total companies included in the study, while 85% of the companies were above 80% compliance level. This means that the LuSE listed companies complied with the majority of the IFRS disclosure requirements with all the sectors being at least 70% compliant. However, the fact that the companies did not fully comply with IFRS disclosure requirements and that the disclosure level varied from one company to the other, strengthens the need for an assessment of the company characteristics that affect compliance with IFRS disclosure requirements (Mutawaa and Hewaidy, 2010). The descriptive statistics for IFRS compliance assessment are presented in Tables 13.1 and Appendix II.

4.1.2 Compliance with Individual IFRSs

The results displayed in Appendix II reveal that the level of compliance also varies across accounting standards investigated. The minimum disclosure scores for IAS 2, IAS 19, IAS24, IAS 32, IAS 36, IAS 37, IAS 41, IFRS 3 and IFRS 7 ranged from 0% to 68%. Although the maximum score of 100% was achieved by some listed companies in respect of certain IFRSs, the individual standard minimum scores were extremely low. The lowest minimum scores were recorded for IAS 36 (at 0%), IAS 19 (14%), IFRS 3 (17%) and IAS 24 (20%). The highest mean disclosure index results were obtained for IAS 7 (95%) followed by IAS 1 (90%). These results suggest major IFRS implementation and compliance problems encountered by listed companies in Zambia. These findings are in line with the study results obtained by Hamududu (2014) on IFRS implementation in Zambia where some respondents cited Employee Benefits (IAS 19), Related Party Transactions (IAS 24), Financial Instruments (IAS 32 and IFRS 7) and Impairment of Assets (IAS 36) as some of the difficulty and challenging areas of accounting whose details respondents have yet to fully understand and apply.

Table 13.1: Descriptive Statistics (Frequency Distribution of Companies according to Disclosure Index Level).

Disclosure Level Range	Manufacturing Sector	Energy Sector	Real Estate Sector	Services Sector	Agriculture Sector	Retailing Sector	Investment Sector	Total Sample No. (%)
Below 0.70	0	0	0	0	0	0	0	0 (0%)
0.71–0.75	1	0	0	0	0	0	0	1 (5%)
0.76–0.80	1	1	0	0	0	0	0	2 (10%)
0.81–0.85	3	0	1	3	1	0	0	8 (40%)
0.86–0.90	1	0	0	4	0	1	1	7 (35%)
0.91–0.95	1	1	0	0	0	0	0	2 (10%)
Above 0.95	0	0	0	0	0	0	0	0 (0%)
Total	7	2	1	7	1	1	1	20 (100%)
Max Disclosure Level	0.916	0.912	0.813	0.904	0.822	0.867	0.888	0.916
Min Disclosure Level	0.746	0.795	0.813	0.810	0.822	0.867	0.888	0.810
Overall Disclosure Level	0.835	0.854	0.813	0.863	0.822	0.867	0.888	0.849

4.1.3 Descriptive Statistics for Explanatory Variables

The descriptive statistics for the predictor variables are displayed in Appendix I. The age of the companies ranged from 6 years to 107 years with the average age of 36 years. The average company size which is represented by the total assets was KW 2,180,962,000. The profitability for individual companies ranged from 1.6% to 57.1% with an average of 31.9%. The most highly geared company was 69.3%. The liquidity position ranged from 0.46 to 3.13 with an average of 1.328. The skewness statistics show that the results for size, profitability, liquidity and leverage are positively skewed but reasonably normally distributed (coefficient of Skewness < 1.0). The coefficient of skewness for age, however, is greater than 1.0, implying that the ages of most of the companies were concentrated on the lower tail of the distribution.

4.2 Correlation Matrix and Multicollinearity Analysis

Multicollinearity in predictor variables was diagnosed through the analysis of Pearson correlation factors and Variance Inflation Factors (VIF), consistent with Muta-waa and Hewaidy (2010). Although there is no clear cut rule for the value of VIF beyond which a researcher should be concerned, literature suggests $VIF \geq 10$ as a signal for multicollinearity problems (Tsalavoutas, 2009; Lind et al., 2012). Appendix III shows that all the VIFs are less than 10 and therefore, there doesn't seem to be any multicollinearity problems in this data. Further, the correlation values presented in Table 13.2 do not exceed the absolute value of 0.700 cited in literature as threshold correlation value (Lind et al., 2012). The highest simple correlation between independent variables was 0.459 for profitability and size. This suggests that there is no likely problem in the interpretation of the results of multiple linear regression.

Table 13.2: Correlation Matrix, Mean and Standard Deviation.

Variable	LogOdds DI	AGE	SIZE	PROFIT	LIQ	LEV	AUDIT
LogOdds DI	1						
Age	0.348	1					
Size	0.513*	0.364	1				
Profitability	0.650**	0.400	0.459*	1			
Liquidity	-0.032	0.093	-0.229	-0.045	1		
Leverage	-0.358	-0.046	0.389	-0.346	-0.341	1	
Auditor	0.152	0.373	0.167	0.383	-0.058	0.071	1

Table 13.2 (continued)

Variable	LogOdds DI	AGE	SIZE	PROFIT	LIQ	LEV	AUDIT
Mean	0.849*	36	2,102,632	0.319	1.328	0.239	0.85
Std Dev	0.044	26.18	2,180,962	0.111	0.732	0.272	0.366

Note:

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

4.3 Multiple Regression Analysis

As indicated in section 3.2, the regression equation being studied was represented as follows:

$$\text{LogOdds DI} = \beta_0 + \beta_1 \text{AGE} + \beta_2 \text{SIZE} + \beta_3 \text{PROFIT} + \beta_4 \text{LIQ} + \beta_5 \text{LEV} + \beta_6 \text{AUDIT} + \varepsilon$$

Multiple linear regression analysis was used to test for any relationship between Disclosure Index (DI) and the six (6) independent variables (namely, age, size, profitability, liquidity, leverage and audit quality). The essence of the regression analysis undertaken was to establish whether the indicator variables can be used to explain the behaviour of the level of compliance. The causal relationship was investigated using raw data gathered from the 2012 audited financial statements of listed companies. However, the dependent variable (disclosure index) was transformed into a 'log odds ratio' using the formula: $\text{LogOdds DI} = \text{Log}[\text{DI}/(1 - \text{DI})]$. This transformation of the dependent variable was done in order to mitigate the possibility of the regression model producing a nonlinear relationship between the dependent variable and the independent variables (Cooke, 1998). This is consistent with the IFRS studies conducted by Al-Shammari et al., (2008), Alfaraih (2009) and Tsalavoutas (2009). The results as presented in Appendix III show that the global testing of independent variables produced a significant regression model ($F_{\text{calc}} = 3.97 > F_{\text{critical}} = 2.92$ while the p-value at 0.0177 is less than the target 0.05 level of significance). Accordingly, it is concluded that the independent variables can be used to explain the behaviour of the dependent variable.

The inclusion of all the predictor variables in the regression equation produces a regression model with a coefficient of determination, $R^2 = 64.7\%$ and adjusted $R^2 = 48.4\%$. This means that 64.7% of the variation in the dependent variable is explained by variation in the independent variables. Therefore, the R^2 suggests that the proposed independent variables are useful in predicting the level of compliance. However, a further scrutiny of the p-values in Appendix III reveals that despite achieving the expected signs for the independent variables, the regression coefficients for age, profitability, liquidity and audit quality are not significant because they have

p-values greater than 0.05. Only the regression coefficients for size ($p = 0.025$) and leverage ($p = 0.036$) are significant.

4.4 Results of Hypothesis Testing and Discussion

The empirical results (as displayed in Table 13.3) from the regression model show that the age of a company is positively associated with level of compliance but statistically insignificant ($p = 0.871$). Thus, hypothesis H1 is not supported. This result (that age is insignificant) contradicts the findings of Owusu-Ansah (1998), Alfaraih (2009) and Al-Shammari (2011). However, this result is consistent with the findings of Demir and Bahadir (2014) who found no relationship between IFRS compliance and firm age. The results suggest that the level of compliance is not affected by the age of a company or the number of years a company has been in operation. In this study, older companies did not disclose more financial information than younger companies.

Table 13.3: Summary Results of Hypotheses Testing.

Hypotheses	Expected Sign	Regression Coefficients	p-value	Comment
H ₁ : Age is positively related to DI	+	+0.00019093	0.871	Not Supported
H ₂ : Size is positively related to DI	+	+0.00000005	0.025	Supported
H ₃ : Profitability is positively related to DI	+	+0.1497	0.701	Not Supported
H ₄ : Liquidity is negatively related to DI	-	-0.0176	0.651	Not Supported
H ₅ : Leverage is related to DI	+	-0.3430	0.036	Supported
H ₆ : Audit quality is positively related to DI	+	+0.0107	0.899	Not Supported

Source: MegaStat Analysis Results (2018)

The results in Tables 13.3 show that a statistically significant positive relationship exists between the level of disclosure (compliance) and the size of a company (p -value = 0.025). Thus, hypothesis H2 is supported. This result is in line with earlier research findings (Owusu-Ansah, 1998; Karim and Ahmed, 2005; Al-Shammari et al., 2008; Hossain, 2007; Tsalavoutas, 2009; Kingsley et al., 2016). The significant positive relationship between compliance with IFRS disclosure requirements and company size stems from the effort by large companies wanting to be in good standing with accounting regulators and government (Chavent et al., 2006; Juhmani, 2012). Accordingly, large firms will comply with IFRS in order to avoid public criticism and government intervention. In addition, the cost of information processing, investment in accounting systems and availability of qualified accounting staff in large companies lend themselves to full information disclosure as required by IFRS.

The results presented in Table 13.3 also reveal that although profitability has a positive relationship with the level of compliance, this relationship is statistically insignificant (p -value = 0.701). Thus, hypothesis H3 is not supported. Although this result is not as expected, it is consistent with the findings of Karim and Ahmed (2005), Tsalavoutas (2009) and Galani et al. (2011) who found no significant relationship between profitability and the level of compliance. This result is also consistent with the findings of Demir and Bahadir (2014) and Kingsley et al (2016) who found no significant relationship between the variables. The explanation for this could be that managers in the LuSE listed companies could be focusing more on reducing political and agency costs arising from company size and did not use the profitability of the companies to pursue compliance with IFRS.

This study further hypothesised that the level of compliance with IFRS disclosure requirements was negatively related to a company's liquidity (H_4). The results in Table 13.3 show that the level of compliance varies negatively with liquidity as predicted, however, the relationship between the level of compliance and liquidity is statistically insignificant (p -value = 0.651). Thus, hypothesis (H_4) was not supported. Although this result is not as expected, it is in line with the conclusions drawn by Wallace and Naser (1995), Alfaraih (2009), Tsalavoutas (2009) and Mutawaa and Hewaidy (2010). This may imply that companies with lower liquidity use other means to communicate their strained liquidity position such as direct contacts and discussions with the major shareholders and banks (Alfaraih, 2009). The other reason for insignificant association between level of compliance and liquidity could be that companies with excess liquidity do not want to be accused of not investing the excess cash and thus may not be willing to provide high disclosures (Tsalavoutas, 2009). In addition, Tsalavoutas (2009) argues that companies with low liquidity may not provide high levels of disclosure which may expose their poor performance in respect of working capital management.

The results of this study show that leverage is a significant predictor of the level of compliance (p -value = 0.036). However, the negative association is unexpected because it is contrary to the conclusions drawn by earlier researchers such as Morris (1987), Alsaeed (2006), Al-Shammari et al., (2008) and Kolsi (2012). This finding is consistent with the findings of Demir and Bahadir (2014) and Kingsley et al (2016). The negative association may be explained by the argument that financial institutions do not need to rely on financial disclosures but will get important financial data directly from the client company (Mutawaa and Hewaidy, 2010) rendering high disclosures redundant (Tsalavoutas, 2009). Accordingly, the hypothesis (H_5) that the level of compliance with IFRS disclosure requirements is related to a company's leverage is supported.

In line with the prediction that the level of compliance with IFRS disclosure requirements is positively related to audit quality, the results of this study confirm this relationship (see Table 13.3). This is consistent with the research findings of

Kolsi (2012) and Mutawaa and Hewaidy (2010). However, the relationship is insignificant (p -value = 0.899). These results suggest that LuSE listed companies audited by the Big 4 audit firms do not provide more financial disclosure than those companies audited by the non-Big 4 audit firm. This observation is supported by the findings of Mutawaa and Hewaidy (2010) on a study conducted on Kuwaiti companies. The results of this study do not support hypothesis H_6 .

5 Conclusion

A total of 20 LuSE listed companies were assessed and an average level of compliance of 84.9% was obtained. None of the assessed companies fully complied with IFRS disclosure requirements. This assessment was based on audited financial statements for 2016. The relationship between the level of compliance and company characteristics was studied using multiple regression analysis. Only size ($p = 0.025$) and leverage ($p = 0.036$) were found to be significant predictors of the level of compliance among LuSE listed companies.

The results of this study have made a contribution to IFRS literature on the implementation of IFRS on a global scale as well as bringing to the fore the factors that influence compliance with IFRS in the Zambian context. While extensive studies have been conducted relating to compliance with IFRS disclosure requirements and the drivers of compliance in the developed countries, IFRS compliance in developing countries is not sufficiently explored (Karim and Ahmed, 2005; Kolsi, 2012). Therefore, this study has added to the IFRS compliance research data base by way of providing a snapshot of financial disclosure practices obtaining in Zambia. Secondly, this being the first research study of its kind in Zambia, it lays a foundation for a number of IFRS research opportunities in financial accounting and reporting in Zambia in order to make IFRS benefits a reality.

6 Implications

Adequate education and training of accountants has been rightly identified (in extant literature) as having noticeable impact on IFRS implementation and compliance world over (Irvine and Lucas, 2006; Zeghal and Mhedhbi, 2006). The implication for Zambia is that there is a dire need to have adequately trained professionals to take up accounting functions around the country (Hamududu, 2014). The education of accountants can help improve the level of compliance with IFRS. Therefore, ZICA may have to double its efforts in implementing the provisions of the Accountants Act 2008 requiring only professional accountants to discharge the duties of the accountant in all organizations operating in Zambia.

The achievements recorded by ZICA in the implementation of IFRS, so far, are numerous but a partially supportive legal framework has somewhat limited ZICA's horizon for enforcing compliance with IFRS. It is the opinion of the current researchers that the efforts of ZICA (in ensuring that companies comply with IFRS) will be enhanced if IFRS became legally enforceable so that the much awaited compliance audits can start without any further delay.

The meaning of the 84.9% level of compliance is that none of the listed companies included in the study is fully compliant based on the 2016 audited financial results. Despite some companies having very low compliance scores (for example 0%) for certain IFRSs, all the twenty financial statements were declared IFRS compliant and no single set of financial statements received an adverse opinion, qualified opinion, disclaimer of opinion or emphasis of matter. Financial statements may not be described as IFRS compliant unless they comply with all the requirements of each applicable standard and interpretation (Shonhadji, 2012). The implication for auditors is that they need to revisit the relevant IFRSs and ensure that the level of detail required by each such IFRSs are applied by audit clients. In relation to the factors that contribute to the observed differences in levels of compliance, the implication for accounting regulators, auditors, company management and accountants is that full financial disclosure should be encouraged in both small and big companies. Smaller firms should be encouraged to invest in staff training and IFRS compliant accounting packages in order to fully benefit from IFRS implementation. Similarly, both lowly and highly geared companies should adequately disclose their level of gearing in order for stakeholders to make relevant informed decisions.

7 Limitations and Recommendations

7.1 Limitations

The assessment of the levels of compliance was based on financial statements of one financial year. A study incorporating financial results from two, three or more years would have given a compliance trend whether decreasing or increasing over time. Therefore, a compliance assessment as conducted in this study, may produce biased conclusions on the IFRS compliance performance of the companies because of lack of comparative compliance data. The other concern is the small number of companies (20) examined in this study. While the study sought to assess the level of compliance among listed companies, this number may have been too small compared to the total number of companies in the entire country that are required to prepare financial statements according to IFRS. The small number may raise uncertainty about the extent to which the study results can be generalized. Therefore, conclusions based on a much larger number of companies would be more realistic.

7.2 Recommendations

Arising from some of the implications, conclusions and the limitations of this study discussed above, it is recommended that ZICA should urgently lobby government to initiate appropriate reforms/amendments so that all the relevant legal and regulatory frameworks are realigned to make IFRS enforceable and conform with the demands of IFRS with the view of improving financial disclosure. Secondly, ZICA should roll out its planned compliance audits while paying attention to more challenging accounting and financial reporting areas under IFRS. These compliance audits should involve listed companies, public interest entities as well as Small and Medium Entities (SMEs). Thirdly, the researcher strongly recommends that ZICA fully enforces the provisions of the Accountants Act 2008 requiring that all entities operating in Zambia employ ZICA members (who are appropriately qualified) in all accounting functions. The results of this study conducted by Hamududu (2014) suggest that the successful implementation of IFRS in Zambia depends on the level of education of accounting and finance personnel. Therefore, ensuring that competent and experienced professionals who understand the demands of IFRS are engaged will place Zambia on the right path to achieving higher IFRS compliance. In addition, ZICA should ensure that all accountancy training offered by colleges, universities and the prominent accountancy professional bodies (ACCA and CIMA) follows the IFRS variant. Currently, students in Zambia who enrol for certain professional accountancy qualifications still have the option to train under the IFRS regime or the UK set of accounting standards. Finally, ZICA should continue with its current IFRS workshops and seminars but there should be special focus on inherently difficult IFRSs such as Employee Benefits (IAS 19), Related Party Disclosures (IAS 24), Financial Instruments (IAS 32, IAS 39, IFRS 7 and IFRS9), Impairment of Assets (IAS 36) and Fair value Measurement (IFRS 13).

8 Future Research Areas

The adoption and implementation of IFRS is a very wide and important researchable subject and has received the attention of many researchers and academics in many countries. The growing interests in this subject imply that answers to numerous questions being asked cannot be provided by a single study such as the one conducted by the current researchers. In order to fully understand and benefit from the implementation of IFRS in Zambia, additional research in the areas outlined below may be necessary. Since the current study on the assessment of the level of compliance was confined to LuSE listed companies, further research could be conducted to include public interest entities which are also required to implement full IFRS as per ZICA's Three Tier approach to IFRS implementation in Zambia. It would

be worthy examining the level of compliance of SMEs and MSEs in respect of IFRS for SMEs and Zambia Financial Reporting Standards (ZFRS), respectively. Recently, ZICA produced a handbook on ZFRS and it is, therefore, important to conduct compliance audits in order to assess the level of compliance of SMEs and MSEs and identify any associated implementation challenges.

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Appendices

Appendix I: Descriptive Statistics for Explanatory Variables

Variable	Min	Max	Mean	Std. Dev.	Skewness	Kurtosis
DI	0.746	0.916	0.849	0.044	0.071	-0.637
Age	6	107	36.00	26.18	1.110	1.275
Size (KMW'000)	22,309	6,306,664	2,102,632	2,180,962	0.864	-0.674
Profitability	0.016	0.571	0.319	0.111	0.488	-0.152
Liquidity	0.460	3.130	1.328	0.732	0.771	0.037
Leverage	0	0.693	0.239	0.272	0.801	-0.911
Audit Quality	0	1.00	0.85	0.366	-2.123	2.776

Source: Survey Data 2017/18, SPSS output 2017/18.

Appendix II: Descriptive Statistics for Disclosure Index Scores Analysed by Accounting Standard

Std	Title	Mean	Min	Max	N	Disclosure Items	Std. Dev	Skewness	Kurtosis
IAS 1	Presentation of Financial Statements	0.90	0.89	1.00	20	28	0.032	-0.132	-0.392
IAS 2	Inventories	0.75	0.50	1.00	14*	8	0.16	-0.476	0.111
IAS 7	Statement of Cash Flows	0.95	0.83	1.00	20	12	0.069	-0.886	-0.899
IAS 16	Property, Plant and Equipment	0.92	0.72	1.00	20	18	0.089	-1.839	3.474
IAS 17	Leases	0.86	0.70	1.00	10*	10	0.13	0.125	-2.094
IAS 19	Employee Benefits	0.78	0.14	1.00	20	12	0.21	-1.496	3.386
IAS 24	Related Party	0.72	0.20	1.00	20	5	0.24	-1.056	0.769
IAS 31	Interests in Joint Ventures	1.00	1.00	1.00	2*	4			

(continued)

Std	Title	Mean	Min	Max	N	Disclosure Items	Std. Dev	Skewness	Kurtosis
IAS 32	Financial Instruments: Presentation	0.90	0.60	1.00	20	6	0.12	-0.826	-0.064
IAS 36	Impairment of Assets	0.62	0	1.00	20	9	0.26	-1.167	1.561
IAS 37	Provisions,	0.67	0.33	1.00	20	7	0.25	0.223	-1.446
IAS 41	Agriculture	0.72	0.68	0.75	2*	19	0.046		
IFRS 3	Business Combinations	0.32	0.17	0.50	5*	6	0.12	0.644	1.022
IFRS 7	Financial Instruments: Disclosures	0.84	0.40	1.00	20	10	0.18	-1.168	0.699

Source: Survey Data 2017/18, SPSS Output 2018, * Standard not applicable to other companies.

Appendix III: Multiple Regression Model

Predictors	Expected Sign	Coefficients	Std. error	t-statistic	p-value	VIF
Intercept		0.7120	0.1318	5.400	0.000	
Age	+	0.00019093	0.0012	0.166	0.871	1.421
Size	+	0.00000005	0.00000002	2.531	0.025	2.535
Profitability	+	0.1497	0.3815	0.392	0.701	2.813
Liquidity	-	-0.0176	0.0380	-0.463	0.651	1.210
Leverage	+	-0.3430	0.1467	-2.338	0.036	2.490
Audit Quality	+	0.0107	0.0827	0.129	0.899	1.438
Model	R	R ²	Adj R ²	Std. Error		
1	0.804	0.647	0.484	0.110		
Source	Sum of Squares	df	Mean Square	F	p-value	
Regression	0.2889	6	0.0481	3.97	0.0177	
Residual (Error)	0.1576	13	0.0121			
SS Total	0.4465	19				

Dependent Variable: LogOdds DI, Source: MegaStat Regression output 2018

Source: MegaStat and SPSS Regression output 2018.

Elena B. Zavyalova, Evgeniya A. Starikova, Lee Jae Sung

14 International Aspects of the Korean Experience of Implementing the Public-Private Partnership

Introduction

The Republic of Korea can be referred to the list of the countries that have the hands-on experience in implementing PPP arrangements including its governing base. During a twenty-year period, it achieved remarkable results in executing quite a number of successful PPP projects. Many developing countries nowadays show keen interest in extensive implementing PPP. The understanding that ensuring high and sustainable pace of development, achieving the country's strategic goals at the present stage is impossible without cooperation with representatives of private business has formed at the government level in most of the dynamically developing economies. The strategies and programs that focus only on the use of budgetary funds do not allow the authorities to implement large-scale, strategic projects that underlie the country's high competitiveness.

This study attempts to identify opportunities for implementing PPPs in developing countries, taking into account their socio-economic objectives, as well as to determine the possibilities of foreign perception of the Korean methods of developing public-private partnerships and the corresponding institutional transformations. It also analyzes the efforts of the Korean leadership to disseminate their PPP experience abroad.

The authors of the article point to the advisability of acquainting foreign countries with the experience of PPP in South Korea through the "Knowledge-Sharing Programme", methods to stimulate PPP (financial assistance mechanisms, risk sharing, implementation of BTO-rs and BTO-a, involvement of small and medium-sized businesses in the implementation of BTL projects). Noteworthy that as promising areas of cooperation between developing countries and the Republic of Korea in terms of PPP, it is advisable to take into account the interest of Korean business in the creation of basic social infrastructure.

Elena B. Zavyalova, Evgeniya A. Starikova, Lee Jae Sung, Moscow State Institute of International Relations of the Ministry of Foreign Affairs of the Russian Federation, Moscow, Russia

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Methodology

The general scientific methods of induction, deduction, synthesis, clustering and classification, as well as comparative, logical and statistical analysis were used in this article.

The information and analytical basis of the research is the legislative and regulatory acts of the authorities of the Republic of Korea, statistical and analytical materials of the Ministry of Strategy and Finance of the Republic of Korea, the Korean Statistical Information Service, the International Construction Information Service and the data provided by the specialized Korean infrastructure funds.

Results

The South Korean groundworks in the development of PPPs meets with a positive international response, which should be seen as a result of the consistent efforts of the leadership of the Republic of Korea to promote its achievements in the field of PPPs, and the real interest in this experience in the world, especially in developing countries.

The Republic of Korea has a compact legal system regulating the issues of PPP. In addition, the presidential Enforcement Decree of The Act on Public-Private Partnerships in Infrastructure which elaborates the legal provision of PPP contributing to the effectiveness of its enforcement practices appears to be especially valuable as a legal document. The decree is structured in such a way that its articles consistently specify the relevant clauses of the law (Presidential Decree No. 28211, 2017).

Ensuring proper focus in the development of partnerships is largely achieved thanks to the annual “PPP Basic Plan”, which, along with a brief summary of the results, sets out in detail the tasks for the next period, indicating targets for the volume of investments as a whole, as well as for certain types of infrastructure with the most important objects. Also, a significant part of the document is devoted to measures to support PPP (the PPP Basic Plan, 2020).

Up until now, the Republic of Korea has mainly applied BTO¹ projects in which a private investor takes major risks or BTL² projects when the same is done by the government. The government plans to introduce BTO-rs and BTO-a as “new” types of partnership. The addition of “rs” to “BTO” means “risk sharing”, which implies equal participation (50:50) of the public and private parties in the investment in the infrastructure project and the operating costs. “BTO-a” or “BTO-adjusted” will apply to

¹ According to the international classification of the PPP forms, BTO stands for “Build-Transfer-Operate”.

² BTL – “Build-Transfer-Lease”.

projects where the government will mitigate business risks and lower the costs of exploiting objects accepting a more significant share of investments and operational costs (about 70% of the costs of construction as an example)

In the case of The Republic of Korea, such a type of concession partnership as BTL gained popularity at the local level, which, judging by the available statistics, has proven its effectiveness. At the same time, the involvement of small and medium-sized companies in the implementation of BTL projects is becoming an important area of efforts to activate PPP.

Separately, it should be noted that in modern Korean PPP practice, a system of comprehensive assessment of the feasibility of implementing a project at the stage of its selection and approval is mandatory. For these purposes, the mechanism of “preliminary study of the feasibility of the project” is applied which implies a techno-economic justification of the upcoming work.

The main mechanism for the development of international cooperation in the field of PPP over the past 7–8 years has become the “Knowledge-Sharing Program (KSP)” launched in 2004 by the government of the Republic of Korea and funded by it. It is a kind of “platform” for the transfer of Korean “know-how” to interested developing countries on a bilateral and international basis in solving various issues of economic policy and economic development. At the same time, the transfer of experience is not an end in itself, but is aimed at strengthening the international credibility of the Republic of Korea and its relations with other countries at the intergovernmental level, as well as creating favorable conditions for expanding the positions of national business abroad.

KSP consists of three projects: policy consulting (implementation of bilateral programmes for policy research, consulting and internships); joint consulting with international organizations; publication of studies based on the synthesis and analysis of Korean development experience. The programme is led by the Ministry of Strategy and Finance, and each of the three projects is being handled by the Korean Development Institute (KDI), the Korea Eximbank and the KDI School, respectively. The facilitation procedure involves the submission of an application by the relevant institution of the country concerned, which is reviewed and included in the annual KSP work plan, taking into account the budget allocated by the government. Then it is determined which organization will provide assistance from the Korean side (Knowledge-Sharing Programme).

In addition to the countries with which the memorandums of intent have already been signed or are planned to be signed, Azerbaijan, Bangladesh, Kazakhstan, Colombia, Laos, Pakistan, Thailand have taken part in the KSP program since 2008. As examples of the results of this work, one can cite the preparation of a PPP law in Vietnam, a PPP handbook in Mongolia, a study of the issues of attracting private investment in infrastructure in Laos with the preparation of a publication based on the results of the study, etc.

The main goal of international cooperation of the Republic of Korea on PPP issues (especially bilateral contacts based on the respective agreements and through KSP platform, as well as investment seminars) is to help its companies enter the project markets through partnerships in other countries. It can be clearly seen in the PPP Basic Plan (PPP Basic Plan, 2020) and other documents issued by the Ministry of Strategy and Finance of the Republic of Korea (Republic of Korea: Ministry of Strategy and Finance, 2012).

The idea that South Korea is able to apply its experience of public-private partnerships in the international arena, including along with the provision of financial support to projects in developing countries, is also brought up by responsible Korean representatives during their speeches to foreign audiences (Lee Young Ho, 2012). In this case, we can talk not only about participation as concessionaires of projects, but also as suppliers of equipment, materials, engineering services, etc. in the framework of tenders and other types of procurement activities used in the implementation of projects.

According to the Fiscal Policy Plan adopted for the period from 2014 till 2018, the goal is to enhance support for the Korean construction companies in the entering new markets in Southeast Asia, Central and South America, in the search for investment projects with high added value abroad, as well as in the training of qualified labour for construction in overseas conditions. The Plan aims to increase the profitability of project participation by providing Korean firms with advanced “critical design” technology and the latest construction equipment. Giving an unconditional priority to large companies in strengthening the country’s position in the foreign market for construction projects, Korea does not forget about small and medium-sized businesses. The provision of analytical market information, the creation of a database on construction projects in other countries and, most importantly, joint actions with large companies are considered as support measures for such firms, which, as the Plan emphasizes, “lack the strength to go abroad on their own” (Fiscal Policy Plan, 2014–2018). They should “pull up” representatives of small and medium-sized businesses.

The share of overseas transactions in the total contract value of Korean construction companies increased from 4% to 44% in the total contract value during the period from 2003 to 2013. This allowed the Republic of Korea to become the sixth largest country in the world ranking of countries in terms of the volume of construction work in the foreign market. According to the calculations of the authors of the Fiscal Policy Plan for 2014–2018, as a result of the implementation of its measures, the country should have climbed one step in the international ranking, and the amount of foreign construction contracts of Korean firms would have increased from \$ 70 billion in 2014 up to \$ 80 billion in 2015 and \$ 100 billion in 2018 (Fiscal Policy Plan, 2014–2018).

Scaling up for quite a long time, the amount of foreign orders of the Korean construction companies increased from \$47.6 million in 2008 to \$ 66 million in 2014,

and in 2010 exceeded \$ 71.6 million. However, over the next three years, they began to fall: \$ 46.1 million in 2015, \$ 28.2 million in 2016 and finally \$ 26.1 million in 2017 (International Construction Information Service).

Creating conditions for the successful entry of Korean business into infrastructure projects in the foreign market became one of the key directions of the economic policy of the Republic of Korea in 2017. In this regard, among its main activities, it was planned to increase by 2.2 trillion won allocations in order to help Korean companies “win” infrastructure projects overseas, as well as provide 1.7 trillion won out of the national Economic Development Cooperation Fund to support their participation in such projects in developing countries (Republic of Korea: Ministry of Strategy and Finance, 2015).

Apart from the Economic Development Cooperation Fund, which was established in 1987 as the main mechanism to help developing countries build infrastructure, the interests of Korean contractors abroad are promoted through the activities of the Global Infrastructure Fund and the Korean Overseas Infrastructure Fund, which provide financial support at the stage of ordering a project, that is, before the start of its implementation (Jung Min-Hee, 2017).

The government hopes to shift the emphasis from just obtaining contracts and subcontracts in foreign infrastructure projects to their implementation in the PPP regime with the help of the special fund, on the creation of which the Ministry of Land, Infrastructure and Transportation of the Republic of Korea began purposefully to work jointly with the Korea Development Bank and the Export-Import Bank of Korea. An agreement concluded among them in late October 2017 states that this newly founded Global Infra Venture Fund would possess a capital at a rate of 85 billion won (approximately \$ 75.2 million) and allocate up to 10 billion won for feasibility study, developing the financial model and analyzing legislative dimension etc. In doing so, the given fund is supposed to aid the funding at an early stage of implementation of international infrastructural projects in which Korean companies take part (Yonhap, 2017).

An important role is also given to the International Contractors Association of Korea. Founded in 1976 according to the Korean Overseas Construction Development Law, it is the only national organization representing the interests of Korean companies occurring around construction and development activities abroad. The Association unites more than 590 companies which are engaged in foreign market research, projects development and trade operations abroad. The purpose of the organization is to establish closer interaction with representatives of the construction industry in other countries (ROS PK, 2011).

Due to increasing efforts in the external direction, the government expects to bring the total volume of orders of Korean companies abroad up to \$ 200 billion in 2017–2021 (ROS PK, 2011).

A striking example of the participation of Korean firms in the implementation of PPP projects outside their country is the ongoing construction of a 3.7 km long

suspension bridge “Canakkale” over the Dardanelles in Turkey. The total cost of the project is estimated at \$ 3 billion. A consortium of two Korean companies, SK Engineering & Construction and Daelim Industrial, and two Turkish firms (Limak and Yapi Merkezi) were selected as a general contractor in February 2017, ahead of the Japanese competitors (Itochu and IHI). According to the terms of the contract, the bridge should be put into operation in 2023, after which the consortium will manage this object for 16 years and two months in order to return the investment. The choice of the Turkish government in favour of the consortium was influenced by the reputation and competence of Korean firms. SK Engineering and Construction is implementing a number of other infrastructure projects in Turkey, and in December 2016 opened a 5.4 km underwater tunnel that connected Europe and Asia via the Bosphorus in Istanbul. Dalim Industrial has built a significant number of suspension bridges in Korea over the years (Newsworld, 2017).

Conclusion

The Korean experience of developing PPPs is spreading around the world. This is a result of both actual interest in it in developing countries and consistent efforts of the government of The Republic of Korea. Sharing this experience is not the end itself. The main goal is to strengthen the international credibility of the country and its relations with other governments and to create favourable conditions for extending the positions of the national business abroad. “Knowledge-Sharing Programme” funded by the Korean government serves this cause as well as the Economic Development Cooperation Fund, the Global Infrastructure Fund, the Korean Overseas Infrastructure Fund, etc. etc.

Noteworthy that the Korean groundworks can be useful to Russian Federation as the Southern part of the Korean peninsula has rich experience in implementing PPPs. Moreover, it has a special legislative system that has been improved for more than 20 years according to changes in the economic situation and the tasks the country has been facing. Concessional agreements prove to be a significant part of implementing PPPs in Korea and prevail while executing projects within its partnership with the Russian Federation.

Recommendations

In the light of tasks faced by dynamically developing economies, in terms of further development of PPPs based on the adopted national legislation, as well as taking into account the long-term experience of PPPs in the Republic of Korea, the Korean experience can be useful for these countries.

On the part of foreign countries, the rich Korean practice of preparing the regulatory framework in this area deserves special consideration, including the PPP by-law (Enforcement Decree of The Act on Public-Private Partnerships in Infrastructure), PPP Basic Plan, etc.

The practice of using PPP financial assistance mechanisms in the Republic of Korea (construction subsidies, tax incentives for a private partner) and risk sharing, the introduction of BTO-rs and BTO-a as the most advanced types of partnerships, as well as the widespread use of such type of partnerships as BTL, which has proven its worth in South Korea, may be of the developing countries' interest.

Also, developing countries should pay attention to the fact that the mandatory application of a system for assessing the effectiveness and comparative advantage of projects in South Korea brings positive results in terms of developing competition and increasing the effectiveness of PPP projects.

Therefore, in the course of the study, it was indeed established that at present the South Korean experience in the development of PPPs is actively spreading in the world, which is facilitated not only by the actual interest in it in developing countries, but also by the targeted, consistent efforts of the Korean government in this direction. In this regard, it seems possible to consider PPP as a very popular tool used by the leadership of the Republic of Korea to build up bilateral political and economic cooperation with developing countries in the near future.

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Lyubov V. Krylova, Anna A. Prudnikova, Natalya V. Sergeeva,
Natalia L. Orlova

15 The US Dollar Functions and Role Transformation as a Global Currency

Introduction

The long-term US dollar's dominance in the world monetary system from the end of World War II to the present requires a special study. The share of the United States in global GDP was expected to decline, with the position of the dollar weakening, since powerful economy a progressive structure of foreign trade and a developed financial system of the issuing country serve as the economic basis for the currency use as world money. These are the parameters of the state to determine the possibility of using the national currency at the international level. In case with the US dollar, these expectations proved to be unreasonable. Despite the reduction in the United States' share in global GDP from 29% in 1975 to 24% in 2017, the US dollar's share in total international reserves (as their structure is the most important factor determining the demand for a particular currency), for over the past 10 years it has remained stable approximately at 63% (COFER, IFS, IMF, 2020). If the size of the economy and the scale of US international trade (11% of world trade) are emphasized, dollar's share in international reserves should be comparable to euro's share and be about 20%. During the world economy growth in the 2004–2007, before the global crisis, leading experts predicted a rapid decline of dollar's position and its status loss as a world currency (Krugman, 2007). However, the position of the US dollar as world money remains exceptional and incomparable to that of any other international currency. The question is whether the US dollar's replacement as world money in the near future is possible.

Methodology

A comprehensive approach to the study of the dominance reasons of the US dollar implemented by the authors included the investigation of the factors of supply and demand for US dollars in the world economy, the influence of the policies of

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Lyubov V. Krylova, Anna A. Prudnikova, Natalya V. Sergeeva, Natalia L. Orlova, Financial University under the Government of the Russian Federation, Moscow, Russia

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national monetary and foreign exchange regulators, and the importance of supranational Bretton Woods's institutions. The functions of money in the context of the world currencies use in private and public sectors were studied by P. Kennen (Kennen, 1983), B. Cohen (Cohen, 2005), and in connection with the problems of currency substitution by J. Calvo and K. Veg (Calvo and Vegh, 1992). The mechanisms of money emission in the Eurodollar market functioning context were the object of research by V.K. Burlachkov, M.Yu. Golovnin, S.A. Nikitina. (Burlachkov et al., 2017). The factors determining the scale of the US dollar use in international foreign exchange reserves, as well as the reasons for the preservation of a high value share of this currency in reserves with the share of the United States in the world economy decreasing, were studied in a number of works by H. Ito and R. McCauley (Ito and McCauley, 2018, 2019). However, in the context of the US dollar's reasons for the dominance these factors have not been studied.

Results

The US dollar's role in the world economy is determined by the degree of its use by economic agents in public and private sectors, and the directions of this use are associated with the implementation of the main functions of world money. At the state level, important is the choice of currencies for the formation of international foreign exchange reserves by the authorities of a particular country, since the main form of savings is reserves in the context of today's monetary functions of the world currency. Their total volume by the beginning of 2020 was \$ 11.8 trillion, of which 6.8 trillion are the US dollars. In its turn, the choice of dollar as the main currency of reserves is associated with the monetary policy pursued by a certain country. Countries with weak economies and unstable financial systems seek to find protection against monetary and financial crises by resorting to a policy of full or partial dollarization, in which national currencies are replaced by foreign ones. The theoretical basis for dollarization policy is the concept of currency substitution (Calvo and Vegh, 1992) explaining the reasons for legal use of foreign currency instead of or along with the national currency in domestic circulation. The choice of the dollarization policy by the monetary authorities determines its implementation in the form of official dollarization. In the event that financial instability and mistrust in the national currency forces private sector economic agents to resort to foreign exchange to protect their various savings, dollarization acquires the unofficial form (Moiseev, 2017: p. 440).

The list of the countries widely using the US dollar and following the path of the United States policy also includes the states that practice pegging their currencies to the US dollar. The specialists refer the countries to the dollar zone the national currencies of which have a high degree of correlation of exchange rate dynamics (co-movement) with the US dollar exchange rate. The share of the US dollar in the total

world foreign exchange reserves turned out to correlate not so much with the scale of the US economy, but rather with the share of the countries of the dollar zone in global GDP (Ito and McCauley, 2018). Collectively, dollar-zone countries have contributed about 60% of global GDP over the past 40 years, which correlates with the dollar share in global reserves (Ito and McCauley, 2019). The demand for US dollars from private sector, in addition to their use to protect against inflationary and devaluation depreciation of reserves and savings, is due to their use as the currency of price and payment of foreign trade contracts, the currency of debt obligations denomination and direct foreign investment (Table 15.1).

Table 15.1: The US Dollar as a World Currency Functions.

Implementation sector	The standard of value	Payment method	Accumulation method
private sector	quote currency	currency of price and payment of foreign trade contracts; FOREX market transaction currency	savings and reserves currency, debt obligations denomination
government sector	parity currency; anchor currency	intervention currency	denomination of foreign exchange reserves

Source: developed and compiled by the authors based on Kennen (1983), Cohen (2005) and Ito and McCauley (2018, 2019)

Meanwhile, there is a close relationship between the monetary policy of the authorities, which determines the structure of international reserves, as well as the currency of intervention, on the one hand, and the denomination of invoices and debt obligations in the private sector, on the other. The denomination currency of a country's export (currency of export invoices) has a direct relationship with the structure of foreign exchange reserves (Ito and McCauley, 2019).

The demand for dollars in private sector is associated with the expansion of the international activities of economic agents acting primarily as transnational corporations. The use of this currency for financing international transactions allows reducing transaction costs and optimization of risk and liquidity parameters. Currently, about 70% of currencies are less volatile in relation to the US dollar than any other international currency (Ilzetzki et al., 2019).

More than a half of the international trade accounts are denominated in dollars (Gopinath, 2015). The use of dollars as a payment currency for export contracts expands borrowing and purchases of the US dollars by foreign economic participants to reduce foreign exchange risks, finance working capital and hedging. This results in the demand for dollars as a currency of debt obligations growing, as well as the share of this currency in transactions on the FOREX market. The dollar liabilities of non-American banks in 1990 amounted to \$ 2.3 trillion; in 2007, their volume increased to 10.1 trillion

and continued to grow steadily after the global crisis of 2008–2009, reaching \$ 12.1 trillion in 2019. In emerging markets, the US dollar lending grew at a rate that exceeded its growth in other currencies (Aldasoro and Ehlers, 2018). In the FOREX market, the US dollar is one of the parties to 88% of all OTC transactions.

A specific direction of using dollar, which determines the its demand during the periods of crises, is its status of a “safe haven currency”, which was observed repeatedly, in particular, during the global crisis of 2008–2009, confirming the fact that the functionality of dollar is an attribute of the US dollar as a world currency, and not the United States as an issuing country.

To meet the demand for dollars, an appropriate issuing mechanism is required to be able to provide the world economy with the required amount of cash liquidity. The shortage of international liquidity is maximally capable of destroying the world monetary and financial system, and minimally of inhibiting the growth of the world economy. The current emission mechanism is a significant factor in the dominance of the US dollar. The supply of dollar liquidity is provided through two channels: within the powerful emission mechanism of the US Federal Reserve, which is able to generate the required volumes of money supply, and because of the deposit and credit multiplier, which creates an additional supply of money in the system of Eurodollar markets and offshore banking structures.

The official component of global liquidity is “unconditional funding available to settle claims through the monetary authorities” (BIS, CGFS Papers, 2011). This part of global liquidity is created only by central banks in local currency (which is the US Federal Reserve in the case with dollar) and is distributed through the mechanisms for the formation and use of international foreign exchange reserves, swap lines of central banks and the IMF programmes. The private component of liquidity is predominant; it is created because of cross-border lending operations. Together, these two components form the volume of liquidity that determines the ease of access to funding liquidity in the US dollars. At present, no acceptable alternative is seen to be able to replace dollar and provide the supply of liquidity in the volumes required by the world community. However, the supply of global dollar liquidity is not the only condition for normal functioning of the global monetary and financial system. It is also necessary to have an adequate volume of quality financial instruments for capital investment and reserves located outside the United States. The US financial system provides the ability to place dollar liquidity in financial instruments with an acceptable level of liquidity and risk.

The dominance of dollar in the world monetary system is not only a reflection of its competitive position, but also relies on a powerful administrative resource that was formed during the Bretton Woods period, and is retaining its potential. The United States controls formal (IMF, World Bank Group, BIS) and informal supranational institutions (“G7”, “G20”) that support the standards for the functioning of the world monetary system and financial markets, standards focused on the strategic interests of the United States. The United States is opposing their reform. The

rigid, uncontested functioning nature of the Bretton Wood's institutions supports and reproduces the dominance of both the American dollar and the United States in the world economy. The United States also controls the infrastructure elements of financial markets, as well as channels for the movement of money in the global financial system. The set of factors that determine the special role of the US dollar in the world monetary and financial system are presented in Figure 15.1.

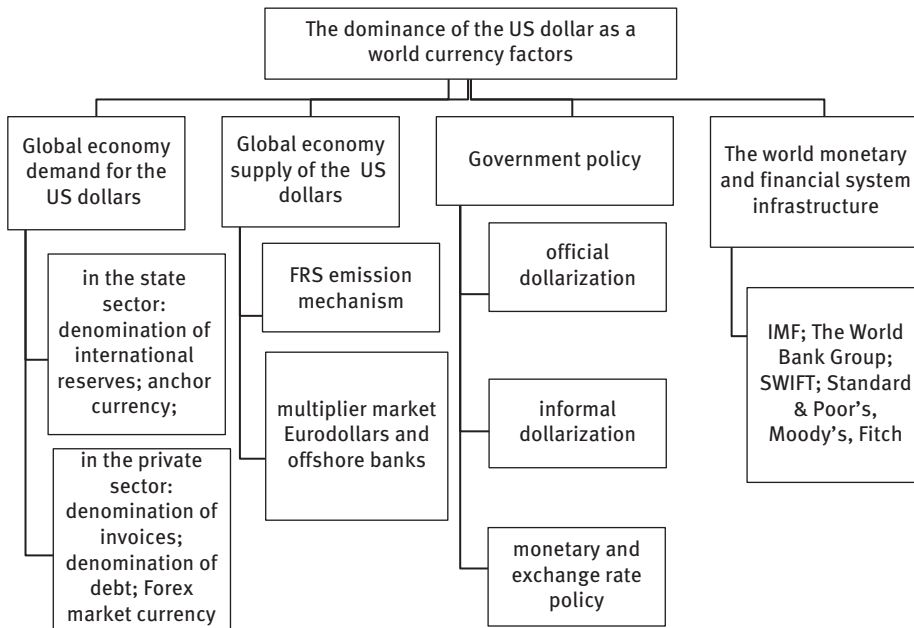


Figure 15.1: Factors Determining the Role of the US Dollar in the World Monetary and Financial System. Source: Developed and compiled by the authors.

International payment systems, SWIFT, the system of credit rating agencies provides the functionality of the US dollar as a world currency (Kuznetsov, 2019). An alternative could be the transition to an international digital currency or the creation of a parallel infrastructure. Russia initiated the creation of a New Development Bank, a pool of foreign exchange reserves, and a payment system for the currencies of the BRICS countries in order to get out of the threat of being disconnected from the US-controlled SWIFT system. Building the capacity of these new elements takes time, constructive interaction between the countries concerned, and a well-developed strategy for the next decade. The use of Facebook's Libra digital currency as an alternative does not solve the problem, since its turnover is pegged to the dollar and controlled by the United States, like many other digital currencies. The ubiquity of digital technologies only strengthens the position of the United States (Kuznetsov, 2019).

Conclusion

In the foreseeable future, dollar will not lose its dominant position, which is based on the factors of its large-scale use outside the United States, conditioned by the motives of expediency, benefit and lack of a worthy alternative. However, the growing imbalance between the role of dollar as a world currency and the weakening of the US position, as well as the voluntaristic policy of the leadership of this country, are forcing an active search for effective measures to reduce the dependence of the world economy on the US dollar. In these conditions, the issues of transforming the role of dollar are increasingly shifting from the economic to the political plane. The change in the structure of Russia's reserves and a number of other countries is motivated today by political rather than economic considerations.

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Svetlana N. Kuznetsova, Ekaterina P. Garina, Victor P. Kuznetsov,
Sergey N. Yashin

16 Social and Economic Development of Industrial Parks in the Context of Digitalization

Introduction

Digitalization is the creation of more flexible, faster and more efficient corporate processes using the latest technologies. This study proposes to use the integration platform as a platform for industrial parks, which is the foundation of digitalization. It addresses the issue of socio-economic development of industrial parks, on the example of the Nizhny Novgorod region, in the context of digitalization.

The economic and social development in conditions of macroeconomic instability in the Nizhny Novgorod region can be done through a diversified economic structure. Diversification of the regional economy promotes pursued policy, concentrated on creation and modernization of production, development of high-strength, import substitution, and exemption from infrastructure constraints.

Digital Industrial Park – an industrial park with a high degree of digitalization of management and production business processes, a high degree of cooperation and outsourcing of typical functions (processes) using services of the management company or its partners, service companies, and other residents.

Methodology

In the study, the authors used the predictive analytics method.

Results

The purpose of the study provides – creation of intersectoral digital platforms in the industry, providing intersectoral and intersystem integration of industrial enterprises in design, production and sale of products. Digital platforms developed in accordance with this mechanism operate using end-to-end digital technologies (Garin et al., 2020).

Svetlana N. Kuznetsova, Ekaterina P. Garina, Victor P. Kuznetsov, Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russia

Sergey N. Yashin, Lobachevsky State University of Nizhni Novgorod, Nizhny Novgorod, Russia

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In order to create cross-industry digital platforms, the following list of promising information technologies that are important for socio-economic development is used, on the example of the Nizhny Novgorod region (Romanovskaya et al., 2020):

- group 1 – maximum priority support and the lowest possible degree of monetization: Operating Systems; tools for preparing executable code; Subroutine Libraries (SDK) Utilities and drivers critical for functioning of the digital economy.
- group 2 – the average priority for support, and the average degree of possible monetization:
 - means of information security enforcement;
 - a database, project, research, development, design and implementation management system for CAD, CAM, CAE, PLM;
 - a system for managing cluster processes in a fraction (a system for managing MES production processes, as well as SCADA technological processes);
 - a system for collecting, storing, processing, analyzing, modeling and visualizing data arrays in terms of: BI business analysis system, ETL, EDW, OLAP, Data Mining, DSS; quality control system for processing geological and physical data.
- group 3 – minimum priority for support, and the greatest degree of monetization: embedded software for telecommunication equipment; office applications; search engines; information systems for solving specific industry problems (Kuznetsova, et al., 2018).

Clusters using digital technologies achieve convergence, which allows creating new business opportunities and making decisions more informed. The digital transformation project is complemented by the use of the digital maturity model (Romanovskaya et al., 2020a).

As a result of the selection of the most innovative projects, the authors highlight the industrial cluster of the Nizhny Novgorod Region in the automotive industry, which includes 13 industrial enterprises, the level of cooperation of which is 56% (Andryashina et al., 2020b).

Project Performance Indicators: total income of residents is 111 billion rubles, created jobs – 20.1 thousand units, tax deductions are – 5.4 billion rubles. (Potashnik et al., 2020).

Factory of automobile components Avtokomponent LLC, a priority resident of the industrial cluster. The plant is studying the production of automotive components from composite materials using the technologies of LFI, Spray Srin, R-RIM, RIM – PDCPD, SCS (Garina et al., 2020b).

The import substitution action plan for the automotive industry is focused on the production of final products, which is carried out by residents of this cluster: LLC “AZ GAZ”, LLC “PAZ” (Kuznetsova et al., 2020).

Budget efficiency as a result of clustering of industrial parks in the context of digitalization: 293.96 million rubles: 51% of own funds, 49% of the requested subsidy.

Private investments were attracted per 1 ruble of budget funds – 1.03 rubles. Additional taxes to the federal budget by 2022 – 156.16 million rubles, taxes on 1 ruble subsidies – 1.8 rubles.

As a result of digitalization, the Nizhny Novgorod Region fulfills the following targets (Kuznetsova et al., 2020):

Firstly, the growth of cooperation between cluster participants is ensured – 1.1 billion rubles, 49 productive jobs have been created, the cost of creating 1 high-performance workplace is 2.6 million rubles, and the decrease in the volume of import of automotive components annually is 500 million rubles.

Secondly, the scope of the clustering program is defined to finance projects focused on the implementation of digital and technological solutions designed to optimize the production processes of industrial parks. Basic loan conditions (loan term up to 60 months) – 20–500 million rubles (Potashnik et al., 2020).

Third, additional conditions: interest rate – 1–5%; average annual increase in production per 1 employee – more than 5% starting from 2 years after receiving a loan; co-financing – more than 20% of the project budget, at the expense of own and borrowed funds; The total project budget is from 25 million rubles.

Conclusions/Recommendations

During the work of industrial parks in the region, about 2 thousand objects were commissioned in various sectors of the economy: 2 technoparks in the sphere of high technologies.

The main objectives of development of Nizhny Novgorod region are: promotion of investment projects; promoting industrial parks and increasing cluster investment activity (Romanovskaya et al., 2020b).

As a result of the socio-economic development of investment projects – industrial parks, as part of the digitalization (Andryashina et al., 2020a):

- provision of government support to priority residents of industrial clusters implementing priority investment projects;
- implementation of measures to stimulate investment activity;
- association of mechanisms of public-private partnership in the Nizhny Novgorod region;
- formation of territories of priority social and economic development in single-industry towns of the 2–3 category, including in the settlement of Reshetikha in the city of Volodarsk.

The growth in physical volumes of industrial production in 2020 by 2017 level – by 7.4%, including in manufacturing – by 8% (Table 16.1).

Table 16.1: Increase in project revenue through the introduction of end-to-end digital technologies.

2019	2020	2021	2022	2023	2024
100%	120%	150%	190%	220%	250%

Source: Kuznetsova et al. (2020)

Assessment of the potential effects of cooperation in the context of digitalization: the share of transport costs in direct production costs for all modes of transport is 2.3–5%, cost savings due to transport and logistics and industrial cooperation of residents 20–50% of supply costs, in the case of highly organized production cooperation and creation of chains of complementary industries within single territory (Garina et al., 2020a).

In the effect of production costs, savings from the sale of this type of cooperation are 0.5–2.5% of the cost of production. The share of costs of services indirect costs of production is 13–26%, which will achieve a potential reduction in the cost of production of 1.3–13% with the former condition of highly organized production cooperation and creation of chains of complementary industries within a single territory (Tsymbalov et al., 2019).

As a result, cumulative effect reaches 2–17% of production cost savings, as well as reserves for savings laid in the management of administrative costs, management (overhead) costs.

Possible increase in the portfolio of orders due to: power optimization of the production cluster; understanding the capabilities of the workload; redistribution of production priorities. A possible increase in the order portfolio with a constant park up to 10% (Romanovskaya et al., 2020a).

According to the digitalization of industrial parks:

- domestic digital platforms and software products competitive in regional markets have been developed;
- the results of work in industrial clusters were introduced in order to create high-tech industrial products;
- developed software products are included in the Unified Register of Russian programs for electronic computers and databases no later than 1 year from the date of completion of the comprehensive project (Kuznetsova et al., 2018).

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Elena M. Naydenova

17 The Correlation between the Fourth Industrial Revolution and Globalization: A Political-Economic Perspective

Introduction

A ghost stalks throughout the world, the ghost of the Apocalypse! Just a while ago, life seemed wonderful; the future promised bright prospects due to the development of technologies of the Fourth Industrial Revolution and boundless Globalization. World trade reached an unprecedented scale, world migration flows, with all their ambiguity, promised the upcoming transformation of the world population into a single whole. And suddenly, overnight, everything collapsed. The world froze waiting for a terrible future. And now, they proclaim not only the end of Globalization, but almost a breakdown of the civilization foundations: humanity, used to all kinds of consumer goods wealth, is frightened by the trivial hunger.

Could it be that a tiny, invisible virus, albeit with a corona, could cause a catastrophe impending on humanity? Or maybe it is not that simple? For more than one year, thoughts have been expressed that the global economy is on the verge of a new crisis, far more serious than the crisis of 2008–2009.

Nevertheless, it was after this crisis that the processes of Globalization accelerated and the revolutionary development of new technologies associated with them, which after the crisis was named “Industry 4.0” or “The Fourth Industrial Revolution”.

The correlation between the Fourth Industrial Revolution, the core of which is digitalization and the current stage of economic (and not only) Globalization seems obvious. Many researchers are trying to answer various questions that arise in connection with these interrelated phenomena. They are worried about both particular problems and the main problem: what will be the socio-economic organization of the society that will emerge because of the new “Industrial” revolution generated by Globalization? Perhaps, “with the arrival of a new digital reality, the world is entering the stage of super Globalization with a previously unattainable degree of services’ mobility and key production factors – ideas, technologies, intellectual work in a globalized virtual space”, (Spartak, 2018: p. 7)? Or we are going to face an age of “post-Globalization” with the transformation of the bulk of humanity into a powerless and downtrodden Precariat, (Standing, 2014: p. 84)? Or maybe “fundamentally changing conditions require changes, as they said before, of the socio-economic formation” (Lukyanov, 2020)?

Elena M. Naydenova, Financial University under the Government of the Russian Federation, Moscow, Russia

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Methodology

A number of very and not very well-known authors presented their vision of the future global society, which they associate with the development of new technologies: Bard and Zoderkvist (2004), Attali (2014), Bukreev (2018), Standing (2014), Harari (2019), Swan (2018), Bodrunov (2018), Belousov et al. (2015), Schwab (2018; 2019a), and Hanna (2019).

In some works, along with the characteristics of the future global society emerging based on the technologies of the Fourth Industrial Revolution, the stages of the transition to such a society are analyzed. Some work focus on the particular aspects of the development of Globalization processes due to the development of new technologies. As examples, we can cite the works of Russian researchers: Kondratyev (2018a, 2018b), Spartak (2018), Kheifets (2019), as well as an article by Schwab (2019b) published in a Russian journal.

Results

It may be assumed that the differences in ideas about what will be a global society, emerging based on the revolutionary technological changes, and what are the ways of transition to such a society, are due to differences in approaches to the analysis of the correlation between the development of new technologies and Globalization. These approaches can be grouped into the following groups (Figure 17.1).

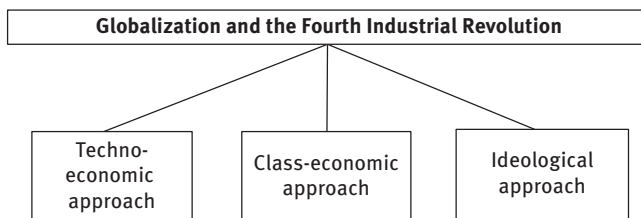


Figure 17.1: Approaches to the Analysis of Correlation.

However, one should not be supposed that these approaches exist in isolation from each other. Many authors approach the analysis of this correlation from different perspectives, and in their works these approaches entwine and even intersect, forming a complex system of views. It is quite natural since the object of research itself is a complex system of interconnections and interactions of its constituent elements.

1. The techno-economic approach consists primarily in the fact that the authors focus on the development of the process of creating added value, emphasizing

the new that the technologies of the Fourth Industrial Revolution bring to it. This new, on the one hand, contributes to the reduction of value chains in the future, for example, through the development of additive technologies, on the other hand, it enhances the interdependence of the elements of the global economic space (Hanna, 2019; Swan, 2018; Kondratyev, 2018a, 2018b), up to its “radical re-formatting” (Kheifets, 2019). Particular attention is paid to the inconsistency of this process and the problems arising in the course of its development, in particular, the aggravation of the security problem (Kondratyev, 2018b; Shvab, 2019b; Belousov et al., 2015).

2. The class-economic approach is an attempt to present the social structure of the future society, due to the development of new technologies, and its formation during the transition to such a society. This approach is closely related to the analysis of the problem of inequality. Many authors argue that technological development will create new, more severe social-class divisions and increase economic inequality to an unprecedented level (Bard and Zoderkvist, 2004; Standing, 2014; Harari, 2019).

Others believe that global institutions, together with all concerned parties of humanity, represented by the state, civil society, and the business community, can ensure equal access for all to the achievements of the Fourth Industrial Revolution (Hanna, 2019; Schwab, 2018, 2019a). Although these authors also express concern that, “the winner-take-all” approach can pose serious problems for the global community (Schwab, 2019a).

3. The ideological approach combines a wide range of ideas about the future global society from the point of view of what place the human will take in this society and whose interests will be given top priority of its development. Since this approach includes an analysis of the most diverse social aspects of the future society, it is difficult to characterize it unambiguously. There are optimistic and pessimistic future scenarios.

A frankly pessimistic scenario of the future society was described back in 2000 in the book “Netocracy. The new ruling elite and life after capitalism”, (Bard and Soderkvist, 2004). According to the authors, the “new economy”, which is based on the development of new information technologies and, above all, the Internet, is “a transition from capitalism to an information society”, (Bard and Zoderkvist, 2004: p. 25). And although the authors state that “netocratic Globalization” is different from capitalist, in fact, they are talking about capitalism, a capitalist consumer society. This society will be ruled by a new class of netocrats that will control financial flows by controlling information flows. Only representatives of this new class will have the opportunity for all-round personal development, only they will have access to gaining knowledge, the rest of humanity is doomed to degradation, wandering in the information chaos of the Internet. (Bard and Zoderkvist, 2004)

The book by Harari, in which the omnipotence of corporations in the society of the future is predicted, that is, the same capitalism, but without liberalism and democracy, although at the end of the book the author says that other options for the future of society are also possible (Harari, 2019: p. 463).

An optimistic view of the future society is typical for Attali, who sees this society “as a worldwide balance of the market and democracy”, (Attali, 2014: p. 136), that is, capitalism in which the market will function “for the betterment of all” (Attali, 2014: p. 151).

An interesting attempt to study the socio-economic changes taking place during the Fourth Industrial Revolution was made by Bodrunov, the President of the Free Economic Society of Russia. Because of the development of new technologies, the author believes, a society will emerge, which is characterized as a “turn to Homo Sapience”. However, what will be the socio-economic structure of the future society remains unclear, (Bodrunov, 2018).

Hanna is definitely optimistic about the coming age. He welcomes the coming “age of cyber capitalism”, which will strengthen the interconnection of the world and make it truly global, (Hanna, 2019: p. 325).

Klaus Schwab expresses his attitude to the prospects of a global society conditioned by a new technological revolution more carefully. He believes that the result of a new technological revolution unfolding beneath our eyes will be “at least a transformation of humanity”, (Schwab, 2019a: p. 9), which may be unclear. But this transformation, according to Schwab, is a transformation of the same capitalism, which should become stakeholder capitalism instead of today’s shareholder capitalism, (Schwab, 2019c). It is this renewed capitalism that, in his opinion, can ensure the general availability of all the benefits that the development of new technologies promises, (Schwab, 2018, 2019a). And in addition, it will transform the exhausted Globalization into Globalization 4.0 (Schwab, 2019b: p. 81).

Conclusion

The results of the analysis lead to the following conclusions. Firstly, although all researchers recognize that there is a close correlation between what is commonly called the Fourth Industrial Revolution and Globalization, the nature of this correlation has not received a deep scientific explanation. By focusing on describing aspects of this correlation, researchers are like the blind men in a parable trying to define what an elephant is.

Secondly, there is a lack of understanding of the dialectical correlation between the development of modern technologies and the process of Globalization, as a socio-economic form within which these technologies develop. Not only the understanding of the essence of Globalization as a form of productive power development, which

was called the Fourth Industrial Revolution is missing but also the very formulation of the problem is absent.

Marx, characterizing the results of the First Industrial Revolution, gave a very fruitful example of political-economic analysis, revealing “the connection of social relations of production with different modes of production”, (Marx, 1960: p. 393). He concluded that the emergence of machine production because of this revolution gave capitalism its technological basis for further development.

Only a political-economic approach to the analysis of the correlation between Globalization and the Fourth Industrial Revolution can provide an answer to the most important question: the technological basis of what socio-economic structure is the new “Industrial” Revolution associated with Globalization? And whether the term “Industrial Revolution” corresponds to the current stage of technological development.

The political-economic analysis leads to the conclusion that Globalization in its present form appears as a form of development of productive powers due to the previous Industrial Revolution, during which, based on the transformation of science into a direct productive power, the exploration of outer space began, the use of a peaceful atom, computers appeared, which marked the beginning of modern information and communication technologies development, robotics development – the prototype of modern Artificial Intelligence and much more. The use of these discoveries and inventions led to the fact that the internationalization of the economy, inherent in the initially capitalist market organization of production, reached a qualitatively new level: the productive powers became cramped within the framework of national economies, their further development required going beyond this framework. This is how the Globalization of the world economy began and with it the Globalization of all fundamentals of the life of human society.

The crisis of 2008–2009, the first crisis of the age of Globalization, highlighted the role of a new phenomenon – the financialisation of the economy. It is no coincidence that this crisis was initially called the financial crisis. The financialisation of the economy means the denial of all the merits of capitalism to mankind: the highest level of development of productive powers, primarily labour and its carrier – the human person. Financialisation reduces the creative development of a person to the need to accumulate human capital. And all this is to turn “a creator person into a qualified market consumer, skillfully applying information technology” (Bukreev, 2018: p. 51). The development of digitalization, financialisation and Globalization, going hand-in-hand in recent decades, not only worsened the situation of workers, aggravating the problem of inequality and social exclusion, (Buzgalin, 2018). They gradually worsen the situation in the manufacturing sectors, pushing them further and further in the background of the economy. Therefore, the title “The Fourth Industrial Revolution” obscures and deforms the essence of the current stage of the development of productive powers. Digitalization, as the universally recognized core of this revolution, has not yet led to a revolutionary increase in labour efficiency in either industrial or any other production, but it is very actively and effectively (in the capitalist sense,

in the sense of profitability) used in the financial sector. The financial sector, which emerged as a tool for servicing real production, increasingly subordinates production to its goals. If earlier, to make a profit, the capitalist had to produce goods and services needed by the consumer, now global financial flows form this profit “out of thin air”, from the very process of its movement. Digital financial technologies, becoming increasingly just a speculative instrument, dominate the development of the production process. The focus on making a profit from the motive of the development of capitalist production, in the context of the strengthening of the global digital financialization of the economy, turns into shackles for the productive powers’ development. This became obvious to so many people during the 2008–2009 crisis. Perhaps the outbreak of the global economic crisis will give a new impetus to the development of political-economic analysis of the correlation between the new stage of Globalization and the Fourth “Industrial” Revolution.

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Parul Tyagi, Larisa S. Pichkova

18 Intercultural Communication in Multinational Organizations: An Indo-Russian Perspective

Introduction

Intercultural communication is defined as “communication involving interaction between or among persons of different cultures in a context in which cultural factors are significant” (Dodd, 1987: p. 5–6) The principle behind this definition is that every person holds some deeply ingrained value system inside him, which is shaped by the cultural norms of that person’s original social group. In other words, these social groups influence the person’s core value systems and instill in him some specific beliefs of right or wrong. The social institutions work as supporting frames for human activities and establish the ground rules for these activities. Hence, the definitions of intercultural communication, imbibe in itself the assumption that individuals bring their respective value systems to the intercultural communication situation.

At present, the concept of one world one village seems to be turning into a reality as the number of such interactions is increasing many fold. Moreover, our interaction now is not just limited to the environment within the boundaries of our sovereign nations. In that sense, the amount of interaction between varied cultures and nations is increasing leaps and bounds. Personally and economically our communication has crossed lands and seas. Intermingling is at an unprecedented level. Line between cultures is becoming blurred. This vigorous economic affluence of many nations has been credited to this irrevocable process of globalisation.

This increased interaction, personal and business alike have on one side opened up unlimited opportunities to learn, share, expand and grow. On the other side, however, it has thrown up challenges of misunderstanding, communication gaps, distrust and failures. In a scenario where cross cultural interaction is inevitable, there is a need to focus on this process, study it deeply and understand the dynamics so that more fertile grounds for more intense and fruitful interactions can be laid and people from different backgrounds can be thrust into this intercultural whirlwind to reap unending benefits. The globalised businesses of today are not just well aware of this necessity of global cultural competence, they are robustly training their managers and preparing them to apply this competence in all spheres of their interaction with rest of the world. So, what defines a globally competent manager? According to

Parul Tyagi, RUDN University (Peoples’ Friendship University of Russia), Moscow, Russia

Larisa S. Pichkova, Moscow State Institute of International Relations (MGIMO University), Moscow, Russia

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Johnson et al. (2006) “a ‘globally competent’ manager must: learn about many foreign cultures, perspectives, tastes, trends, technologies and approaches to conduct business; be skillful in working with people from many cultures simultaneously; be able to adapt to living in other cultures; and know how to interact with foreign colleagues as equals”. Despite these efforts, however, it is worrying that a survey on leadership forecast reveals that only 34 percent of leaders consider themselves highly effective in leading across countries and cultures and 39 percent in intercultural communication, although they consider both these skills as critical to future growth (Development Dimensions International, 2014).

India and Russia have had strong cultural and business ties that date back to almost an eternity. Even today, as two developing Asian nations, they both share a close relationship as partners in growth. The major companies from Russia in India are Rosneft, Gazprom, AFK Sistema, Kamaz Inc, VTB and Sberbank. Main Indian companies operating in Russia are Dr Reddy’s, Cadila pharmaceuticals, Sun Pharma, KGK Diamonds, ICICI Bank and ONGC. They are part of many international trade alliances like BRICS, G20 and SCO. However, one does not have to look very closely to realise that the two are very diverse with different weather, different language, different religion, different culture, different forms of government and different histories.

It will be interesting to explore therefore, what brings these varied nations and their nationalities together, especially in the organizational context? How they interact and what challenges they face in such interactions? And consequently, propose ways to overcome them.

Defining and Understanding Culture

There are many definitions of culture. Professor Geert Hofstede defines culture as “the collective programming of the mind distinguishing the members of one group or category of people from others” (Hofstede, 1980). It is the manifestation of generations of experience, learning and adaptation to the surrounding and is reflected in the way a group of people act and behave as opposed to others. Sir Edward B. Taylor (1871) defined culture as “that complex whole which includes knowledge, beliefs, arts, morals, law, customs, and any other capabilities and habits acquired by a man as a member of society.” It is something that connects members of one group and differentiates them from the other group.

Culture typically refers to a set of symbols, rituals, values, and beliefs and is tangibly reflected in language, food, dress, music, dance, architecture, etc. However, culture also has an intangible aspect which includes- beliefs, attitudes, role definitions, norms, and values. It is fairly easy to recognize and understand the tangible aspects, however, it is the intangible aspects that really challenge the intercultural interaction. Culture is not acquired or understood overnight or learned in

some school, it is acquired from years of interaction between older generations living together with the younger ones and/or with people from that particular culture. In other words, “culture is a learned behavior” (Klopf, 1987) and to understand it, it is important to spend time with it.

However, this is easier said than done. When people move out to live and work in countries and cultures different from their natural surroundings, they experience a cultural shock. The most natural way to overcome it is through adaptation- “the product of complex acculturation processes guided by people’s motivation to create ties with the host culture on one hand, and to preserve their ties with the native culture on the other.” (Barry and Grilo, 2003) This takes time and effort. Once achieved, it leads not only to increased ease and comfort of living on a personal level, but also to smoother communication and more active engagement in an organizational setting, enhancing chances of professional success.

Many social psychologist, sociologists and anthropologists have tried to understand and present the dynamics of culture. Social psychologist, Geert Hofstede (2010) after his historic and most widely followed research on cultures, differentiated them on the basis of six dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation vs Short Term Normative Orientation and Indulgence vs. Restraint. Similar to Hofstede’s classification, the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project also provides a cultural framework with nine dimensions to better understand the differences in culture. These dimensions are Future Orientation, Gender Egalitarianism, Assertiveness, Humane Orientation, In-Group Collectivism, Institutional Collectivism, Performance Orientation, Power Concentration (frequently referred to as Power distance in the cross-cultural literature) versus Decentralization and Uncertainty Avoidance. (House et al., 2004) This classification has been used for the present research and forms its basis.

1. *Power Distance*. It refers to the degree to which people accept and endorse an unequal distribution of power and status privileges in society. In high power distance countries, there is respect for the aged and higher designations. Public follows rules, there is more acceptance to concentrated power.
2. *Uncertainty Avoidance*. The degree to which people are uncomfortable with risk, change, and ambiguity is called uncertainty avoidance. In high uncertainty avoidance countries, there is a greater emphasis on rules, structure, order, and predictability. India, has low uncertainty avoidance.
3. *Performance Orientation*. It is the degree to which innovation, high standards, and excellent performance are encouraged and rewarded. Countries with high performance orientation value materialism and competitiveness, and they expect to invest in training to promote performance improvements. Russia has low performance orientations.
4. *Assertiveness*. Assertiveness is the degree to which individuals are forceful, confrontational, and aggressive, as opposed to cooperative and compassionate. In

high assertiveness countries communication is direct and unambiguous. Individual initiative is encouraged, and relationships are competitive. Managers in low assertiveness countries generally seek consensus and cooperation in decision making.

5. *Future Orientation*. The degree to which people of a country are ready to delay gratification and plans for the future are more valued over short-term achievements. Russia has low future orientation.
6. *Humane Orientation*. The degree to which impartiality, philanthropy, bigheartedness, and kindness are encouraged and valued in a country. In nations with high humane orientation, individuals are responsible for promoting the well-being of others as opposed to the state providing social and economic support.
7. *Institutional Collectivism*. It is the degree to which organizational and societal institutions encourage individuals to be united into groups and organizations. In high institutional collectivism countries, collective distribution of resources and collective action are reinvigorated. Group loyalty is encouraged, even if it come at the cost of individual goals. Sweden, Japan, and Singapore are examples of countries that have high institutional collectivism; Germany, Argentina, and Italy have low institutional collectivism.
8. *In-Group Collectivism*. The degree to which people feel pride, loyalty, and solidarity in their organizations or families. In countries with high institutional collectivism, individuals identify with their families or organizations and duties and obligations determine behaviors. A strong distinction is made between individuals who are in a group and those who are not. India is a country with high institutional collectivism.
9. *Gender Egalitarianism*. “It refers to the degree to which male and female equality is actualized. Countries with high gender egalitarianism provide more opportunities for women and have more women in positions of power.”¹

Historical Background

India as a civilization dates back 5000 years, and Russian find its roots in the Slavic culture that existed in the territories of Kievan Rus around approximately 10th century.² “Going both by popular belief and history, contacts and relations between India and Russia go far back into antiquity. In Caucasus region, there is a widely held belief that one of the queens of King Dhasharath(Kaikei) of the Ramayan fame was from the Caucasus.” (Budhwar, 2007)

¹ Dimensions of Cultural Difference and their Effect. <https://courses.lumenlearning.com/suny-principlesmanagement/chapter/dimensions-of-cultural-difference-and-their-effect/>.

² <https://www.britannica.com/place/Russia/Cultural-life>.

Russian travellers like Afanasy Nikitin ushered in a new era of economic relation between the two countries which only grew stronger with time. “In 1533, a group of Indian merchants visited Moscow during the reign of Vasily III. In subsequent years, Indian merchants established advanced posts up the Volga from Astrakhan” (Budhwar, 2007). Russian merchants were given the permission to trade with India in 1896. Russian consulate was set in Bombay in 1900. Diplomatic relations with India were established on April 13, 1947.

Strange as it may seem, despite all obvious differences, there are many similarities between the two cultures. For one, In the post independence era, when India was making desperate attempts to reestablish its economy and political system, the influence of USSR is clearly visible. During the 1950s and 1960s, the political ties between two countries were based on this shared ideology of socialism. Russian came forward to help build the Indian core industries like steel and coal while Indian culture and movies quite caught the fancy of common Russians. Names like Raj Kapoor, movies like Seeta-Geeta and songs like Jimmy-Jimmy added to the warmth of relation between the two nationalities. Nonetheless, both non-european cultures looked towards their western partners as a symbol of modern and better life: Indian culture had an impact of 200 years of British Raj on itself, while proximity to Europe had the same impact on Russia.

The interaction was not limited to just politics and entertainment, it also included the art and literature. In fact, there were quite a similarity of ideologies between Fyodor Dostoevsky and Rabindranath Tagore and even a probable influence of Russian on Bengali. (Serebriany, 2002) An impressive amount of literature is available on the active interactions between Mahatma Gandhi, Leo Tolstoy and Rabindranath Tagore on cultural and spiritual matters.

During the USSR, the educational programs of the Russian government were able to attract a steady flow of students year after year to its various institutes and universities and despite all the issues of language or weather, they came in large numbers. Many of them stayed back and made Russia their new home. Today, they form a major part of the Indian diaspora in Russia. According to the Indian Embassy in Moscow, the official size of the Indian Community in the Russian Federation today is estimated to be around 14,000.

Russians, on the other hand, were intrigued by the Indian culture and this interest took them to India, to explore it further. According to the Russian government, 8450 Russian citizens live in India.³ There is a visible presence of Russians in cities like Goa and Tamil Nadu. Today, they have a strong Trade, Economic, Scientific, Technological, Cultural and Military Technical Cooperation. Even on the Governmental level, the Indo-Russian strategic partnership is very robust and is concentrated on five major areas: nuclear energy, defence, space, anti-terrorism and politics.

³ “Data on the ongoing elections and referenda”. www.foreign-countries.vyborny.izbirkom.ru.

Research

The aim of this research was to seek to understand the level of understanding between members of Indian and Russian culture who interact with each other in a professional space and discover the areas of challenge in their interactions. For this purpose, a sample size of 50 (25 from each culture) was chosen. These respondents worked in Indian or Russian organizations that are situated in either New Delhi or Moscow. Most of them are expats, Indians living in Russia or Russians living in India. 38 properly filled responses were received. The aim was to gauge the understanding of expatriates about their host country culture and then compare it with the standard GLOBE readings. It was believed that the difference in readings could reveal if there was a pattern and understand how deeply (or not) the Russian and Indian expatriate understood their host country cultures and accepted and adapted to them.

Method

Taking the base of the GLOBE cultural framework, a questionnaire was prepared in English and Russian and distributed among selected expatriate Russians living in India and Indians living in Russia. The questionnaire had a set of 25 statements addressing the nine cultural dimensions. The respondents had to mark a number from 1 (very low) to 7 (very high) on the basis of how they saw the other culture. The responses against each dimension were then added, averaged and compared to the findings of the GLOBE Survey. The discrepancy between the scores of this survey and the GLOBE Survey was taken to be an indicator of the “gap” in their perception and general reality of that culture on that particular dimension. And hence, areas of challenges were identified.

The second section of the survey included a list of 25 statements relating to the nine variables influencing professional interactions. These variables were Language Knowledge, Use of Interpreters/translators, Business Etiquette, Relationship building, Use and understanding of Humor, “Face” saving, Listening, “Time” and “Pace” of work, and Attitude to socializing. The respondents were asked to mark numbers from 1 (never) to 7 (always) to indicate their perception.

Findings

The findings of the research can be seen in Figures 18.1 and 18.2.

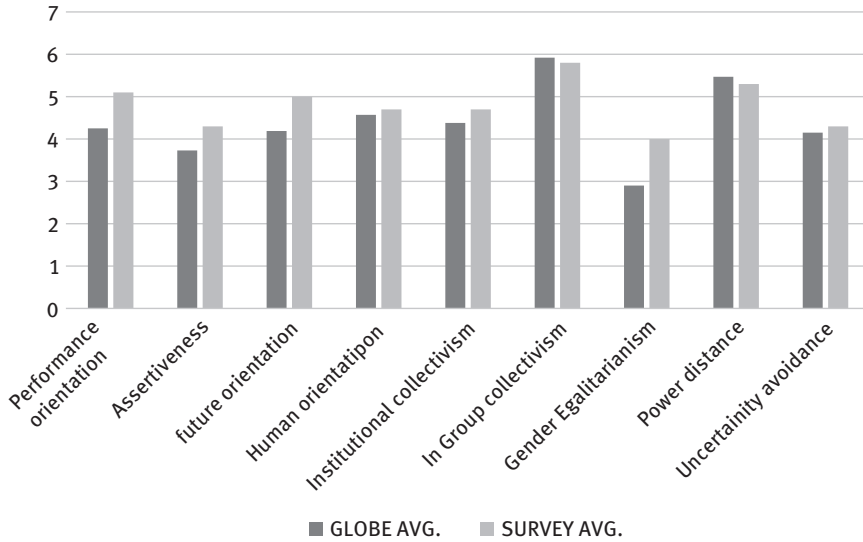


Figure 18.1: Cultural Dimensions: India.

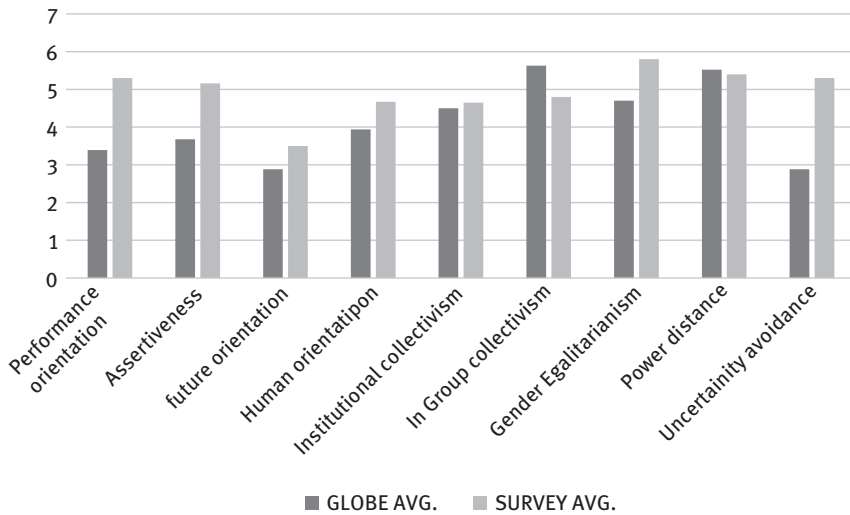


Figure 18.2: Cultural Dimensions: Russia.

The survey average was very close to the Globe figures for Human orientation, In group Collectivism, Power Distance and Uncertainty Avoidance. The Russians had a fair understanding of the fact that Indians are not very uncomfortable with uncertainty and that they are quite tolerant to unequal distribution of power among the different strata of society on the basis of position, gender, money etc. They also

understood that Indians have an above average inclination towards helping the poor through charity and contributing to society was important. The Russians recognize the high level of In-group collectivism in form of the belongingness that average Indians feel towards their family and other social groups to which they belong. A similar study to understand the cultural competence of Indians concluded that Indians “were adjusting, if not adopting with regard to their communication with people from different cultures. Majority of respondents believed that Indians by and large were open and effective listeners, but not direct in communication.” (Raina, 2013)

However, there was noticeable discrepancy on the matter of Gender Egalitarianism, Performance orientation, Future orientation and Assertiveness. The Indian women according to the Russians have more opportunities to perform and command more respect in society than the GLOBE survey indicated. The Russians also saw their Indian counterparts as more assertive than the GLOBE Survey analysis. They also believed that the Indians are more performance oriented and Future oriented than GLOBE. Indians were seen to be materialist, competitive and ready to invest in performance enhancement training. They were more OK with showing disagreements and communicating in a straight forward fashion than indicated in GLOBE Survey. Nonetheless, in absolute terms, Indians still shy away from confrontation and saying a straight “No”.

The Indians on the other hand perceive Russians to be much more Performance Oriented and Assertive than the GLOBE average. They are seen to have a high Performance Standard and competitiveness at work who work hard and appreciate efforts. Also, Indians observe that Russian is a Gender egalitarian society where women have as much opportunities to progress and succeed. In most criteria the average Indian response was on the higher side than the GLOBE score. This includes Human and Future Orientation as well as Uncertainty avoidance. The dislike uncertainty and ambiguity Only two dimensions marked a score of less than the GLOBE average: In Group Collectivism and Power distance. People prefer to stay aloof and the urge to integrate within institutional groups is low. However, they are OK with the difference of power and status privileges between themselves and their boss.

With regard to the section of responses related to professional communication, the research revealed that, both Russians and Indians seemed to accept a high level of regard they see in each other for their cultures. However, they were dissatisfied with the level of knowledge of their native language by the other side.

Russians saw their Indian counterparts to be more often being late for meetings and not sticking to the code of conduct in the meeting. Russian differed with the Indians on the preparedness of the meetings and believed that they were more prepared to meetings than their Indian colleague. However Indians believed, they were equally prepared. Nevertheless, they both agreed that Indians tend to engage in relationship building before the meetings with the other party more willingly, which includes giving and receiving gifts and that they are more open to sharing their feelings. Russians are seen by themselves and by Indians as less of smiling and socializing type.

There was a consensus on the view that Indians were less straight forward in sharing their views and were evasive on the matter of saying a direct “No”. They both agreed on the high use of nonverbal cues in communication and credited each other with a good understanding of cross cultural humor.

Indians credit the Russians for quick decision making, but felt they are not as much sympathetically heard. They both seem to see the other culture respecting women but, on being treated equally, Russians see themselves better in that regard (see Figures 18.3 and 18.4).

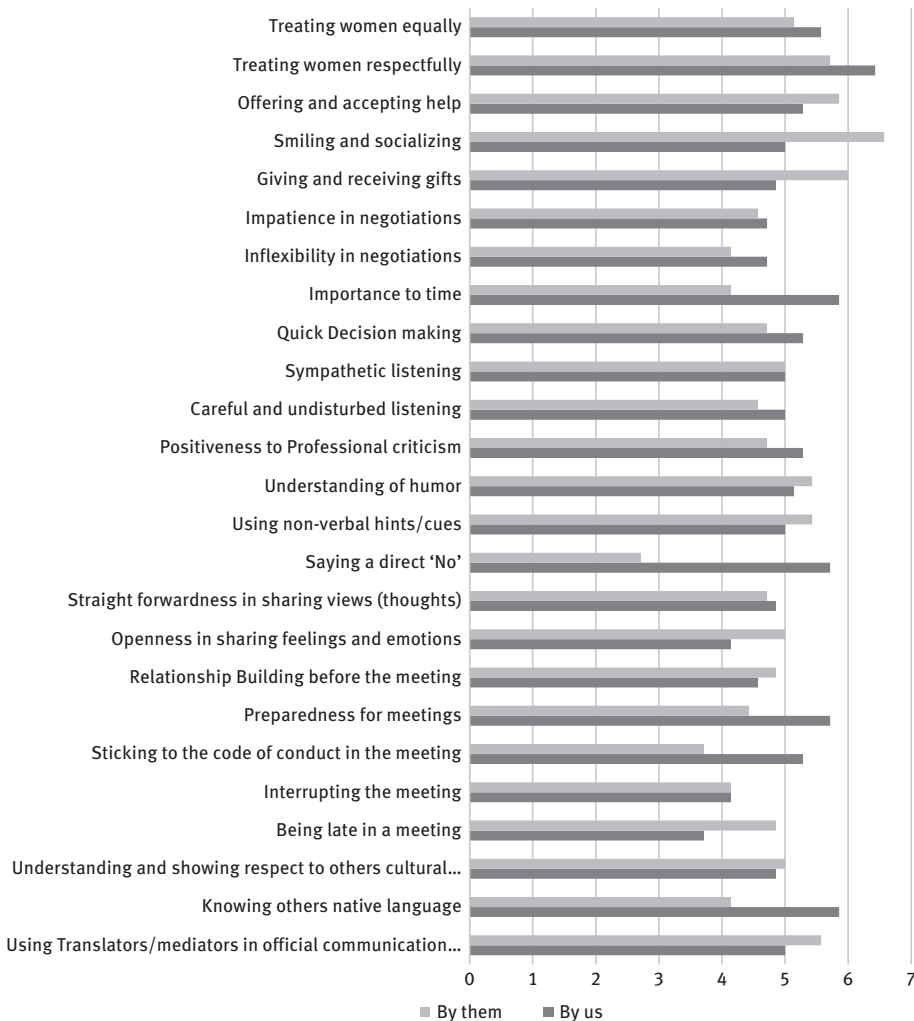


Figure 18.3: Russian perception of Indians and themselves.

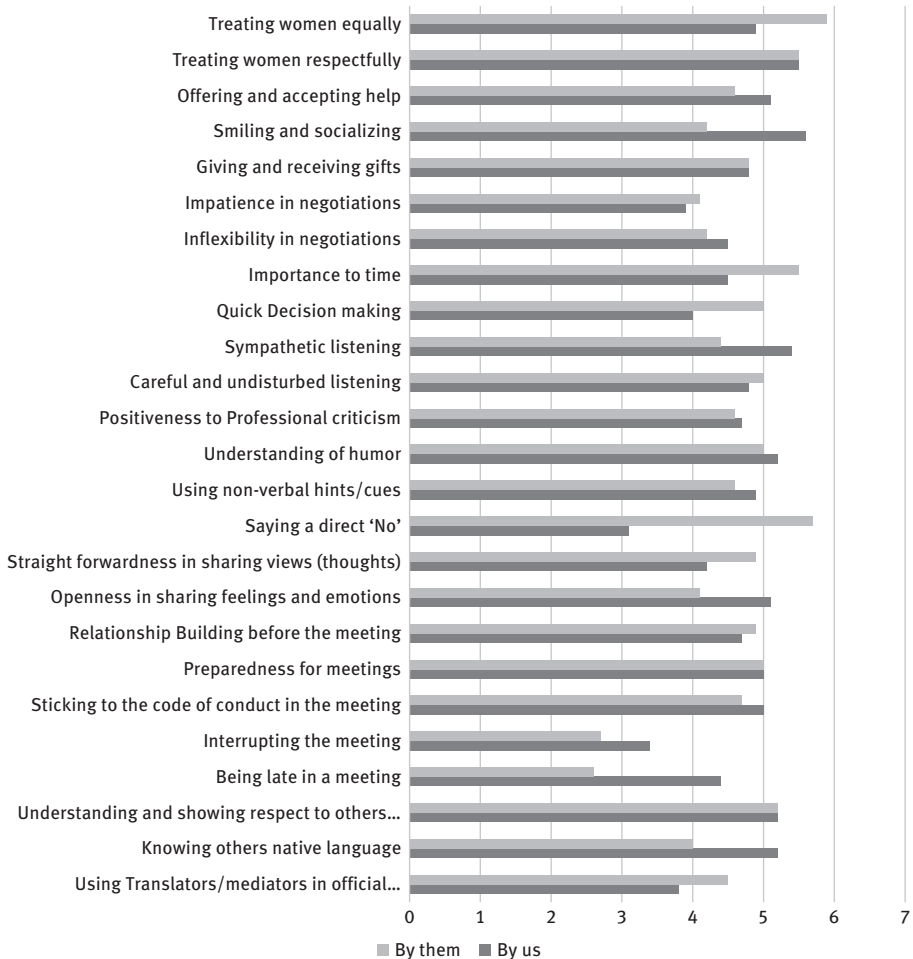


Figure 18.4: Indian perception of Russians and themselves.

Discussion

The long withstanding interaction of India and Russia has facilitated a deeper understanding of each other and a smooth functioning of affairs. The survey shows exactly that: a clear appreciation of each other's strengths and a lucid understanding of the differences. Although the language difference has limited the communication, the trust factor is present. The limited knowledge forces them both to utilise the services of translators, interpreters and facilitators, On the surface, language is just a means of communication, but down deep, it is a tool to create intimate and satisfying relationships where there is no reluctance for sharing thoughts and

nothing is left unsaid or unasked. Communication is not simply verbal process, besides knowledge of language, depends on a set of factors: conditions and culture of communication, rules of etiquette, knowledge of non-verbal forms of expression (mimicry, gesture). (Suleimanova, 2016) As Indians are already shy of straight talk, this restriction only enhances the problem. However, the response in survey indicates an overall polite, understanding, tolerating and respecting attitude between the organizational communication of two cultures. However, a closer and warmer interaction is certainly possible. This can happen if the quantity and quality of such interactions increase. The quality will be deeply affected by a better understanding of other's language.

It was revealed from this survey that the usual stereotype of Indians being non-confrontationist, evasive and unpunctual and Russians as hardworking but unsmiling and distant comes forward here too. Now these stereotypes may be true many of the times, but not always. However, they can be explained as (1) humans tend to remember extreme members of a group better than less extreme members, and (2) what we remember determines how we stereotype a group. We are therefore pre-disposed to reflect people who possess extreme characteristics more heavily in our stereotypes than people who possess less extreme characteristics. (Puddifoot, 2017) Usually people stereotype the group of people which is different from them to simplify their understanding. This helps in collective understanding of specific cultural group and cannot be avoided as they simplify interpretation. However, it is important to comprehend that the stereotype should not turn into prejudice because prejudice which builds over stereotype, is rigid, judgmental and difficult to change. This is very damaging to meaningful intercultural professional communication. As a negative preconception, it leads to dysfunctioning within organizations as well as to negotiation failures in inter organizational communications. The situation can be avoided by developing empathy and deeper interactions. "Intercultural communication becomes more respectable when it acknowledges the variety of ways humans interact meaningfully and when it respects the plurality of their logic of actions." (Bouchet, 2012) This can be done by giving them a deeper and closer understanding of other cultures. An organized and focused cross-cultural training for international/expatriate employees could certainly enhance their level of performance and satisfaction at job. Black and Mendenhall(1990) after their research concluded that "cross-cultural training is effective in developing important cross-cultural skills, in facilitating cross-cultural adjustment, and in enhancing job performance". (Black and Mendenhall, 1990)

The attitude on "Time" and "Giving and receiving gifts" are known to be very similar in Russian and Indian culture when compared to the global average. However, when they compared among themselves, differences emerge.

The Russian impression that Indians are hospitable and sociable, and Indian impression that Russians are uncertainty avoiding might have actually been a relative analysis when comparing with themselves in professional context, rather than

an absolute fact. In addition, the reason why they saw each other as more assertive and performance oriented than the GLOBE average could be because the Globe survey figures used in this study are from last decade(2004,2007) but over the years, the world has become more homogeneous.

Conclusion

In present times cultures merge into one another and barriers in communication are consequently reducing in size. There are no clear cut boundaries anymore between them and although differences are stark at places, they appear to be holding some very common values too. This is especially true for the professional culture which has been propagated immensely by the spread of Multinational companies around the world. Values like Performance orientation and Assertiveness, earlier viewed as “western” are now highly desirable and assimilated even in eastern cultures like Russia and India. However, differences remain. It is these differences that create limitations and leave room for improvement. In present day, when the population is in a constant flux, people are constantly learning from the various different cultures they meet and experience. To that end, although the level on interaction on professional level between Russia and India is limited, they have a fairly good level of understanding of each other. However, it would be a nice to see an increase in both quantity and quality of their interactions. The process of cultural learning and adapting is continuous and never ending. Language appears to be the biggest limitation for the interactions. Moreover, poor time management and evasive responses by Indians; low level of sympathetic listening and unfriendliness shown by Russians cause misunderstanding, It is important that such misunderstandings are reduced. The well-orchestrated cross cultural training of employees on foreign appointments will help them develop the needful skills, knowledge and attributes that have been identified as essential for cross cultural competence, narrowing the gap between “knowing” and “doing” and help them adjust and perform in a culture different from theirs and make their experience of working in a foreign country and, with foreigners enriching, fulfilling and productive.

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Liu Na, Elena B. Zavyalova, Larisa S. Pichkova,
Evgeniya A. Starikova

19 Women Empowerment and Sustainable Development

Introduction

Traditionally, gender equality is perceived as a matter of human rights and social justice. In the context of the Agenda 2030 adopted by the United Nations in September 2015, the issue is considered to be one of the essential preconditions for implementation of the sustainable development concept. The main purpose of this article is to prove that women empowerment, as a crosscutting objective itself, has become an important factor that contributes to all three dimensions of sustainable development – environmental sustainability, social inclusion and continuing economic growth.

Women Empowerment, Food Security (SDG 2) and Mitigation of Climate Change (SDG 13)

According to the Principle 20 of the Rio Declaration (1992), “women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development”.

The idea of inter-generational justice enshrined in the very concept of sustainable development – specifically in its definition proposed by the UN’s Brundtland Commission in 1987¹ – implies that both the present and future generations will have equal access to resources to satisfy their needs. In this context, women may play an important role as “agents of change” by bringing up their children with full awareness of the importance of environmental protection.

Moreover, women may act as responsible “natural resource managers” themselves. In his recent research “Project Drawdown”, Paul Hawken (2017) identifies

¹ In October 1987, the Brundtland Commission (the World Commission on Environment and Development – WCED), in its “Our Common Future” report popularized the term “sustainable development” defining it as “the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

Liu Na, Tianjin Normal University, China

Elena B. Zavyalova, Larisa S. Pichkova, Evgeniya A. Starikova, Moscow State Institute of International Relations (MGIMO University), Moscow, Russia

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women empowerment as the sixth most effective way to tackle climate change. According to Eurobarometer and OECD's (2011) surveys, women more often than men undertake environmentally friendly and responsible personal actions including recycling, saving water and energy at home and using environmentally friendly transports. According to the ILO (2005), women also prefer to use less-polluting energy sources.

However, nowadays women are under-represented in the institutions involved in environmental protection. In the UNECE region, about 80% of environment ministers are men (Warth, 2012). To address this disparity, some countries have already introduced quota systems. Thus, the German Environment Ministry adhere to special "equality plans" providing equal career opportunities and promotion for women within the ministry.

Women are also more vulnerable to climate change than men. According to the research provided by BSR and "We Mean Business" Coalition, climate change disproportionately affects women (Climate Nexus Report, 2018). The report states that this greater vulnerability of women stems from diverse gender-based barriers and discrimination. Particularly, women's fewer legal rights, lesser political and professional representation and less control over land as well as their limited access to financial services, technologies and productive assets (Green Climate Fund, 2015) undermine their adaptive capacities to climate impacts as local producers, consumers and workforce. Many of these barriers exist due to the backward socio-cultural thinking, which inevitably results in food insecurity and negatively affects the human well-being and sustainable livelihoods, companies' productivity and national economic growth (UNDP, 2012).

As the statistics show, women do 2.5 times more unpaid work than men (Climate Nexus Report, 2012), including caring for the children, sick and elderly people; cooking, cleaning, fetching water and firewood, which increases their vulnerability to climate change-induced hazards. Reduced mobility, water shortages and psychological factors put women occupied with household work under greater risks to lose their lives in extreme weather events or natural disasters.

While women comprise from 20 to 50% of the agricultural labour force in the developing countries (FAO, 2011) and as much as 79% – in the least developed countries, they represent only 20% of landowners (Doss, 2011). Restrictions on land ownership limit women's ability to introduce sustainable farming techniques in response to climate risks.

Women's unique agricultural knowledge, skills and experience make them experts in natural resource management (Warth, 2012) and should be applied to drive innovation in order to strengthen climate resilience and prevent environmental degradation. As the World Bank study in Bolivia shows, women tend to apply more adaptive strategies and lower-cost improvements, such as planting new crops and diversifying livelihood activities.

(Climate Nexus Report, 2018)

The recent studies also demonstrate that women empowerment is a critical factor in terms of agricultural development and food security (UNDP, 2012). According to the UN Food and Agriculture Organization (FAO, 2011), if women had the same access to land, technology, financial services, education, and markets as men, female smallholders' yields could increase by between 20 percent and 30 percent. This would reduce world hunger by nearly half and increase national agricultural production in developing countries by up 2.5 to 4 percent.

The problem of gender inequality directly affects the interests of the companies specializing in agricultural and garment industries that depend largely on a female workforce.² Combined with climate impacts, gender disparities present great financial, operational and reputation risks for those companies' supply chains. It is estimated that the unaddressed issue of gender pay gap alone cost the global economy nearly US\$160 trillion of losses (Climate Nexus Report, 2018).

By empowering females across their supply chains, companies can increase their financial returns and deliver multiple co-benefits for national economies such as improving food security, stabilizing livelihoods and enhancing adaptive capacities of the local communities to natural disasters (Climate Nexus Report, 2018). Thus, there is every reason to suppose that there exists a strong economic rationale for the private sector to ensure equal career opportunities for women, their access to finance and legitimate land rights.

Women Empowerment, Decent Work and Economic Growth (SDG 8)

In many countries, gender discrimination in labour markets is one of the key barriers to women's full participation in the economic activity. Actually, this problem goes back to the 17th century. In fact, gender disparities in the labour market are more often than not connected with the established legal and economic systems within certain societies.

Overall, the contribution of the female labour activity to the global production of goods and services is highly underestimated in the official statistics. De facto women are much more actively involved in the economic processes. As an example, women and children's unpaid work at family factories is practised on a wide scale in the developing countries. As mostly men are responsible for selling the crop and other goods produced, the male population usually deals with all the financial

² According to the Climate Nexus Report, about 80 percent of workers in the garment industry are women.

issues. Thus, in many regions of the world women still do not have access to capital or career development.

Nowadays, achieving gender equality in the global labour market is still an issue of long-term perspective. It is not for nothing that in the 21st century the term “gender division of labour” was coined. According to the UN Women data, there is a husbands’ right to prohibit their wives to work in the legislation of 18 countries, whereas the provisions against gender discrimination at the workplace are enshrined in the legislature of only 67 countries in the world (Un Women’s Report, 2015).

The results of the recent ILO’s study show that in 176 countries the gender gap in the labour market has narrowed by only 0.6 percent points for the past 20 years. Thus, in 2015 the employment rate among the women population accounted for 46% compared to 72% of the male employment rate (ILO, 2016).

Globally, the average woman’s working day is longer than the man’s one whereas the average woman’s salary totaled two thirds of that of a man, according to the UNEP’s data. Moreover, even in case of the successful women’s promotion and their getting to the top positions, the female incomes are still lower than the male colleagues’ ones (Baylis, 2008). The World Economic Forum (WEF) estimates that the average full-time salary for a working woman is \$11,102 a year which is a little more than half the male average of \$20,554 (The Global Gender gap, 2015).

Therefore, the question of great importance is: *How will women empowerment (or professional and economic empowerment/full and equal participation in the economic activity) influence the global economic growth?*

In order to analyze the correlation between the indices of gender equality and socio-economic development in different countries, the authors used the data of the internationally recognized Gender Development Index (GDI). The calculation of this index is based on the indicators of the Human Development Index (HDI), which includes such variables as the literacy rate, the life expectancy, the access to school education and the level of income.

Originally calculated by the UNEP in 1995, the HDI is now widely used as an important tool in the analytical research of the organization. The experts consider that a high rate of gender inequality induces additional risks for the national economic development.

The analysis of the trend that reflects the correlation between the two indicators – the HDI and the GDP per capita at purchasing power parity – in 148 countries demonstrates that there exists obvious interdependence between them: the GDP p. c. at PPP tends to grow if the HDI rises (see Figure 19.1).

The research clearly proves that the countries adhering to the Scandinavian model of socio-economic development (Norway, Iceland, Finland) based on the principle of social justice and efficient distribution of wealth among all members of the society turned out to demonstrate the highest possible rates of correlation between these two indicators.

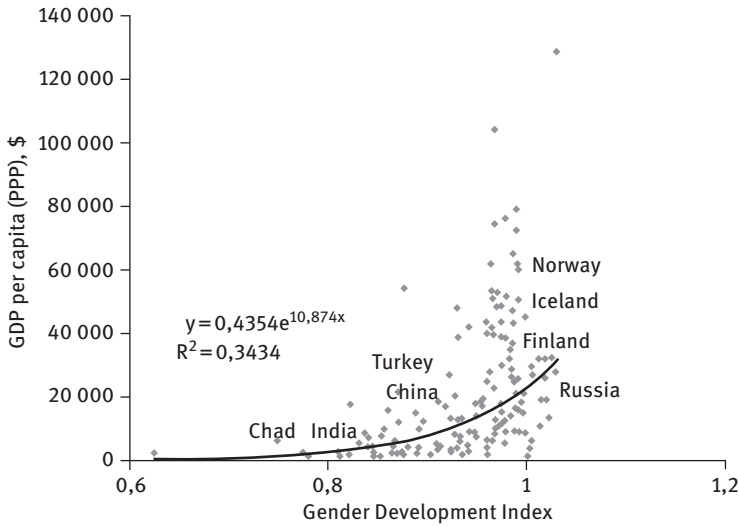


Figure 19.1: The correlation between the HDI and GDP p.c. at PPP.

Source: the authors' calculations based on the UNEP³ and World Bank's⁴ data.

The estimation of the long-term economic benefits to the global economy is also compelling. According to the McKinsey Global Institute (2015), women empowerment and their participation in the economic activity on a par with men would add to the annual global GDP US\$ 28 trillion in 2025. This figure twice exceeds the possible growth of the world economy in case of the business-as-usual scenario and is equal to the 2017 combined GDP of the world's two largest economies – the United States and China.

As the McKinsey's analysis suggests, India and the rest of South Asia would experience the highest expected economic boost – 60 percent and 48 percent respectively; the Middle East and North Africa would enjoy 40 percent growth, Western Europe – 23 percent.

The Goldman Sachs' (2014) research also shows that the developing countries will get the maximum return on the investments in women empowerment. It also finds out that the reduction of gender disparities in labour markets in the emerging countries would facilitate the 20% growth of their GDP per capita by 2020.⁵

³ United Nations Development Programme. Human Development Reports. Table 4: Gender Development Index (GDI). Available at: <http://hdr.undp.org/en/composite/GDI>

⁴ The World Bank Data. GDP per capita, PPP. Available at: <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>

⁵ UN Secretary-General's High-Level Panel on Women's Economic Empowerment. 2016. "Leave No One Behind: A Call to Action for Gender Equality and Women's Economic Empowerment"

Therefore, women's active involvement in the economic processes will undoubtedly boost both national and personal incomes. Hence women economic empowerment will create a greater demand for goods and services. According to the statistics, women invest in their families 90% of their incomes whereas men's expenses for these purposes are lower by 30–40% (Women Deliver, 2016). Moreover, women primarily purchase the goods and services aimed at the development of human capital (educational, medical), which spurs the socio-economic development in the long run (Goldman Sachs, 2014).

However, it would be impossible to gain these large-scale economic benefits without dramatic changes in the current gender status-quo: if the WEF's estimates are accurate, it will take as much as 217 years to achieve gender equality at the current rates of change (The Global Gender Gap Report, 2017). In addition, according to the WEF, it will be 118 years before women around the world can expect equal pay if the business-as-usual scenario is maintained (The Global Gender Gap Report, 2015).

In our view, besides the legislative recognition of gender equality and equal employment opportunities, *women empowerment in education activity* would become one of the most effective tools to tackle the issue of gender inequality and to facilitate the progress in the economic, social and environmental SDGs studied in this article.

Women Empowerment in Academic Economics (SDG 4) and Sustainable Development

Gender bias that women face in the field of education is another systemic problem of the today's "gender gap" agenda. Gender disparities in the academic sphere of the Western countries serve as the strong evidence of this thesis. Among the scientists in economics, in particular, men represent the absolute majority. To date, there is only one woman in history – Elinor Ostrom – who won the Nobel Prize in economics.

The analysis of the data provided by the Western universities' web sites in 2017 shows that the average share of female staff at economics departments amounts 20% in Europe and 15% in the USA. For instance, there are only three women out of 43 senior economists at Harvard University – one of the most prestigious economics departments in the world.⁶ Most of the British universities including the University of Cambridge also face the problem of women's under-representation at economic faculties where the share of female scholars accounts for nearly 25%.

Moreover, the number of women studying economic disciplines in Western universities also declines. The ratio of women and men among the British students majoring

⁶ Inefficient Equilibrium. Women and Economics. The Economist Christmas Edition 2017. Available at: <https://www.economist.com/christmas-specials/2017/12/19/women-and-economies>.

in economics is 1:4 (Bateman, 2015). The total number of women studying economics at the American universities does not exceed 30% as opposed to 45% female students specializing in Math (The American Economic Association, 2017).

According to the report of the American Economic Association's Committee on the Status of Women in the Economics Profession, this trend has prevailed for at least a decade (Dussault and Eisner, 2016). It is important to note that there are gender disparities at every level of education – from baccalaureate to postgraduate degrees. In fact, there are few female students majoring in economics at the highest levels of postgraduate studies. Moreover, women economists face gender bias in terms of promotion and career opportunities in the university economics departments. The aforementioned report states that the number of women who entered the PhD in economics in 2017 totaled 32%, which demonstrates the insignificant decrease compared to 33% in 2000 and stagnation (Dussault and Eisner, 2016). The problem of poor women's representation is also typical of the US' government agencies responsible for the economic policy. The ex-Chair of the Board of Governors of the Federal Reserve System (2014–2018) Janet Yellen is a stark exception who, however, had not gotten a tenure at Harvard back in the day. Women also form a minority in economic decision-making in the European countries. Down to January 2019, in the 28 member States of the European Union there are no women among governors of the Central Banks.

Justin Wolfers – the Professor of Michigan's university and the economic counselor of the Budgetary Administration of the US' Congress – presumes that this state of affairs stems from the higher requirements imposed on women. In particular, female scholars' achievements in the field are often depreciated if they hold a research in association with a man. In students' perception, the professional competences of a female lecturer in economics are inferior to that of a male (Wolfers, 2018).

The problem of gender disparities in the economic science arouses concern not only in academia but also in society. As the academic economists are responsible for suggesting solutions to the global challenges, the problem of gender gap in the economic profession violates the principle of social justice. Naturally, if men make up the majority of economists, male voices dominate when the economic concepts and policies are being devised. Thus, the problem of gender inequality in the economic science affects the policymakers' decisions.

Women in economics suggest different ideas from men: as the 2013 American economists' survey found, female economists more tend to support the minimum wages raise and the policy of redistribution than men in the field. According to the different studies, women within economics prefer to focus their research on social-oriented subdisciplines such as health, education, labour, home economics.⁷ As primary caregivers for children and the elderly people, women within economics may

⁷ Inefficient Equilibrium. Women and Economics. / The Economist Christmas Edition 2017. Available at: <https://www.economist.com/christmas-specials/2017/12/19/women-and-economies>.

formulate their own economic policy that would take into account different aspects of sustainable development and suggest a new socially responsible and environmentally friendly socio-economic model. Female economists' equal participation in decision-making would also contribute to greater involvement of women population into economic activity and to further women empowerment in other areas.

Therefore, to ensure the truly inclusive and sustainable socio-economic and human development, it is crucial to take advantage of female scholars' expertise and knowledge in the decision-making process.

Conclusion

As highlighted above in this article, it is important not to conceptualize gender equality and women empowerment as social issues alone but to address them as a cross-cutting objective that has a great impact on socio-economic development and environmental protection. That is why in this research, the authors make an attempt to identify how gender equality (SDG 5) and women empowerment in the education field (SDG 4) contribute to food security (SDG 2), economic growth (SDG 8) and climate change resilience (SDG 13).

It is common knowledge that women and among them female scholar economists, in particular, are prone to take a long-term perspective in decision-making. It is women who take into account the consequences of people's actions and care about the future of the young generation, ensuring that the natural environment where they will live will not be destroyed. That is why women will play a vital role in the implementation of the sustainable development concept that calls for socially inclusive and environmentally friendly economic development.

Based on the numerous research data, there are good reasons to believe that women empowerment creates a powerful "multiplier effect" on families, societies and national economies. In order to enable female population to contribute to sustainable development, it is crucial to solve the dual task of eliminating gender discrimination in any form parallel to creating the socio-economic conditions in which women can fulfill their potential, acquire up-to-date knowledge and expertise.

Raising awareness of various social, economic and ecological benefits brought by women's empowerment can accelerate the removal of many gender-based barriers. Undoubtedly, the joint commitment by governments, business and civil society is needed to create an enabling environment for women's advancement that would ensure their equal participation in policymaking.

In the present-day context, private sector is one of the key stakeholders responsible for this process. By ensuring gender equality, companies pursue a "win-win" strategy as they simultaneously address and eliminate many economic risks, obtain a definite competitive advantage and bring co-benefits to women, societies and national economies.

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Conclusion: Future Challenges and Barriers to the Strategic Development of the Global Economic System Until 2030

The global economic system has entered the third decade of the 21st century, being gripped by the COVID-19 pandemic and crisis. This is a hard start for its strategic development, which is further complicated by many barriers. One of the barriers is the incompleteness of the digital modernization of the economy. The programs for the transition of economic systems to Industry 4.0, launched in recent years, were focused on the period falling on the third decade of the 21st century but were unexpectedly interrupted by the pandemic and the global crisis. Now, these programs must be embedded in the development strategies of the global economic system for the period up to 2030.

Another, no less important or even more significant barrier is associated with a lack of financial resources to ensure the practical implementation of strategies for the global economic system development in the period up to 2030. In the context of the COVID-19 pandemic and crisis, reserve funds were wasted, state debt was increased, and entrepreneurship's losses does not allow to expect rapid economic growth for draining on new reserves and replenishing stocks. Therefore, an important task now is to revitalize international cash and investment flows.

Barriers also include the failure to achieve milestones on the Sustainable Development Goals in 2020. These results must be accelerated in the coming years to achieve fully the Sustainable Development Goals by 2030. Against the background of a financial shortage, this will require reliance on social entrepreneurship and measures to develop social institutions that do not require large-scale investments. This will be a challenging task that needs to be solved in the period ahead.

The indicated barriers are already obvious today, but they will transform in the period up to 2030 and will form future challenges for the strategic development of the global economic system. Effective answers to them have yet to be found, to which it is advisable to devote further scientific research based on the results obtained in this book.

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