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# Cross-Border E-Commerce Marketing and Management



Md Hoque and R. Bashaw

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# Cross–Border E–Commerce Marketing and Management

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*Md. Rakibul Hoque, University of Dhaka, Bangladesh & Emporia State University, USA*

*R. Edward Bashaw, Emporia State University, USA*

The cross-border e-commerce platforms available to businesses today provide them with the ability to increase market share beyond their local market. However, in initiating such platforms, businesses face many challenges from local to global issues. Therefore, it is essential for cross-border e-commerce managers to have a comprehensive understanding of the risks, scope, dynamics, and determinants with regard to these challenges. Additionally, they must launch, run, and expand cross-border e-commerce operations. This chapter has highlighted a wide range of prospects, aspects, and factors with regard to cross-border e-commerce worldwide which can guide the thinking of decision makers. The authors conclude that more research and feasibility studies are necessary to increase consumer experience and devise global visions and policies to facilitate cross-border e-commerce.

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*Md. Abdullah Al Mamun, Islamic University of Technology, Bangladesh*

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Given deregulation and advances in technology worldwide, cross-border e-commerce is the next move for any business venture regardless of its size. From corner shops to giant multinational organizations, every business venture is now addressing the online demand of customers at home and abroad. Many developed and emerging countries have already been rallying for a transparent and sustainable online business environment to achieve the full potential of cross-border e-commerce. This chapter describes the technologies that enable cross-border e-commerce.

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*Md. Nuruzzaman, Lanzhou University, China*

*Alicia Neva Weber, University of South Africa, South Africa*

Cross-border e-commerce has emerged with significant attention in the field of international trade. Exports and imports are more integrated with the revolutionary e-commerce platforms where people can buy things from other countries at their fingertips. However, the supply chain behind the business transactions beyond the country's boundaries is more complicated than traditional businesses. The successful supply chain performance of e-commerce depends on many local and international aspects. Issues and challenges of the supply chain rapidly change due to the fast development of internet infrastructure. The chapter identifies some key issues like supply chain facility, inventory management, legal obstacles with today's supply chain performance of international e-commerce. Comprehensive solutions and recommendations are given here with focusing the integration of blockchain technology, which tells how the businesses can initiate the combination of both e-commerce and cryptography for effective intercountry supply chain performance.

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*Noor Nahar Begum, The Hong Kong Polytechnic University, Hong Kong*

*Md Masudul Hassan, Atish Dipankar University of Science and Technology, Bangladesh*

The rapid expansion of the internet provides the world great achievements both in social and economic life. E-commerce has become one of the serene ways of doing business and has a persuasive impact on the economy. It is the set of transactions that have been conducted through internet connections and computer networks. This chapter aims to look at the cross-border e-commerce payments. Specially, the chapter has focused on the trends in e-commerce payments, methods of online payments, effects of cross-border e-commerce, factors affecting cross-border e-commerce payments, friction of cross-border e-commerce system, drivers and impediments of cross-border e-commerce, growth of cross-border e-commerce in emerging markets. Moreover, this chapter shows how information has become the blood of e-commerce. It has extensive effects on the economy, society, and indeed national security.

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E-commerce enables brands to reach their customers globally anytime they want to shop and provide convenience to the busy and demanding customer. These days, cross-border e-commerce is accelerating faster compared to domestic e-commerce. Cross-border e-commerce is considered to be a separate body which has its own budget and resource allocation. It focuses on new opportunities that help in gaining market share and sales. This can result in lower marketing costs in the long-term. India contributes 0.8% of a \$600 billion global cross-border e-commerce market. Thus, this is an enormous target segment that exporters can focus to expand their international business. There are numerous advantages of cross-border e-commerce, which will be discussed in detail in this chapter. This chapter discusses the meaning of

GDPR, the subjects of GDPR, and the effects of GDPR on individuals and organizations. This chapter also states the impact of GDPR on different fields and technologies. In addition, the major cross-border e-commerce security issues are analyzed, and optimal solutions are discussed.

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*Mohammad Zahedul Alam, Bangladesh University of Professionals (BUP), Bangladesh*

Recently, cross-border e-commerce has been growing rapidly among the developed and developing countries. Marketing managers design marketing and advertising strategies targeted to local and across the country. Companies need to develop separate marketing programs for different country and diverse cultural context. In this chapter, the authors discuss cross-border e-commerce, its development, the advertisement and marketing strategies, policies, and programs that are applicable to the arena of cross-border e-commerce. However, advances in communication technologies, transportation, and other technological advances have made the world a much smaller place. To survive in the competitive business environment today, companies need to make their products and services available online as well as offline. Major technological advances including the explosion of the internet have had a major impact on buyers and the marketers who serve them. To thrive in this new digital age—even to survive—marketers must rethink their strategies and adapt them to today’s new environment.

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Global Brand and Global Consumers ..... 148

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*Ataul Karim Patwary, School of Tourism, Hospitality, and Event Management, Universiti Utara Malaysia, Malaysia*

In this era of digitalization, the world is now at the palm of the consumers due to high connectivity through the Internet. Consumers across the borders are simply a click away from a wide variety of global brands. However, the differences in cultural, political, technological, and environmental forces in the foreign country put the global marketers into a greater challenge to successfully operate their businesses. Hence, the marketers across the borders must be concerned about recent trends and tailored their marketing initiatives to adjust with the changing pattern. To ensure the success of the global brands, marketers should always be careful about several brand relates issues, such as satisfaction, trust, romance, love, and loyalty of the brands. Moreover, given the world as a melting pot of culture, global marketers have no choice but to follow hybridization, creolization, and glocalization strategies. Finally, today’s global marketers must be careful enough regarding the digital generations (Gen Y and Z) as they offer themselves as a lucrative but challenging market.

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*Anisur Rahman Faroque, LUT School of Business and Management, LUT University, Finland*

The current innovation of marketing embraces digital platforms. Digital marketing has become the successor to the economic development of many countries. This chapter intends to depict how to harness the power of digital marketing strategies as a driver of marketing activities. This chapter will navigate and provide an overview on search engine optimization (SEO), search engine marketing (SEM), web analytics, social media marketing platforms (Facebook, Instagram, YouTube, WeChat, Line, Twitter, Snapchat, etc.), e-mail marketing, mobile marketing, and display advertising and discuss the consequences of different digital marketing platforms. This chapter will navigate and thrive on how the fast-growing world of marketing develops strategy and content for communication.

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Social Network and Social Commerce ..... 203

*Mamun Ala, Australian Institute of Business (AIB), Australia*  
*Tareq Rasul, Australian Institute of Business (AIB), Australia*  
*Sumesh Nair, Australian Institute of Business (AIB), Australia*

A social network refers to a network of social interactions using various social media sites such as Facebook, WhatsApp, Twitter, Snapchat, Instagram, Pinterest, and LinkedIn. This chapter will first explain various concepts of social commerce involving the use of social networks and then elaborate on the key characteristics of social commerce and will highlight how it is different from e-commerce. A discussion is included on the concept of cross-border social commerce and its specific characteristics. Further, this chapter examines the trends in social commerce adoption by companies to promote international sales and the related benefits and challenges. It also presents a discussion on the use of social networks to understand and influence cross-cultural consumer behaviour in social commerce. Additionally, this chapter explores how social commerce can specifically benefit SMEs and born global firms to reach a larger audience in foreign countries and includes a discussion on cross-border social commerce strategy for business.

## Chapter 10

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*Roksana Binte Rezwan, Hiroshima University, Japan*

Human resources are the driving force and source of the core competitive advantage of any business. The purpose of this chapter is to discuss how human resource management (HRM) practices and human resource (HR) strategies are formulated and utilized in the context of e-commerce firms. When discussing e-commerce, relatively less attention is paid to HRM-related issues. However, analyzing, carefully, both the successful start-ups (i.e., Dollar Shave Club and Warby Parker) and e-commerce giants (i.e., Amazon and Alibaba) treat HRM as a critical success factor. Because business success depends on the careful integration of HRM strategies with business requirements and strategies. In this chapter, the different HRM practices and strategies adopted by different e-commerce firms will be discussed.

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Big Data, Artificial Intelligence, and the Internet of Things in Cross-Border E-Commerce ..... 257

*Aboobucker Ilmudeen, Department of Management and Information Technology, Faculty of Management and Commerce, South Eastern University of Sri Lanka, Oluvil, Sri Lanka*

Today, the terms big data, artificial intelligence, and internet of things (IoT) are many-fold as these are linked with various applications, technologies, eco-systems, and services in the business domain. The recent industrial and technological revolution have become popular ever before, and the cross-border e-commerce activities are emerging very rapidly. As a result, it supports to the growth of economic globalization that has strategic importance for the advancement of e-commerce activities across the globe. In the business industry, the wide range applications of technologies like big data, artificial intelligence, and internet of things in cross-border e-commerce have grown exponential. This chapter systematically reviews the role of big data, artificial intelligence, and IoT in cross-border e-commerce and proposes a conceptually-designed smart-integrated cross-border e-commerce platform.

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*Mohammad Nabil Almunawar, Universiti Brunei Darussalam, Brunei*  
*Syamimi Ariff Lim, Universiti Brunei Darussalam, Brunei*

The emergence of cross-border e-commerce (CBE) has its relevance in this digital age and thus brings about the discussion regarding the challenges and potentials of CBE on the local business especially small medium enterprises (SMEs). The wide availability of technology has made CBE possible across geographical, political, and cultural borders. It is a new driving force to promote the upgrading of industrial structure. The method used throughout the research is independent reviews from various studies and articles. Despite the dynamic development of CBE, communication in other languages, the form of payment, currency, legal, and tax conditions, as well as the delivery of products remain barriers to the CBE. The findings of the study show that there are four major drivers affecting CBE performance. These are economics, politics and policies, socio-cultural, and technology.

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Understanding the Current Research of Cross-Border E-Commerce: A Systematic Literature

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Companies face more challenges when their businesses enter into the global market, especially in an online environment. This situation is also true due to the different cultures, laws, regulations, habits, languages, technological levels, and even infrastructures for any firm that plans to utilize CBEC for gaining economic benefits. This study applies a systematic review method to present a literature review on the topic of CBEC. By reviewing 26 influential journal articles, this study provides details for the features, the methodologies, and the main themes and findings of selected articles. In the end, an integrated research framework on CBEC is proposed. This framework not only contains the major research focus of CBEC researches, but also includes the overall influential factors, the research gaps, and future research foci for CBEC. The last part of this chapter summarizes the theoretical contributions of the work, the practical implications, and the limitations of CBEC researches.

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# Preface

## INTRODUCTION

The continued advancement of globalization has been contributing to the rapid growth of the cross-border e-commerce market (Ding et al., 2017). In addition, the fast internet connectivity, compatibility of international payment systems, and adaptable logistics and shipping processes have combinedly contributed to the market expansion as well. The most common reason that consumers purchase from cross-border e-commerce sites is the lack of availability of specific products and services in their home countries at competitive prices (Weber, 2019). About 67% of global consumers reported that they purchase from foreign online vendors on e-commerce sites because of lower price (Frederick, 2015). In 2017, the share of cross-border e-commerce was 21% of domestic e-commerce worldwide (UNCTAD, 2019). It is forecasted to increase about 25% annually until 2023, leading to total cross-border e-commerce sales worldwide to near US \$2.9 trillion (Hoeijmans, 2019). Another report predicted a growth of 141% in cross-border e-commerce sales between 2016 and 2021 (IATA, 2019). This dynamic growth is predictably attracting many competitors which create a very challenging competitive environment. As such, a better understanding of the industry and its trends is needed and will help cross-border e-commerce managers to optimize and maximize business growth in parallel.

Because of the ubiquitous presence of smartphones, consumer use of cross-border e-commerce is increasingly simple. Because of such consumer technology advancements that enable the ease of use of cross-border e-commerce arrangements, sellers are hardly restricted to a specific country in terms of promoting, selling and shipping goods worldwide. The burgeoning opportunities, habits, and trends of shopping on cross-border e-commerce platforms have expedited the prospect of becoming a presence in the global market. This is true for enterprises of all sizes, especially for small- and medium-sized enterprises (SMEs) that want to add their footprint in the international market for the first time (Fan, 2019). Like any other industry, cross-border e-commerce is also an industry that has its specific economics and driving forces, but has different scopes, challenges, and trends due to the geographic and cultural expanse of relevant environment.

The driving forces in the cross-border e-commerce industry varies from country to country (Ding, 2018). The interactions created add to the complexity and create difficult challenges for participants. For example, a consumer from a developed country might face various impediments while buying products from a seller from a developing country due to poor logistics and supply management in the seller's country. Thus, for the academicians, policy makers, stakeholders and managers involved in cross-border e-commerce, it is indeed important to understand the macro and micro environments that are specific to the cross-border e-commerce industry. The macro environment consists of the demographic, economic,

## **Preface**

political, technological and environmental driving forces and the micro environment entails the understanding of the consumers' motives, the competitors' advantages, and the alternatives as driving forces.

## **BOOK OVERVIEW**

The chapters of this book have been selected carefully by considering the current research gaps as well as the contemporary issues and challenges of cross-border e-commerce business. This book brings the perspectives, issues, reviews, and case studies that are contemporary and specific to the cross-border e-commerce industry. In this process, the book incorporates the chapters that would enhance our knowledge of the stakeholders of cross-border e-commerce. The book starts with providing an overview of the inception of the cross-border e-commerce industry and its future. As the regulations, policies, taxation systems, degrees of technology integration, law and logistic frameworks vary from jurisdiction to jurisdiction, this book covers their impacts on the cross-border e-commerce consumers' motive, suppliers, pricing, custom clearance, and marketing strategies. Moreover, the existing theoretical studies of cross-border e-commerce were reviewed. Furthermore, the frameworks and facilities needed for developing a digital logistic system are also discussed. Finally, this book provides a guideline on how to launch a cross-border e-commerce business and conduct digital marketing targeting the international online consumer. The book ends with targeted case studies.

This book was conceptualized by identifying the scope disseminating from the current new complementary information with a comprehensive understanding of the issues and potential of the cross-border e-commerce businesses. The authors believe that this book will not only fill the void in the complementary knowledge regarding the issues and scope of cross-border e-commerce but also work as a basis of far-sighted vision and strategies. This book will provide the necessary knowledge to managers to compete with the competitive market structure and ultimately contribute to the sustainable economic growth of a country. It would work as a guideline for existing cross-border e-commerce managers to formulate individual strategies that combine to optimize the industry while keeping the enterprise competitive. This book will be useful in both developed and developing county contexts, especially for North American, European, Middle-Eastern, South Asian and South-East Asian countries. The main target audiences are academicians, policy makers, stakeholders and cross-border e-commerce managers, especially from the SMEs.

## **BOOK STRUCTURE**

Chapter 1 is titled "Cross-Border E-Commerce: An Emerging Norm." While providing an introductory overview of local to global issues concerning cross-border e-commerce, this chapter has highlighted a wide range of prospects, aspects, and factors with regard to cross-border e-commerce worldwide which can guide the thinking of decision makers. Ultimately, this chapter will support cross-border e-commerce managers in building a comprehensive understanding of the risks, scope, dynamics, and determinants of the barriers and success of cross-border e-commerce.

Chapter 2, "Technologies for Cross-Border E-Commerce," describes the associated technologies which enable cross-border e-commerce to be performed successfully. It highlights how Small Medium Enterprises (SMEs) can induct and perform overseas cross-border e-commerce business easily and ef-



ficiently by incorporating newer and scalable technologies in specific steps, such as logistic operation, of cross-border operations.

Chapter 3, “Supply Chain in Cross Border E-Commerce,” stresses that, unlike traditional and local E-Commerce business, the requirements and factors, such as international trade policies, relations, and cross-country infrastructure, in cross-border e-commerce and supply chain management is different and more complicated. The chapter identifies some key issues like supply chain facility, inventory management, legal obstacles with today’s supply chain performance of international e-commerce. Comprehensive solutions and recommendations are posited with focusing the integration of blockchain technology for reliable inter-country supply chain performance.

Chapter 4, “Cross-Border E-Commerce Payments,” focuses on the trends in e-commerce payments, methods of online payments, effects of cross-border e-commerce, factors affecting cross-border e-commerce payments including significant discussion on the drivers and impediments of cross-border e-commerce as well as the growth of cross-border e-commerce in emerging markets.

Chapter 5, “Cross-Border E-Commerce Security Issues and Protections,” provides the reader with information about the security and privacy issues for future sustainable business. This chapter also discusses the meaning of GDPR, the subjects of GDPR and the effects of GDPR on individuals and organizations as well as articulating the impact of GDPR on different fields and technologies.

Chapter 6, “Marketing and Advertisement in Cross-Border E-Commerce,” primarily carries out discussion on cross-border e-commerce, its development, advertising and marketing strategies, policies, and programs that are applicable to cross-border e-commerce. Specifically, this chapter highlights how to survive in today’s competitive business environment and how companies need to make their products and services available online as well as off line.

Chapter 7, “Global Brand and Global Customers,” focuses on the differences in cultural, political, technological, and environmental forces in foreign countries and their influences on global marketers. This chapter discusses global brands by relating issues such as satisfaction, trust, romance, love, and loyalty of brands. It also focuses on the hybridization, creolization, and ‘glocalization’ strategies as the world is regarded as a melting pot of culture. This chapter ends with describing the importance of the digital generations (Gen Y and Z) as they offer themselves as a lucrative but challenging market.

Chapter 8, “Digital Marketing,” investigates how to harness the power of digital marketing strategies as a driver of marketing activities in promoting cross-border trading and cross-border customer acquisition. This chapter brings the exciting techniques of digital marketing such as Search Engine Optimization (SEO), Search Engine Marketing (SEM), web analytics, social media marketing platforms (Facebook, Instagram, YouTube, WeChat, Line, Twitter, and Snapchat, etc.), e-mail marketing, mobile marketing, and display advertising. It includes a discussion of the consequences of different digital marketing platforms.

Chapter 9, “Social Network and Social Commerce,” examines important highlights of various concepts of social commerce involving the use of social networks and then elaborate on the key characteristics of social commerce in the context of cross-border e-commerce. Further, this chapter examines the trends in social commerce adoption by companies to promote international sales and the related benefits and challenges. Finally, it also presents a discussion on the use of social networks to understand and influence cross-cultural consumer behavior in social commerce.

Chapter 10, “Managing Human Resources in Cross-Border E-Commerce,” discusses the common issues in maintaining human resources in running a cross-border e-commerce enterprise. To make broader understanding, this chapter shows how human resource management (HRM) practices and human resource (HR) strategies are formulated and utilized in the context of E-Commerce firms. This chapter

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has presented case-study examples to show how business success depends on the careful integration of HRM strategies with business requirements and strategies.

Chapter 11, “Big Data, Artificial Intelligence, and the Internet of Things in Cross-Border E-Commerce,” specifically highlights the terms big data, artificial intelligence and Internet of Things (IoT) and various eco-systems applications of cross-border e-commerce. This chapter systematically reviews the roles of big data, artificial intelligence, and IoT in cross-border e-commerce and proposes a conceptually designed framework that integrates a cross border e-commerce platform.

Chapter 12, “Cross-Border E-Commerce and SMEs,” presents how the emergence of cross border e-commerce has created potential for local businesses, especially Small Medium Enterprises (SMEs). The wide availability of technology has enabled SMEs to expand their business across the geographical, political, and cultural borders. This chapter classifies the drivers affecting cross border e-commerce’s performance into four major categories and provided important implications for the growth and possible challenges for SMEs.

Chapter 13, “Understanding the Current Research of Cross-Border E-Commerce: A Systematic Literature Review,” is a comprehensive, qualitative review of the challenges present when cross-border businesses enter global markets, especially in an online environment. Additionally, this chapter proposes an integrated research framework that includes the major research focus of cross border e-commerce researches as well as the overall influential factors, research gaps, and future research necessary for expanding our knowledge of cross border e-commerce.

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# Chapter 1

## Cross–Border E–Commerce: An Emerging Norm

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### **ABSTRACT**

*The cross-border e-commerce platforms available to businesses today provide them with the ability to increase market share beyond their local market. However, in initiating such platforms, businesses face many challenges from local to global issues. Therefore, it is essential for cross-border e-commerce managers to have a comprehensive understanding of the risks, scope, dynamics, and determinants with regard to these challenges. Additionally, they must launch, run, and expand cross-border e-commerce operations. This chapter has highlighted a wide range of prospects, aspects, and factors with regard to cross-border e-commerce worldwide which can guide the thinking of decision makers. The authors conclude that more research and feasibility studies are necessary to increase consumer experience and devise global visions and policies to facilitate cross-border e-commerce.*

### **INTRODUCTION**

In the age of the internet, connectivity and the global village, cross-border e-commerce is a norm. As the e-commerce sector has evolved in the last 25 years, the cross-border e-commerce sector has also emerged. Subsequently, this entails international trading between different persons, entities or countries by eliminating any geo-blocking. In earlier days, many resisted buying or selling abroad. However, the total volume of cross-border e-commerce worldwide is nearly USD 412 billion (Villegas, 2019). While using cross-border e-commerce, the cost of information acquisition for any product or service is only a few mouse-clicks away, online shoppers are increasingly buying products or services from other countries across geopolitical borders. Also, in comparison to traditional cross-border trading entails multiple levels of inquiry and exchange of offers. Cross-border e-commerce allows making deals directly with

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buyers through cross-border e-commerce platforms by eliminating third-party links and the associated intermediate costs. In other words, cross-border e-commerce platforms have linearized the international trading process by removing the necessity of any intermediate links and eased the flow of information, funds and goods or services between entities belonging to different countries. Thus, it is a preferred way for many companies to develop a presence in many international markets by selling products and services from the company's original country to the consumers who reside abroad (Ecommerce Europe, 2016).

Beside widespread penetration of the internet and the globalization trend, the changes in international trade policies and liberalization have played critical roles in increasing cross-border e-commerce globally. For instance, the enactment of the 'European Free Trade Agreement' and development of the 'China Free Trade Area' is to reduce the customs duties, tax, and ease custom clearance process. It is now predicted that 1 in every 5 US dollars traded would be attributed to cross-border e-commerce trading. This is an unparalleled opportunity for the retailers and manufacturers across the globe to capture international market share (DHL, 2018). After connectivity and trade policies, one of the major reasons behind the booming cross-border e-commerce is the superior infrastructures available mostly in the developed countries. The effect of infrastructures is highly evident in the countries in the European Union where on average more than 25 percent of the online shoppers make a purchase from a different country (Ding, 2018).

As online shoppers are now more comfortable in purchasing a product online, the emergence of cross-border e-commerce businesses has become consequential and obvious. Moreover, the growing demand increase is normally seen when better quality goods are available at a lower price. Apart from the driving forces, there are some barriers that commonly impede business operations. These are cultural and language barriers, marketing challenges, product quality assurance, regulation compliance, payment readiness and security, and logistic chains (Ding, 2018). These barriers cause high additional costs and overlapping requirements for the companies that want to conduct cross-border e-commerce operations. In order to overcome these common challenges, support from the government is critical to ease or remove these barriers. While the governments of the respective countries are able to ease the cross-border e-commerce operations, cross-border e-commerce managers must cope with challenges differently as the degree and structure of the challenges differ from country to country. Hence, along with government support, the cross-border e-commerce business has to actively execute effective solutions to address the challenges by following different timely strategies.

Like any other business, cross-border e-commerce businesses face challenges of different degrees not only locally but also internationally when they venture into different international markets. For example, the prime challenging factors in cross-border e-commerce are vying among brands for product quality, service quality, localization in the foreign market, compliance with foreign regulations enhancing user experience, gaining trust and so forth. Therefore, it is essential for cross-border e-commerce business managers to have a comprehensive understanding of the risks, scopes, dynamics, and determinants with regard to these challenges. Additionally, they must launch, run and expand cross-border e-commerce operations. As a result, the following sections give various overviews of the relevant topics and issues from the perspectives of background, significance, theories, barriers, challenges, and trends of cross-border e-commerce to encourage international business managers to gain further insights related to the ecosystem of cross-border e-commerce.

## E-Commerce and Cross-Border E-Commerce

Unlike traditional e-commerce, cross-border e-commerce trading happens between the buyers and sellers from different countries where the goods delivery depends on the international logistics facilities. It has combined international trading with e-commerce. In cross-border e-commerce, trading activities involve the purchase of products or services by the buyers and sellers beyond their national borders. Hence, cross-border e-commerce can be defined as a process of online trading between the seller party and the consumer party where the parties reside in different countries. The other commonly used interchangeable names of Cross-Border E-Commerce are Global e-commerce, Global Digital Trade, Borderless e-commerce, International online trade, and International e-commerce. Table 1 is a comparison between e-commerce and cross-border e-commerce across several important dimensions.

*Table 1. E-commerce and cross-border e-commerce: key differences*

	<b>E-Commerce</b>	<b>Cross-Border E-Commerce</b>
Definition	e-commerce is defined as “business activities conducted using electronic data transmission via the Internet and the WWW” (Grandon & Pearson, 2004). e-commerce is also broadly defined as “buying and selling of goods and services through computer network such as internet or other electronic means” (Soobramanien & Worrall, 2017). According to World Trade Organization, e-commerce is “the production, distribution, marketing, sales or delivery of goods and services by electronic means” (WTO, 1998).	Cross-border e-commerce is defined as the international e-commerce activities that include selling or buying goods and services between two entities from separate countries through the means of display, negotiate and monetary transactions (Zhang et al., 2016). Cross-border e-commerce is also differently referred to as e-exhibition, or e-transaction involving entities from different countries (Winklbauer, 2018). The definition of cross border e-commerce encompasses the two conditions that the trading has to be conducted through e-commerce platforms and between B2Bs and B2Cs and C2Cs from outside national borders (Ecommerce China, 2019).
Sales location	Products sold by seller from same country	Products sold by seller from different country
Logistics	Logistic network may not span beyond national border	Logistic network spans beyond national border
Transaction limit	Normally, no transaction limit	Transaction limit common
Customs	Not subjected to custom duties	Subjected to custom duties
Payment settlement	Simple	Complex

Overall, considering the basic process of export and import, cross-border e-commerce trading is not much different from the traditional trading. However, the formation and components involved in the process differ. All the processes such as information collection, custom relation, payment, logistics and distribution in cross-border e-commerce involve the use of the internet and compliance with the regulations and laws in multiple jurisdictions. Additionally, cross-border e-commerce businesses need an international logistic system for the quick and incessant supply of goods and services. But the logistic chain development process in cross-border e-commerce is highly complex and driven by various factors such as the nature and size of the business, range of products, governments’ trade policies, demand volume and variability, ICT access, and the preferred ways of payments.

## **Evolution of Cross-Border E-Commerce**

Although cross-border e-commerce businesses are burgeoning at a greater pace, the term “cross-border e-commerce” did not exist even a decade ago (Ma et al., 2018). The inception of cross-border e-commerce occurred when everything was becoming ‘multi’ with the spread of internet connectivity that enabled mobility and ubiquity. Primary drivers of this were the formation of Amazon.com as an e-commerce platform in the USA in 1994, the foundation of the PayPal payment system in 1998 and Chinese giant e-commerce platform Alibaba.com in 1999. In 1998 in China, a few companies were first exploring the scope to sell products overseas using the new e-commerce technology. Later on, the foundation of Alibaba.com allowed the Chinese companies to sell their products overseas in a large amount. Then, the USA e-commerce platforms Amazon.com and eBay.com also begin to follow the same strategy between the years of 2002 to 2003. In 2005, many Chinese people living abroad such as the USA, Australia, and Europe started to buy products that might be expensive or less available in China and then sell to customers in China with little profit margin. These people are called ‘Dai-Gou’ which means ‘buying on behalf of’ in literal terms. The rise of ‘Dai-Gou’ agents has led to the subsequent growth of large global C2C e-commerce platforms such as Taobao.com. Unprecedented growth in cross-border e-commerce has been observed in the last decade.

The evolution cross-border e-commerce is closely related to increase in globalization and the mass adoption of new technology (Ding et al., 2017). The internet has not only quickened the process of globalization but also increased the volume and velocity of cross-border e-commerce transactions worldwide. The diffusion of the World Wide Web has expedited the spread and advancement of cross-border e-commerce by creating an efficient way of connecting consumers with brands and manufacturers all over the world. Access to the internet has been enabling merchants around the world to easily sell their products and services in the non-native markets beyond own country by removing the barriers of time and space. On the other hand, empowered by access to the Internet, consumers are now savvier than any at any point in time as they are able to find higher quality products at lower prices.

The emergence and the subsequent rapid adoption of cross-border e-commerce have brought a potential scope for inclusive growth and development across different countries and economies (ICC, 2018). With rapid growth, the worldwide B2C volume of cross-border e-commerce transaction is predicted to reach around USD 1 trillion by 2020, a more than 300% increase since 2014 (Ding et al., 2017). Another study has reported that the cross-border e-commerce is growing at a rate of more than 25 percent yearly (RIS, 2017). The simplification of gaining access to new customers and new markets through launching cross-border e-commerce is another reason for such fast growth. This allows the private sectors and SMEs to especially benefit.

Newer technologies are being used operationally in cross-border e-commerce. Examples of new technology adoption are the use of the Internet of Things (IoT) for product tracking and delivery, Big Data for customer buying behavior analysis, Blockchain for ensuring product originality, and artificial intelligence (AI) for customer support service (Valarezo et al., 2018). Linked with the various processes in the cross-border e-commerce eco-systems, the integration of these technologies is greatly enhancing the buying experience by increasing payment security, providing logistic efficiency and optimizing customers’ online behavior. Moreover, the speedy internet connection allows cloud computing and cloud storage, not only essential for cross-border e-commerce, but also necessary for cross-border logistics support.

## **IMPORTANCE OF CROSS-BORDER E-COMMERCE**

### **Market Share**

A cross-border e-commerce venture is significant as it enables the organization to expand internationally and to increase their revenue and business sustainability by the means of capturing consumers in new markets. As cross-border e-commerce can facilitate the process of market expansion and establishment of the global link between sellers and customers abroad, for many businesses, entering into a new market is not considered as an option but is considered essential. From big companies to small and medium-sized businesses, the cross-border e-commerce platforms are now progressively becoming a crucial way to access international online shopping markets as they demand low requirement of capital and human resources to gain a comparatively larger return on investment from the market beyond the native market.

### **Customer Reach**

Cross-border e-commerce promotes business growth by bringing the local business to global customers in a faster way. And the subsequent development of the cross-border e-commerce ecosystem has created many major trade routes in the “sleeping giant” markets in Europe and Asia (Ding, 2018; Mou et al., 2017). Hence, by foreseeing the prospect of cross-border e-commerce, more and more international brands (e.g., Apple Inc.) have shown an increasingly keen interest in selling their products and services directly via e-commerce platforms. Establishment of cross-border e-commerce enables the business to reach customers in international markets. Primary buyer benefits Because, the prime reasons that the buyers opt for using cross-border e-commerce platforms are opportunity of lower price points than the local market, access to an expanded range of brands, and availability of unique products. In fact, a study shows that about 72 percent of online buyers buy from abroad because of a cheaper price, and nearly 50 percent of them buy because of the unavailability of their desired products in their respective local markets (Weber, 2019).

### **Business Sustainability**

Establishing a cross-border e-commerce business can aid a seller in withstanding the challenges from local competitors by creating an opportunity to expand business operations by going beyond the saturated local market. Additionally, cross-border e-commerce enables the potential for increasing revenue, business sustainability, global promotion, and brand authority. A survey shows that about 56 percent of the participating merchants think that entering into cross-border e-commerce business increases the opportunity to increase market share in foreign markets (Rapyd, 2019). Furthermore, the cross-border e-commerce minimizes the costs linked with traditional businesses and eases ways of finding new markets (Huria, 2019).

### **Eliminating Intermediaries**

From the sellers’ perspective, having a cross-border e-commerce platform is important as it not only eliminates intermediaries in international trading but also helps to future-proof a business by enlarging the scope of capturing promising market shares abroad. Conversely, distributors generally control buyers

in local markets. By having access to cross-border e-commerce, buyers can circumvent this control by accepting lucrative offers from sellers through the online marketplace platform, and one-click checkout and payment opportunities. In this way, cross-border e-commerce businesses can fulfill the needs of both buyers and sellers.

## **Brand Awareness**

As cross-border e-commerce brings global growth opportunities, increasing brand awareness in the international market is one intangible benefit that becomes evident. As the needs and requirements of the buyers are increasingly satisfied, especially through localization of products and customer services, the buyers begin recognizing a particular brand as a ‘global brand’. Ultimately, increasing brand awareness also increases brand advocacy and brand trust.

## **COMPONENTS OF CROSS-BORDER E-COMMERCE TRANSACTION**

In cross-border e-commerce, components of the transaction involve multiple legal entities in different jurisdictions (e.g., banks and customs from other countries) and different logistic networks and make it multiplex in nature. Figure 1 shows the components of cross-border e-commerce transactions.

### **Payment System**

While the payment system itself is one of the components of the cross-border e-commerce transaction, it is a part of inter-country transfer work consisting of the sender’s country bank and the receiver’s country bank. Such transfer work is often affected by the currency value fluctuation, interchange fees and related processing charges. These fees are responsible for the increase in cost and complexity of cross-border e-commerce price setting and payment processing.

### **Delivery Choice**

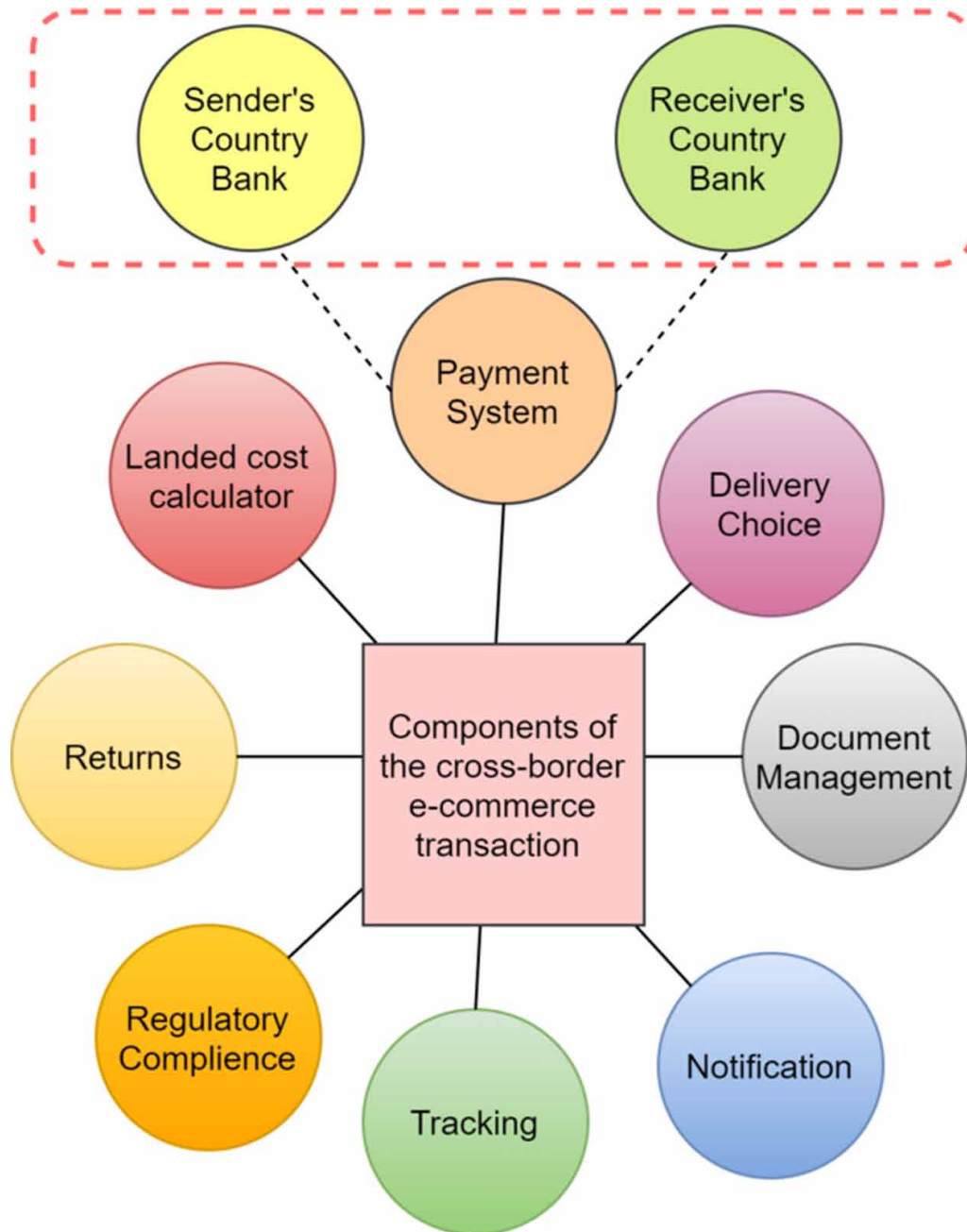
In cross-border e-commerce, the buyers are given several options for getting their product delivered, such as air, sea or land routes. Apart from the routes, other delivery options are convenient delivery times and locations for product delivery.

### **Document Management**

Sellers in cross-border e-commerce often offer document management solutions. Examples include customized invoicing and documentation related to customs fees and import duties for the destination country. Such documentation ensures a smooth customs clearance process.



Figure 1. Components of cross-border e-commerce transaction



## Notification

Timely notification is essential in cross-border e-commerce transactions. Often buyers receive notifications of delivery status as a part of real-time tracking throughout the process. Buyers receive SMS or email notifications of delivery status in their preferred language.

## **Tracking**

In each step of the delivery process, the buyers in cross-border e-commerce are enabled to track their products using tracking services. Tracking plays an important role in reducing the chance of dispute by helping both the buyers and sellers with any shipping related issue. Increasingly, real-time tracking is done via the Internet of Things (IoT).

## **Regulatory Compliance**

Cross-border e-commerce transactions are always required to comply with the international financial regulations and certain restrictions peculiar to the receiving country. The regulation involves pre-screening of products as well as specific custom rules.

## **Returns**

The return policies are intrinsically related to any cross-border online purchase in which the sellers have to offer standardized return capacity. The return policy also references the refund policies with appropriate terms and conditions.

## **Landed Cost Calculator**

This is another customer-centric component of cross-border e-commerce transactions. This enhances the positive experience of the buyers by ensuring that the customers are fully aware of all the associated costs in the delivery process. Consequently, customers are less likely to be surprised by any extra charges due to custom duties and taxes.

## **CROSS-BORDER E-COMMERCE DEPLOYMENT STRATEGIES**

Starting a business in the global market and reaching consumers abroad is easier and more feasible than ever because of e-commerce. This has brought plenty of changes among international sellers and their operating processes and competitive strategies. Some essential strategies that the managers need to employ for successful deployment of cross-border e-commerce are discussed below.

### **Know the Local Market**

Before launching cross-border e-commerce, it is a prerequisite that managers gather adequate knowledge about the new market and insight product demand. Because customers in different countries demonstrate different buyer behavior, it is also essential that managers know who their customers are, how they behave, how much they are willing to spend, and what they want to hear.

## **Know the Regulations in Other Countries**

Managers must know the country-by-country product restriction and associated regulation in the target countries' markets. It is often common that certain countries do not allow certain products. For example, it is not legal to import plants in Australia. Additionally, managers must learn the custom rules and tax duties in foreign market. For example, certain countries do not allow product delivery to customs as long as they do not pay the applicable VAT.

## **Offer Preferable Payment Options**

While it is important to offer multiple payment options, preferably in local currency, it is also important that the payment method offered is secure and trustworthy. In many countries, the customers prefer cash payment (e.g., India) rather than card payment (e.g., USA). To prevent fraudulent incidences, payment systems are often integrated with an escrow service provider who is a "third party" that holds payment until the product is delivered, as described in the invoice.

## **Localization**

As the international market share grows and the number of customers increases, the managers may need to allocate enough resources to localize their business. The key strategies for localization are digital marketing, advertising and translating the website and product descriptions in local languages to reach the prospective customers on the customer level.

## **Scalable E-Commerce Resources**

When it comes to the e-commerce resources required for supporting cross-border e-commerce, having enough labor to fulfill customer services on demand is just the beginning. Resources must also include a scalable logistic value chain and ICT infrastructure. They enable the four major components in cross-border e-commerce transactions - electronic marketing, electronic payment, electronic custom, and international logistic (Yang et al., 2014).

## **Social and E-Mail Marketing**

For greater access to a wide-range of customers around the world, social and email marketing are very efficient marketing strategies. However, it is important that marketers use up-to-date, custom content for advertising strategy for specific groups of the targeted audience.

## **Analyze the Local Competitors**

Knowledge of local competitors in foreign markets is useful in protecting the interest and plans of e-commerce businesses who want to start online businesses abroad. To acquire such knowledge, managers should dive deeply into their target markets to collect the information required.

## **Integrating Newer Technology**

As technology changes quickly, managers need to be aware of new technologies, such as Big Data, Artificial Intelligence, Blockchain, and the Internet of Things (IoT). These are continuously being integrated with the ecosystem of cross-border e-commerce to improve the customer experience and offer smoother logistic support.

## **Ensuring Logistic Flexibility**

For cross-border e-commerce, logistic flexibility is necessary to be able to respond quickly to fulfill the consumers' demand from non-native markets. In the process of attaining logistic flexibility, the cross-border e-commerce business deploys strategies such as 'full in-house', 'supplier managed', 'drop-shipping', 'full outsourced', etc. (Kawa, 2017). Accordingly, to ensure the implementation of these strategies to attain logistic flexibility, the cross-border e-commerce business requires making deals for real-time information-sharing, and creates strategic alliances and cooperation among multiple parties from different geo-locations.

## **International Support**

Because customers of cross-border e-commerce belong to foreign countries, managers should provide international customer support as a part of their 'go-global' strategy. For convenience, often the international customer support is outsourced to the freelancers to provide customer support around the clock.

## **THEORIES AND MODELS OF CROSS-BORDER E-COMMERCE**

There are several theories and models that are used in the context of cross-border e-commerce for understanding market demands, customer retention, logistic chain problems, policy formation, e-commerce business evaluation, social and environmental impacts, etc. The sub-sections below discuss some of the significant theories and models used in cross-border e-commerce context.

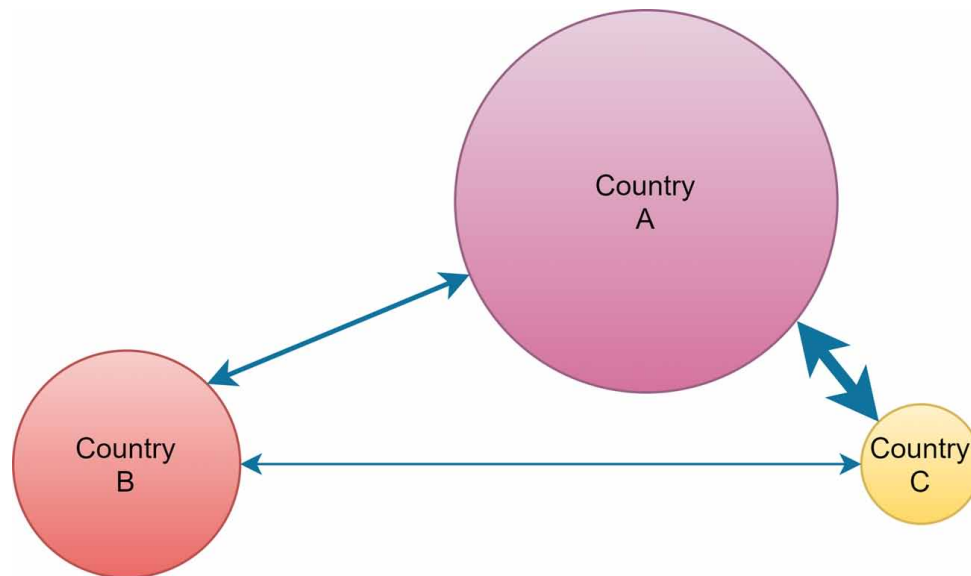
### **Gravity Model**

A well-known model which helps our understanding of the pattern of trade movements between two countries is known as the 'Gravity Model' (Gomez-Herrera et al., 2014). This model was originally proposed on the basis of Newton's law of gravity in 1962. It underpins the concept that the trade between two countries, for instance, Canada and its neighboring country USA, can be anticipated based on the economic sizes and distance between two countries. Because it presumes that while the respective economic sizes of the countries attract each other in trading, the distance between two countries drives away from the interest in trading. As shown in Figure 2 below, the trade volume between Country A and Country C is greater than the trade volume between Country A and Country B because of the shorter distance between Country A and Country C than the distance between Country A and Country B, despite the fact that Country B is bigger than Country C. In this way, the Gravity Model can theoretically predict the trade volume between countries. In the study by Kim et al. (2017), it was found that cross-border

## Cross-Border E-Commerce

e-commerce businesses in the European Union design their websites to reduce the psychological barriers of consumers caused by long-distance and offer express delivery to attract online customers from other countries.

Figure 2. Gravity Model



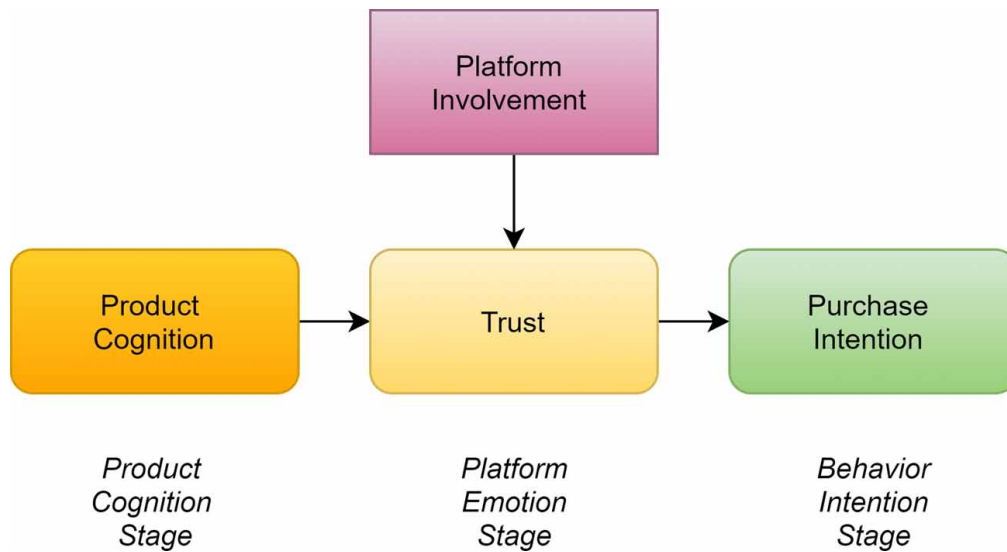
Several researchers who have modified the Gravity Model (e.g., He & Wang, 2019) have identified its intrinsic limitations, such as excluding factors such as linguistic relations, tariffs, and maritime connectivity. For example, in the modified version of the Gravity Model, the ‘cultural distance’, apart from ‘geographical distance’, is also taking into account. This reduces the interest in trading with distant countries with different cultures and languages (Gomez-Herrera et al., 2014). As a result, the idea of localization is recommended to overcome such barriers. Similarly, He and Wang incorporated GDP (Gross Domestic Product), Real Exchange Rate (i.e., a relative comparison of the price of foreign products and the price of domestic products), population size and terms of trade (i.e., the ratio between the index of export prices and the index of import prices) as the influencing factors in cross-border e-commerce trading (Gomez-Herrera et al., 2014). Their applied study shows that GDP and Real Exchange Rates influence the total cross-border e-commerce trading. On the contrary, population size and terms of trade only influence the cross-border e-commerce import. From this model, it is now easily understandable by the managers that if the population size of a country is larger and it finds that every unit of export it sells allow it to buy more units of imported goods, it leads to increased imports.

## Product Cognition-Platform Emotion Behavior Model

In another research work, Zhua, Mou, and Benyoucef (2019) applied the commitment-involvement theory in the hierarchy-of-effects model to develop a model of evaluation which they named ‘Product Cognition-Platform Emotion Behavior Model’. This new three-stage model (Figure 3) presumes that

the influence of product cognition (e.g., product description and product awareness) on purchase intention in the cross-border e-commerce setting is not direct but completely mediated by the perceived trust which itself is impacted by platform involvement (e.g., platform enduring involvement and platform situational involvement). Therefore, managers of cross-border e-commerce should give the highest possible emphasis on trust.

*Figure 3. Product Cognition-Platform Emotion Behavior Model (Three-stage model) (Zhu et al., 2019)*



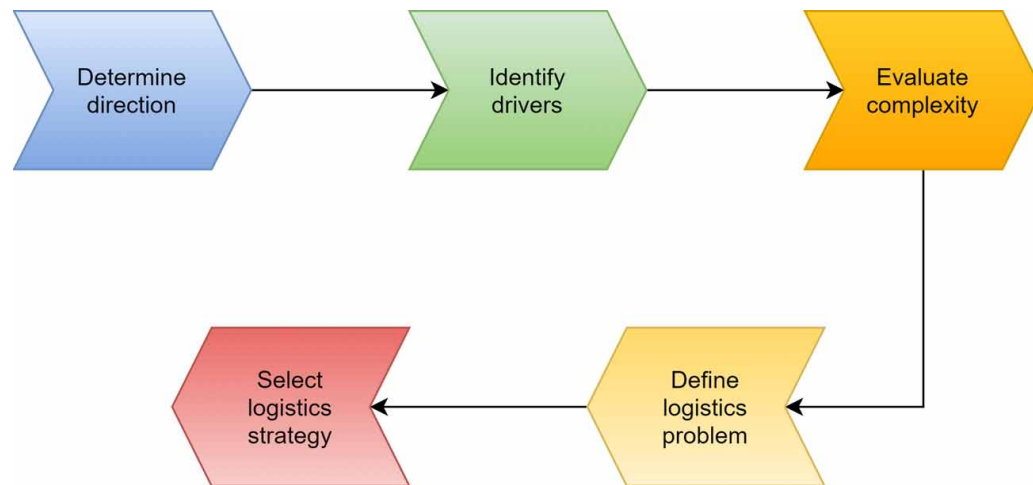
### **The Involvement Theory**

Mou, Zhu and Benyoucef (2019) applied the ‘Integration of Involvement Theory’ and ‘Commitment-involvement Theory’ to build a model optimizing product descriptions on the cross-border e-commerce platforms for attracting more buyers and then generating more profit. They have postulated that product involvement in product descriptions can be explained by the involvement theory. For example, making cognitive and affective involvement by providing factual information regarding a product leads to product involvement and influences purchase intention. Conversely, they have also hypothesized on the basis of the commitment-involvement theory positing that the involvement of the cross-border e-commerce platform influences the buying behavior of the consumers. For example, the influence of the perceived importance of any specific cross-border e-commerce platforms leads to a psychological commitment by online shoppers, which is also an important implication for the managers.

### **Decision Model for Strategy Selection**

In another report, the researchers have used a five-step Decision Model for Strategy Selection Process for the cross-border e-commerce managers. The steps are shown in Figure 4. These steps are significant for selecting the appropriate logistics strategy based on whether to in-source or outsource the logistic operations depending on the degree of complexity.

*Figure 4. Decision Model for Strategy Selection Process (Five-step model) (Ding, 2018)*



### **Fuzzy Analytic Hierarchy Process (FAHP) Model**

Feng and Ma (2017) used the fuzzy analytic hierarchy process (FAHP) model to inform the managers of the overall operating performance of any cross-border e-commerce. For evaluation, FAHP uses a range of secondary criteria under four primary criteria which are 1) operational capacity, 2) rules and policy compliance, 3) service quality, and 4) logistics cost.

### **Comparative Advantage Model**

There are multiple models that the manager can use for the evaluating cross-border e-commerce business. For example, Wang, Wang, and Lee examined the precise effect of Chinese government’s “belt and road” vision policy on the growth of international trade using the Comparative Advantage Model. They found that without favorable policies the growth of international trade like cross-border e-commerce is not sustainable (Rapyd, 2019).

## **BARRIERS AND CHALLENGES IN CROSS-BORDER E-COMMERCE**

The challenge and barriers increase when a company establishes a cross-border e-commerce business. Essentially, the biggest challenge to launch a cross-border e-commerce business is to plan and take the essential steps to follow the target country’s perspective. According to the Ding et al. (2017), the most common barriers that any manager would face before implementing cross-border e-commerce can be categorized into six categories; namely, 1) marketing overseas, 2) searching product demand and markets, 3) law and regulation, 4) cross-border electronic payment, 5) overseas and local logistic, and finally 6) the cultures in the target territory and customs in the target market. On the other hand, a recent survey in the United States shows that the top risks that the merchants perceive before launching cross-border

e-commerce are security of data, legal and regulatory compliances, chargebacks, currency rate fluctuation and economic instability like inflation in the overseas markets (Rapyd, 2019).

Likewise, the commonly perceived challenges associated with regular cross-border e-commerce operations are setting infrastructure and logistics abroad, supporting local payments, localization in developing a local version of website/URL and providing regular customer services. Simultaneously, the other regular challenges for accomplishing the necessary steps are having strategic clarity in identifying the business opportunities abroad and understanding the local demand and tastes of overseas consumers for launching a cross-border e-commerce business. Therefore, each type of frequent barriers and challenges are broadly classified under macro-environment, industry environment, and business environment and are discussed in Table 2.

### **Legal Barriers**

The major legal barrier at macro-environment level (Xu & Song, 2018) (Table 2) in cross-border e-commerce are the differences in jurisdiction, consumer product regulations, custom policies, currencies, payment methods, national VAT models, and privacy policies. Without addressing these barriers, a cross-border e-commerce business might face legal issues from time to time. In 2016, the E-commerce Europe reported three top legal barriers in cross-border e-commerce operations within the European Union. These are: 1) EU legal frameworks that entail harmonized privacy policies and harmonized consumer policies, 2) taxation, VAT and custom systems that entail harmonized VAT rates, and 3) logistic regulation (Ecommerce Europe, 2016). Therefore, as a part of the adoption of new policies to facilitate the delivery of products and protecting the consumers’ rights in online cross-border trading, the European Union has revised its policies on Payment Services Directive, consumer protection rules and VAT rules which will come into effect by 2021 (European Union, 2020).

*Table 2. Barriers and challenges in cross-border e-commerce business*

<b>Macro-environment</b>	<b>Industry environment</b>	<b>Business environment</b>
Legal Barriers <ul style="list-style-type: none"> <li>● Jurisdiction</li> <li>● Consumer regulations</li> <li>● Custom policies</li> <li>● Currencies</li> <li>● VAT regulations</li> <li>● Privacy protection</li> </ul> Socio-cultural Barriers <ul style="list-style-type: none"> <li>● Product labeling</li> </ul> Demographic Barriers <ul style="list-style-type: none"> <li>● Income</li> </ul> Political Barriers <ul style="list-style-type: none"> <li>● Economic Sanctions</li> <li>● Political embargo</li> </ul> Environmental Barriers <ul style="list-style-type: none"> <li>● Global trends</li> </ul>	Competition Challenges <ul style="list-style-type: none"> <li>● Pricing</li> <li>● Technology integration</li> </ul> Logistic Challenges <ul style="list-style-type: none"> <li>● Shipping insurance</li> <li>● Cheap delivery</li> <li>● Flexible pick-up</li> </ul>	Ethical Challenges <ul style="list-style-type: none"> <li>● Trust</li> <li>● Transparency</li> </ul> Marketing Challenges <ul style="list-style-type: none"> <li>● Brand awareness</li> <li>● Market intelligence</li> </ul> Service Challenges <ul style="list-style-type: none"> <li>● Customer relations</li> <li>● Customs compliance</li> <li>● Tracking deliveries</li> </ul> Infrastructure Challenges <ul style="list-style-type: none"> <li>● Payment methods</li> <li>● Technology</li> <li>● Scalability</li> </ul>



## **Socio-Cultural Barriers**

Understanding the socio-cultural nuances in different countries and identifying and addressing norms in different societies are also prerequisites for expanding cross-border e-commerce. Managers should follow different approaches for product labeling where necessary. For example, product labeling might need to be multilingual in many countries (e.g., India, Pakistan) where many more than one official language is used.

## **Demographic Barriers**

Conversely, demographic barriers such as income level might create discrepancy in the percentage owning credit cards by consumers in different countries can negatively impact cross-border e-commerce. For example, while 70 percent of Americans possess a credit card enabling easy cross-border e-commerce payment, the percentage of credit card holders is only 18 percent in the rest of the world so that not all are eligible for cross-border transactions (Steve Villegas, 2019).

## **Political Barriers**

In certain countries such as Iran and North Korea, the political embargo and economic sanctions are considerable barriers for cross-border e-commerce trading (Statista, 2018). Hence, it is recommended to not consider every country with the same marketing and business visions and apply the same strategy.

## **Environmental Barriers**

In addition to the barriers that exist in the macro-environment level, another barrier is the challenge of following global trends. Often, the most demanded products might become the least demanded product in the context of cross-border e-commerce because the new shopping trend might be influenced massively due to changes in technology, political, and environmental movements (e.g., Go Green) at the macro-environment level. To cope with such trends, the cross-border e-commerce companies may need to rethink their business strategies and allocation of resources.

## **Competitor Challenges**

Competitors are one of the major impediments at the industry level (Table 2) that the cross-border e-commerce managers continuously face. Competitions from other cross-border e-commerce businesses are of various types. For example, the ability to deliver products in different countries at the lowest rate in comparison to other companies (Thain & Skey, 2015). Besides, research has also highlighted that cross-border e-commerce sellers need to compete with others in offering competitive price, wide ranges of product and service selection, smoother searching experience, product quality, convenient claim settlement policies, easier payment method, payment security and quicker delivery to retain buyers (Pei et al., 2016).

## **Logistic Challenges**

A primary logistic challenge in cross-border product distribution is offering a low delivery rate after abiding by all the intricacies of import and export tax rules, international shipping and customs rules, and shipping insurance. Apart from low cost, tracking technology, and selecting the right logistic partners in different countries by providing necessary supply chain solutions are the bigger challenges (Leung et al., 2017). At the industry level, the research has shown that cross-border e-commerce businesses are not achieving progress as per the level of importance that they have set. Table 3 below depicts how multiple tactics like distribution are more slowly progressing despite giving high importance (Rapyd, 2019). Because of the complex and confusing system of cross-border e-commerce shipping, unsuccessful shipments of products across different countries often occur. Therefore, managers must devote focus to these challenges.

*Table 3 Cross-border e-commerce tactics: Importance vs. Progress*

High importance and more progress	High importance but less progress
<ul style="list-style-type: none"> <li>● Local customer support</li> <li>● Local card acceptance</li> </ul>	<ul style="list-style-type: none"> <li>● Local language translation</li> <li>● Local distribution presence</li> </ul>

## **Ethical Challenges**

Trust and transparency are also challenging factors at the business level (Table 2) in cross-border e-commerce (Mou et al., 2020). Because of trust issues, more than 80 percent of Indian consumers prefer a payment method of cash-on-delivery when purchase online (Mohsin, 2020). These two factors are closely related and important aspects to be considered by the managers before launching a cross-border e-commerce brand internationally.

## **Marketing Challenges**

Establishing market intelligence to obtain information about consumers' change in behavior regularly and creating awareness about any brand are indeed challenging. Even though the market dynamics look similar in a foreign market because of the same language and culture, such as between Canada and the United States, each market is unique. As a result, cross-border e-commerce businesses require different considerations and marketing planning to address the challenges.

Also, in most instances, the cross-border e-commerce business does not know which strategies to follow to attract buyers from non-native markets (Pei et al., 2016). In such situation, building awareness among the overseas customers, maintaining international customer relationships and customer compliance, gaining market intelligence about foreign markets, and tracking deliveries overseas are also significant barriers challenging cross-border e-commerce businesses.

## **Service Challenges**

Regarding service challenges, the managers of cross-border e-commerce need to confirm that they can provide proper customer service to deal with the issues of payment, return policy, multi-currency conversion, insurance policy, simplicity, transparency, and transaction security. Other elements of customer service include ensuring enhanced website performance, providing multilingual website content delivery, binding m-commerce apps, delivering flawless logistics, and offering quick delivery service. Additionally, other likely business challenges that the sellers might face are opening multichannel for distribution by understanding the consumer and cultural needs abroad.

## **Infrastructure Challenges**

It is found that having superior infrastructures such as inducting technology, integrating flexible payment options, and ability to scale on demand are significant for addressing the barriers in cross-border e-commerce business. As the European countries have taken necessary policy steps earlier with regard to developing these infrastructures, consequently the cross-border e-commerce businesses in countries in North America, the European Union and China are also well-established.

## **Buyers' Perspective**

From the buyers' perspective, research shows that the most frequent problems that cross-border online buyers face are complicated marked price, clumsy payment systems, poor delivery tracking and shipping, difficult returns, mistrust of the website security and foreign retailers, high conversion currency rate and refund policy, and poor customer service (Pei et al., 2016). Fraud is also one of the biggest challenges that buyers anticipate when implementing a cross-border e-commerce strategy. Further, it is also an important challenge when disputes arise between buyers and sellers, that they then are resolved following the correct terms and conditions, consumer rights and in an ethical manner (Bae, 2016). Often high litigation costs are associated with challenges for both the buyers and sellers. Thus, managers of cross-border e-commerce need to prioritize addressing these issues.

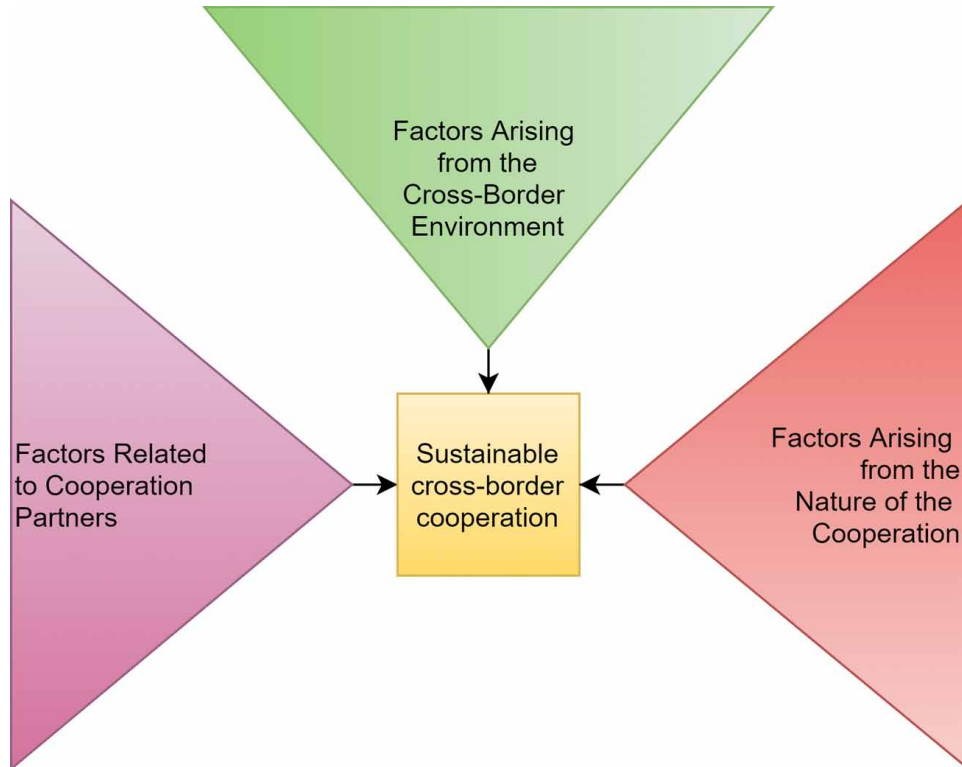
## **Sustainable Cross-Border Cooperation**

In the ecosystem of cross-border e-commerce, many changing aspects can simultaneously boost or block the growth of cross-border e-commerce. Many dynamics determine the efficiency, certainty, and simplicity of cross-border e-commerce operations. To prevent blocking effects and to reap the benefits of boosting effects, managers of cross-border e-commerce require cooperation from the multiple parties to ensure business sustainability. The major factors that influence sustainable cooperation are discussed below.

## **Factors in Sustainable Cross-Border Cooperation**

Kurowska-Pysz and Szczepanska-Woszczyzna (2017) have shown (Figure 5) that sustainable cross-border cooperation is achieved when factors regarding the 1) cooperation partners (e.g., having common value and tolerance), 2) nature of cooperation (e.g., standards and best practices), and 3) cross-border environment (e.g., cooperation at national, regional and local levels) are addressed properly. However, these

Figure 5. Factors influencing sustainable cross-border cooperation (Kurowska-Pysz & Szczepańska-Woszczyzna, 2017)



models and theories might not be equally applicable in all cross-border e-commerce business context, and hence, may require mediation considering the different context.

## Regional Cooperation

Regional cooperation, cross-border region building, and regional integration processes are significant determinates of the sustainability of cross-border e-commerce businesses. For instance, the European Union has developed a holistic approach by formulating various policies to ensure comparatively fewer barriers exist for sustainable cooperation for online cross-border trading. Yet, a report by the European Union in 2014 shows that nearly half of the cross-border shipment in Europe failed because of various types of barriers (Cardona & Martens, 2014). Also, China's "Belt and Road" project is the biggest example of cross-border region building that can foster sustainable cooperation. While finding ways for sustainable regional cooperation, the affinity and geographical proximity of the country greatly influences the sustainability of the cooperation.

## Inter-Organizational Cooperation

Apart from regional cooperation, inter-organizational cooperation has a crucial influence on the sustainable cooperation. At this level, cross-border e-commerce businesses and government organizations are

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mutually involved providing complementary assistance and activities to achieve their goals. By ensuring timely coordination with corresponding private and government organizations, managers can achieve sustainable cooperation.

### **CURRENT STATUS OF CROSS-BORDER E-COMMERCE**

After the emergence of the global economy in the 1950s growing on the concept of 'Trading Beyond Border', both the globalization and internet connectivity in the 2000s have caused the paradigm shift in the business of cross-border e-commerce in terms of growth, innovation, and adoptions. At present, the growth of cross-border e-commerce is very fast and it is expected to reach more than USD 1 trillion (Rapyd, 2019) and USD 3.5 trillion soon (Mohsin, 2020). Beside virtual product and services trading through cross-border e-commerce platforms, the percentage of shipment of physical goods is also increasing and predicted to reach 20 percent by 2022 (Kaplan, 2019). The major categories of physical products that are sold through cross-border e-commerce are mobile and accessories, toys and gaming gadgets, clothing and accessories, and beauty products. Because of the significant profit margin that the cross-border e-commerce business potentially generates, the value of worldwide e-commerce transactions has increased greatly. For example, the percentage of cross-border e-commerce transactions in China for cross-border e-commerce transactions worldwide has increased from 1 percent to about 40 percent in the last decade (Wan, 2018).

In European countries, Amazon (23%) is the most used e-commerce platform for cross-border shopping, followed by Alibaba (16%) and eBay (14%) (Ecommerce News, 2019). Overall, China is the most popular cross-border shopping destination in Europe, accounting for 38 percent of the total cross-border shopping (Ecommerce News, 2019). The consumers in Europe use more e-commerce platforms for cross-border trading, especially the consumers from the smaller European countries like Sweden and Spain who find that cross-border trading preferable (Shiptimize, 2018). In Austria, there is an increase of more than 70 percent online consumers who shop both domestically and cross-border (Dunne, 2018). In France, closely 50 percent of the French consumers buy from cross border merchants (Dunne, 2018). As per the current report, cross-border trading accounts for around 23 percent of e-commerce in Europe (Ecommerce News, 2019). In the year 2018, the total turnover of cross-border trading in Europe was nearly 95 billion euros, within which about 36 billion euros was made by using the top 500 cross-border e-commerce platforms. In the future, as it is predicted by the UK's Industry Association for Online Retail (IMRG), 30 percent of the total online trading globally will be cross-border trading by 2020 (Thain & Skey, 2015). Table 4 shows the percentage of cross-border trading in different countries as of 2018 (Statista, 2018).

In the Asia Pacific countries, China has the biggest cross-border shopping where the industry is immensely supported by the Chinese government through the means of provision of capital support for building infrastructure to facilitate and scale logistics for cross-border operations (Yang & Shen, 2015). The Chinese government has also facilitated the growth of cross-border e-commerce by building many new free trade zones and by supporting activities related to cross-border e-commerce supervision, payment, settlement, and implementation. Now cross-border e-commerce has become a major way to exploit the international e-commerce market outside China (Liu, 2015). In China, the growth of the social economy has paved the way to grow the cross-border e-commerce nationwide. The major strengths supporting the fast development of cross-border e-commerce industry in China were the superior market base

developed by access to fast internet by a large number of Chinese internet users and strong demand for Chinese goods by the SMEs around the world due to the speed and large scale manufacturing capacity by Chinese companies (Xie, 2017). Table 5 shows the shares of the Chinese cross-border e-commerce companies (Wan, 2018). It is forecasted that the share of Chinese cross-border e-commerce companies will multiply once the county implements its mega “Belt and Road” project encircling about 65 countries around the world.

*Table 4. Percentage of cross-border trading in different countries*

Countries	Cross-border trading (%)	Countries	Cross-border trading (%)
Ireland	19%	Sweden	8%
Belgium	16%	Poland	8%
Israel	16%	Brazil	8%
Russia	14%	Argentina	8%
Singapore	14%	Australia	8%
Hong Kong	13%	United States	7%
Hungary	12%	Spain	7%
UAE	12%	India	7%
South Africa	12%	China	7%
Norway	10%	Czech Republic	6%
Austria	10%	Germany	5%
Greece	10%	Philippines	5%
Mexico	10%	UK	4%
Italy	9%	France	4%
Netherlands	9%	Japan	1%
Canada	8%		

Currently China is the number 1 cross-border e-commerce market in the world and it is deemed a role model for simplifying the trade operations related to cross-border e-commerce (Eusme, 2019). The volume of cross-border e-commerce in China is growing at around 30 percent annually. In 2018, the cross-border e-commerce market of China was close to USD 1.2 trillion (8.8 trillion Yuan) in which nearly 20 percent of the market share was related to importing (Wan, 2018). China imported USD 96.98 billion worth of products and services in the same year through cross-border e-commerce platforms. One of the major reasons for such a large increase in cross-border e-commerce import in China is the rise of the income of the Chinese people in general. There the major class of cross-border e-commerce consumers belongs to the generation of people born in the 1980s and 90s from middle-class families. However, it is reported that the volume of cross-border e-commerce is yet to reach its maximum level because of various foreign-trade related legal restrictions and credit risk in cross-border payments (Ecommerce China, 2019).

In Middle Eastern countries like Saudi Araba, a survey shows that nearly 80 percent of the online consumers are buying from China, Germany, and the United States. For the other countries in that region,

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Table 5. Percentage of the market share of the Chinese cross-border e-commerce companies

Companies	Market share (%)	Companies	Market share (%)
Tmall Global	25%	VIP Global	9.20%
Kaola	27.5%	Xiaohingshu	6.50%
JD Global	13%	Others	18.80%

the percentages of consumers (Asendia, 2019) who do cross-border online trading are shown in Table 6. Most of the online cross-border buying occurs by the very young e-commerce users who are mostly under the age of 30, and the most common categories of products are clothing, electronics, cosmetics, jewelry and baby and children products. In Middle East, the most popular e-commerce sites for cross-border shopping are Alibaba, Amazon, and eBay (Cifnews, 2019).

Table 6. Percentage of consumers who do cross-border online shopping in the Middle East region

Countries	Online shoppers (%)	Countries	Online shoppers (%)
Saudi Arabia	79.9%	Israel	64%
Qatar	67%	UAE	60%

In the South-Eastern countries, Malaysia is considered a very lucrative market for cross-border e-commerce because of its higher per capita online purchase which is USD 127 yearly (Price, 2019). Indonesia is also a very lucrative market that imported about USD 17 billion through cross-border e-commerce platforms in 2018 (The Jakarta Post, 2019). In comparison to Malaysia and Indonesia, Singapore is more export-oriented through cross-border e-commerce where nearly 72 percent of the e-commerce companies are involved in cross-border exporting (Finextra, 2019). In South Asian countries, like in India, only 2 percent buy online because of limited infrastructure and urbanization across the country. This is a reason that China shares only 2.3 percent of its cross-border e-commerce with India despite being a big neighbor (The Paypers, 2018). Similarly, Pakistan also has a lack of infrastructure, mainly connectivity and IT backbone, as the biggest hurdle in expanding cross-border e-commerce expansion (Haider, 2019).

When comparing the most preferred devices used to access cross-border e-commerce platforms, an Australian survey shows (Table 7) their respective percentages (Winklbauer, 2018). Table 7 shows that the laptop is the most preferred devices (34%) to access cross-border e-commerce platforms, followed by desktop (30%), smartphones (24%) and tablet devices (8%). Similarly, the most commonly used payment methods used on cross-border e-commerce platforms are shown in Table 8. Likewise, Table 8 shows that PayPal and Alipay together account for 39 percent of the payments, followed by credit card (28%), debit card (15%) and bank transfer (5%). Table 9 shows the types of products that are mostly purchased on cross-border e-commerce platforms. It shows that clothing, footwear and apparel (30%) are the most commonly purchased types of products, followed by electronic devices (19%), and health and beauty products (14). Finally, Table 10 shows the most commonly used E-retailers, which are respectively Amazon.com (25%), eBay.com (18%), and Alibaba.com (14%).

*Table 7. Percentage of the most preferred devices used to access on cross-border e-commerce platforms*

Device used	Percentage (%)	Device used	Percentage (%)
Laptop	34%	Smart Phones	24%
Desktop	30%	Tablet Device	8%

*Table 8. Percentage of the most commonly used payment methods on cross-border e-commerce platforms*

Payment method	Percentage (%)	Payment method	Percentage (%)
PayPal, Alipay	39%	Debit Card	15%
Credit Card	28%	Bank Transfer	5%

## **FUTURE TRENDS IN CROSS-BORDER E-COMMERCE**

The most noticeable future trends in the context of cross-border e-commerce are product and target customer diversification (Yang & Shen, 2015). For example, initially, the Chinese cross-border e-commerce businesses would focus on the European and American markets, it was not until later that they targeted Indian, Southeast Asian, Eastern European, Middle Eastern, African, and South American countries because of digitalization, the surge in demand, and change in trend in online shopping behavior. In the same way, the diversity in cross-border e-commerce selling items has immensely increased as a result of change in demand and trend. Diversified, niche and custom offers are increasing with regards to the physical products like clothing, cosmetics, jewelry, computer accessories, electronic devices, wearable gadgets, food and medicine items, home decorations and ceramics, spare parts for cars and other types of machinery, and even the virtual products like audiovisual content. Apart from the diversity in product types, diversity in the sales offer like discount-driven e-commerce is also increasing. It is reported

*Table 9. Percentage of the most common types of products purchased in cross-border e-commerce*

Product type	Percentage (%)	Product type	Percentage (%)
Clothing, footwear, and apparel	30%	Sports and Leisure	9%
Electronic devices	19%	Toys	8%
Health and Beauty	14%	Home and Garden	8%
Books, Music, and Media	10%	Computers	7%
Jewelry and Watch	10%	Household appliances	6%

*Table 10. Percentage of the use of the most common cross-border e-commerce websites by users*

E-retailer	Percentage (%)	E-retailer	Percentage (%)
Amazon.com	25%	Alibaba.com	14%
eBay.com	18%	Others	31%



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that the increase in growth in the North America cross-border e-commerce market is highly driven by discount offers (IPC, 2016).

The surge in the understanding of localization among the cross-border e-commerce managers has led to the competition for gaining insight into local customs and cultures before offering products and delivery services. The localization includes payment options in local currencies. Besides localization, there is also a surge of digitally native vertical brands (DNVBs). Unlike regular e-commerce brands, the DNVBs control their own distribution through sourcing products directly from the producers and selling directly to respective consumers, for instance, the Italian luxury footwear brand M.Gemi. The strategy of DNVB allows greater profit margin for e-commerce businesses and makes a significant impact on consumers as the vertically integrated brands direct and maintain all the processes like designing, customizing and distributing of products until they extend from the manufacturers to the consumers' possession. In cross-border e-commerce business, the rapid change in the landscape of the consumers worldwide has made the business managers adopt strategies like DNVBs to quickly fulfill consumer demands (Zugmayer, 2018). However, managers need to identify barriers like cross-border logistics and cultural difference and other favorable factors to conduct adequate market research. Also, the acquisition cost of the customer of DNVBs is very high. This has initiated the emergence of another business model known as the 'subscription model'. This offers convenience to their customers by delivering their goods directly and regularly to customers' doors. Another trend in cross-border e-commerce is the time-definite delivery of the goods where the consumers are willing to pay for extra shipping costs if the speed of delivery increases. Premium shipping is the most preferred way of time-definite delivery and offering premium shipping leads to higher growth and competitive advantage.

When it comes to new technology adoption, cross-border e-commerce platforms are using various tools powered by artificial intelligence (AI) technology for market and consumer research, and are tracking the trends by e-commerce analytics (Li, 2018). Such AI tools can be seamlessly integrated with the e-commerce platforms to provide a personalized shopping experience by identifying consumers' preferences. AI integration helps in reliable automation in suggesting preferred tailor-made products and specific sales offers according to the consumers' sentiment, buying history and demography using a process called neural machine translation (NMT). It helps to cluster and classify products and offers from the long lists and predict whether a consumer would purchase it. As the capacity of computing has increased vastly over the last decade, the use of big data analysis is being widely adopted by the cross-border e-commerce companies to utilize the tremendous amount of rich and insightful data for generating meaningful information (Tao & Zhang, 2016). For instance, the use of big data analysis to build cross-border e-commerce credit evaluation indexes and to analyze consumers' sentiment based on the user-generated data in form of texts, audio, and video on social media. Additionally, suppliers are increasingly using technology like Blockchain as a state-of-the-art solution for cross-border e-commerce logistic and freight management by tracing products and recording digital transactions to prevent fraudulent actions (Liu & Li, 2019). In adopting Blockchain technology, Alibaba is considered to rank at the top as the first in the rank (Ledger Insights, 2020). It is forecasted that the application of Blockchain might track goods and services worth nearly USD 2 trillion across the world by 2023 (Chang et al., 2019). Furthermore, when it comes specifically to mobile technology, the amount of m-commerce transactions is likely to exceed the amount to e-commerce globally. It implies that cross-border e-commerce websites are also launching mobile apps to meet the demand for m-commerce. It is reported that the percentage of cross-border e-commerce orders from the mobile device was 23 percent in 2017 and 33 percent in 2018 (Skeldon, 2019).

The other trends that are noticeable in the cross-border e-commerce are ‘service competition’ to provide custom, fast and convenient services to international customers through supply chain optimization and ‘one-stop service’ to fulfill a wide range of demands of consumers (Trans Cosmos, 2019). While the ‘service competition’ is meant for going beyond just product quality, the ‘one-stop service’ is meant for going beyond product selling and integrate the services such as payment processing, providing customer services, customs clearance support, refund and return processing and delivery tracking, all from a single e-commerce platform. There is a shift in competition among the cross-border e-commerce businesses vying more for service competition rather than product competition. In such competition, Amazon and Alibaba are the most celebrated cross-border e-commerce platforms that led to the adoption of these trends. There is an upward trend of providing ‘omni-channel’ consumer experience by making the cross-border e-commerce platforms available to consumers in every possible way such as in the smart-phones, smart-TV, and Tablet devices. The main objective for the cross-border e-commerce businesses to follow an omni-channel strategy reach consumers anywhere on the globe with full potential (Nothlichs, 2016).

Generally, consumer demand determines the trades and trends but uncertainty can bring disruption in the system. For instance, although the pandemic attack of Coronavirus in 2020 has led to an overall plummet in the demand for foreign products and an insufficient distribution of resources for logistic operations but an increase in the demand for emergency medical supplies from abroad as reported by Alibaba.com (Digital Commerce, 2020). In the crisis situation like a pandemic incident, digital technology such as cross-border e-commerce platforms can help the business to sell and distribute medical products in a safer way while enabling them to engage with their customers remotely and help reduce the risks of infections. However, to cope with logistic issues in this situation, there is a need for diversified logistic and distribution channels and preparations for foreign warehouses (Fan Feifei, 2020).

## **CONCLUSION**

This chapter has highlighted a wide range of prospects, aspects, and factors with regard to cross-border e-commerce worldwide that can guide the decision making of managers. The chapter discusses the most pertinent topics from recent literature and studies that provide contemporary knowledge and implications to managers of cross-border e-commerce. The major managerial implications are 1) understanding the target market’s demand, norm, culture, and trends, 2) analyzing the customers’ needs and perspectives in the target markets, 3) compliance with the regulations, both home and abroad. It is obvious that the most fundamental reasons that motivate the consumers to choose cross-border online shopping are better availability of products and brands, trust and attractive selling offers at a lower price. Offering attractive deals not only help convince overseas consumers to buy but also give a competitive advantage to the business. Also, it is challenging and significant that sellers consider the consumers’ trust in their value proposition. On the other hand, it is found that while cross-border e-commerce is a norm in developed countries such as in the European Union, it is rather an emerging way of shopping in developing countries like in India. In contrast, the poor countries in the other parts of the world can barely have the required infrastructure and requisite policies to support convenient cross-border e-commerce trade.

By understanding the dynamics, determinants, challenges and barriers associated with cross-border e-commerce, business managers should assess several considerations within the purview of their business planning to avoid loss. Two examples are, measuring product demand against global supply to avoid loss caused by the overwhelmed supply of any specific product, and searching for a competitive gap to

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enter into the emerging markets to increase market share. Furthermore, managers should localize their product by various means such as translating the product descriptions in the local language, creating a local distribution presence, gaining local customer support and offering product prices in the local currency. At the government level, stronger regional integration through harmonized legislation, custom regulation, and logistic support is an essential component to reduce the costs for traders and consumers.

To enter into a cross-border e-commerce business, a manager would be required to follow a series of steps such as investing in market research, complying with the laws and regulation in the target markets, localization to break the language and cultural barriers, offer continent payment methods, and partnering with shipping companies (Pedersen, 2019). The managers should bear in their mind that if the related infrastructure does not continue to develop as per the requirement, the cross-border online shopping will not grow at a sustainable rate. For this, they should follow a proactive and holistic approach to ensure uninterrupted connections and harmonized inter-dependencies among the stakeholders across the whole cross border logistic chain (Triangle, 2012).

Finally, cross-border e-commerce is a fast-growing sector that is affected by both known and unpredictable factors (e.g., pandemic). As a result, the managers of cross-border e-commerce must have the knowledge base of these factors in addition to clear strategies addressing the related challenges, adopting new technology, following the trends, and pushing the respective governments and stakeholders for regional and global integration and economic cooperation. In future, more research needs to be conducted to increase our understanding of increasing consumers' experience by using newer technologies (e.g., AI), and how to ensure secure, reliable and seamless logistic operations by using technology like Blockchain.

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## **KEY TERMS AND DEFINITIONS**

**Blockchain:** Blockchain is a state-of-the-art solution saving the growing list of records of any online activity or action as pieces of blocks using cryptography.

**Cross-Border E-Commerce:** A process of online trading between seller party and consumer party where the parties reside in different countries.

**Digitally Native Vertical Brands:** A strategy followed by e-commerce businesses to control their own product distribution through sourcing products directly from the producers and selling directly to the respective consumers.

**Localization:** A strategy to give international buyers an online shopping experience that is not different from their normal native experience.

**Omni-Channel:** A strategy to allow the consumers to shop online from a mobile device, or a laptop or in a brick-and-mortar store from anywhere in the globe.

## Chapter 2

# Technologies for Cross– Border E–Commerce

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### **ABSTRACT**

*Given deregulation and advances in technology worldwide, cross-border e-commerce is the next move for any business venture regardless of its size. From corner shops to giant multinational organizations, every business venture is now addressing the online demand of customers at home and abroad. Many developed and emerging countries have already been rallying for a transparent and sustainable online business environment to achieve the full potential of cross-border e-commerce. This chapter describes the technologies that enable cross-border e-commerce.*

### **INTRODUCTION**

Cross-border e-commerce (CBEC) refers to all parties that use information technology for their digital transactions, such as marketing, services, payment, trading, and other business activities. First, this mode of trade integrates the features of international e-commerce which involves high complexity in the logistics and the capital and information flows. Second, this process involves customs, inspections, quarantines, and foreign exchange which are difficult to maintain in terms of payment, legal clearance,

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and taxes. Third, unseen risks are associated with the international economic collaboration, geo-political environment, and national policies. The above aspects are observed in all sizes of business.

Till today, small businesses are preoccupied with whether they would lose their local customers to international chains as the economy globalized. A branch of research has revealed the drawbacks to small businesses of globalization. However, those days are over now. Small businesses can no longer remain local. With the advent of e-commerce, international payment methods, and advanced supply chains, the fate of local business has flipped. With a potential worldwide customer base of more than seven billion, businesses of all sizes can operate in the global market and offer their products through CBEC.

CBEC is the latest version of globalization. As with all versions, the purpose is integration, exchange, and communication across national borders and cultures. CBEC shortens the distance between global buyers and sellers using state-of-the-art information and communication technology (ICT). Elani Chang, the president of Amazon China, says CBEC is allowing Chinese people to connect to producers from other countries and sell their own products worldwide. The United Nations reports that the average annual growth of Chinese CBEC is 33.1 percent.<sup>1</sup> Many countries in developed and emerging economies have reported similar growth in CBEC.<sup>2</sup> Studies examining countries' performances before and after the global financial crisis of 2008 and examining e-commerce during the recovery have even found that e-commerce has been more stable than before the financial recession period (Martin & Isozaki, 2013; Savrul & Kılıç, 2011).

Customers are attracted to CBEC by the wide product assortments and competitive pricing. Though the potential of CBEC has been skyrocketing, both online business-to-customer (B2C) and offline business-to-business (B2B) activities share the concern of distance factors- as such supply chain management. The advent of the internet may have threatened the "death of distance" (Cairncross, 1997). Yet cross-border distance presents challenges to online trading no less than to offline trading (Lendle, Olarreaga, Schropp, & Vézina, 2016).

For conducting CBEC, it is necessary to ensure the presence of internet as well as online service providers (Giuffrida, Mangiaracina, Perego, & Tumino, 2019; Qi, Chan, Hu, & Li, 2020). Every CBEC transaction is made over the internet (through a company's own website or a third-party online platform), so firms do not need physical presence in the host market. For example, HM.com can provide its items directly from the warehouse in London to H&M customers in Malaysia. In China, CBEC is growing exponentially (Qi et al., 2020). A 2016 report showed that China's CBEC had reached RMB 6.7 trillion, an increase of 31.6 percent compared with the previous year. At the development stage, the main purpose is to cultivate businesses along with online platforms, which is why various cross-border platforms (for example, Wish.com, Vip.com, Mia.com) build robust ecosystems with the assistance of several service providers (Xu, 2017a).

CBEC is playing a significant role in supporting online platforms and technology-oriented services that are transforming traditional trade into international trade and enhancing economies (Xu, 2017a). At the initial stage of CBEC, customers purchase overseas products via lengthy supply chains. CBEC shortens lengthy supply chains thereby reducing customer waiting times (Xu, 2017b).

## DIFFERENCES BETWEEN THE OLD ECONOMY AND THE CBEC ECONOMY

CBEC differs from the old economy in many ways. Aktan and Vural (2004) note key elements of economies that may change during technological revolutions. In table 1 I take those elements and use them to portray the economy in the age of CBEC.

*Table 1. Differences between old economy and CBEC economy*

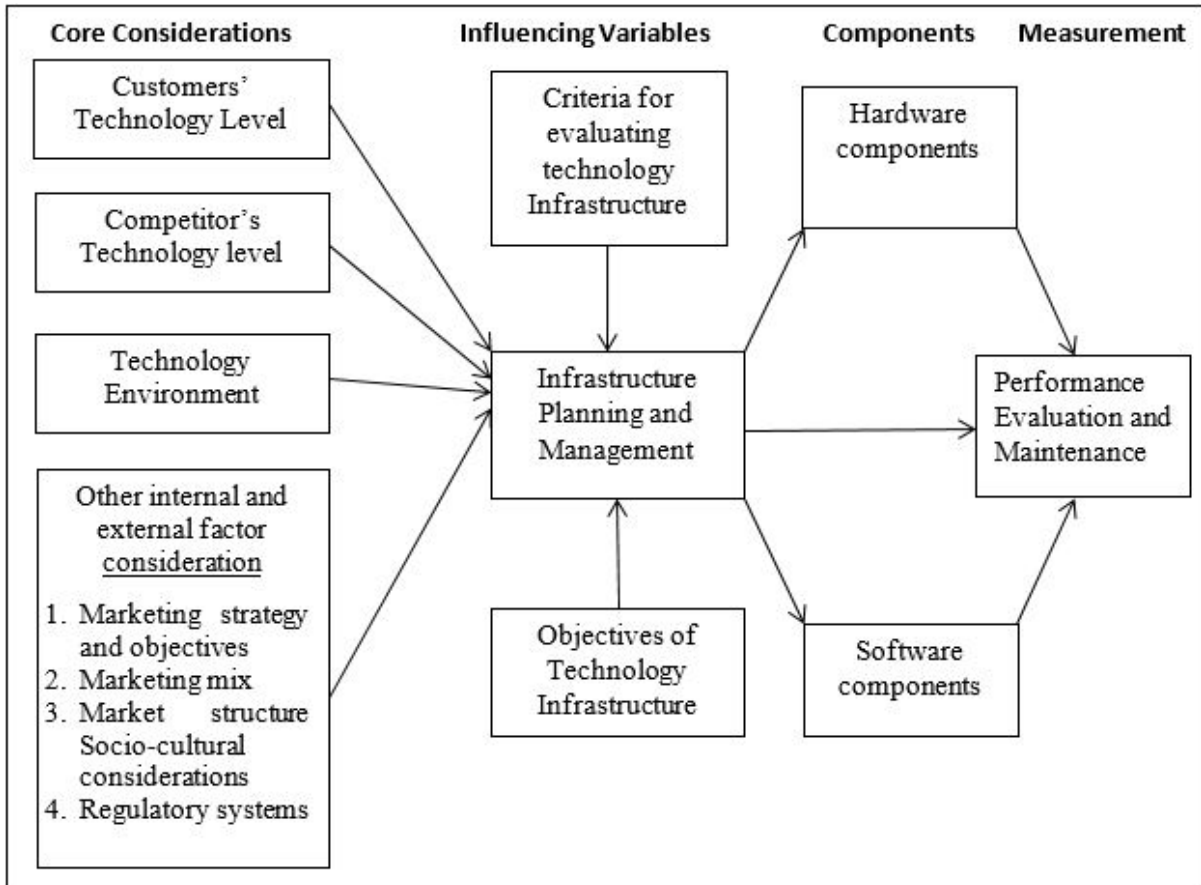
Element of change (Aktan & Vural, 2004)	Economy (Aktan & Vural, 2004)	Economy with CBEC (authors' comment)
Production and competition	Nationally mass production	Flexible and global support
Organizational structure	Bureaucratic	Supportive networking
Growth factor	Land, labor, and capital	Apart from these, innovation, and information
Technology factor	Mechanization	Information and Technology management
Research and development	Low, economics of scale	Highly sensitive to innovation
Industry relation and integration	Acting along	Very competitive but professionally supportive with non-industry peers
Country regulation	Highly regulated	Free trades are welcome and less regulation
Employment nature	Stable and non-expert to any knowledge	Very unstable and required an expert knowledge
Industry structure	Agriculture and industry focus for mass production	High-tech involvement in any sector

Four types of parties are involved in CBEC operations: organizations, customers, citizens, and governments (Chaffey, Hemphill, & Edmundson-Bird, 2019; Savrul & Kılıç, 2011). These parties often integrate to attain various benefits. There are several types of CBEC business models: B2B, B2C, consumer-to-consumer (C2C), business-to-government, consumer-to-business, peer-to-peer, and others (Chaffey et al., 2019).

## CBEC INFRASTRUCTURE PLANNING AND MANAGEMENT

The widespread diffusion of advanced technology fueled by ongoing globalization has created opportunities for e-commerce marketers to tap into international markets by reducing marketing and administration overhead. The combination of internet connections, electronic data interchange (EDI), automated data-collection systems, social media, and mobile devices has fueled the growth of CBEC. CBEC infrastructure comprises two types of platforms: trading platforms and information-services platforms. To develop effective technology infrastructures for CBEC, marketers need to consider customers' and competitors' level of technology, the level of technology available in the market, and other internal and external factors such as marketing strategy and objectives. The evaluation criteria and objectives of the technology infrastructure influence the infrastructure planning and management. Finally, companies select and incorporate required hardware and software components into the technology infrastructure

Figure 1. Infrastructure planning and management model



and measure the performance of the adopted technology in order to support future maintenance and renovation. Figure 1 portrays the components of CBEC infrastructure planning and management.

### Objectives for E-commerce Technology Infrastructure

CBEC has become the magic word in the era of web development and internet-driven innovations. It crosses the boundaries between countries and accelerates global economic growth. To ensure efficient and effective operationalization of e-commerce business ventures, companies need to be concerned about how to develop e-commerce infrastructure and why. Companies develop e-commerce infrastructure with three critical objectives:

1. **Building scalable infrastructure:** Companies are always focused on efficiently operationalizing themselves. In comparison to brick-and-mortar businesses, CBEC companies face a thousand times more competitors. A scalable business model that has open, distributed, and safe infrastructure ensures provisions for future goods.

2. **Customer-oriented value creation:** Correctly chosen CBEC infrastructure creates customer value and increases the efficiency of the delivery of content and market offerings to customers. The prudent selection of infrastructure framework eventually enables companies to execute strategies for fulfilling customers' demands efficiently and for increasing their revenue.
3. **Ensuring the venture's sustainability:** The technology environment is very volatile. Companies need to define the right business model to ensure that they, in tandem with the information technology infrastructure, are sustainable. A correctly chosen technology framework strengthens multilateral economic cooperation and helps ensure optimal use of allocated resources and, in turn, efficient business operations and customer loyalty.

## **Criteria for Selecting a Technology**

Companies need to choose the right technology infrastructure to efficiently operationalize their business model and to maximize their revenue. Some criteria are available for selecting the right technology for a CBEC business model:

1. **Flexibility:** Flexibility means the e-commerce environment should be easy for all users to manage and should quickly respond to changing customer requirements. Companies must be able to adapt new technologies to larger scale.
2. **Usability and reliability:** Consistency in product delivery and service provision is another important evaluation parameter when choosing a technology infrastructure. Customers using e-commerce platforms seek uniform service provision. When any service fails, it frustrates them and causes them to trust the company less. The adopted technology should be consistent with customers' technology level to ensure it is usable.
3. **Scalability:** The CBEC technology infrastructure should be scalable not only technologically but also in terms of traffic and human resource (HR) management. The system must not collapse or slow down when companies provide additional services or at peak turnover time. To ensure scalability, companies need to stay up-to-date by adding new technologies and services.
4. **Security and compliance:** E-commerce technology infrastructure is vulnerable to hackers, malware, security attacks, and more. It must allow firewalls and paid security services to protect from those attacks. Moreover, the technology structure needs to comply with industry- and firm-specific regulations. The privacy of customers should also be considered.
5. **Scope, performance, and management:** Companies selecting a technology framework for their CBEC ventures also need to consider factors such as how to control, monitor, and individualize different web interfaces. They also need to consider how to fulfill specific requirements and skills of company personnel and customers.
6. **Costs:** Developing and maintaining CBEC technology infrastructure incurs several costs—from hardware, software, and license acquisition to server maintenance. Companies should consider those costs and CBEC infrastructure policies before adopting a technology.

## **Hardware and Software Requirements**

CBEC adapts technologies to ensure the overall efficiency of an organization. The infrastructure of a business venture makes that business stand out in this highly competitive market. The CBEC infrastructure

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identifies some hardware and software components along with their functionalities. Table 3 highlights the hardware and software components required for a CBEC venture.

### **Hardware Components**

Hardware allows companies and customers to connect to the network and access the outside world. With it, they can store data and use it or retrieve it when needed. Three types of hardware components are required to operationalize CBEC infrastructure: information repositories, information security, and devices.

#### ***Information Repository***

An information repository comprises three kinds of components: servers, proxy servers, and load-balancing systems. A server is a computer program or device that stores and delivers content and other information to another connected device over the internet. For a web server, three components are required: the hardware device, operating system, and web-server software. The server's space requirement depends on purpose of the company undertaking e-commerce and, on the business's operational needs. A dedicated server helps a company get the best results. However, the server can also be a virtual server, Structured Query Language (SQL) server, cloud-hosted server, or local-network server.

A proxy server also stores information, but it also acts as an intermediary between the client and the resource server when the client requests a service. The request from the customers goes to the proxy server first, which evaluates the request, thus reducing the complexity of the resource servers. A proxy server may or may not reside on the user's PC. Proxy servers may be open proxy servers or reverse proxy servers. An open proxy server, open termed a forwarding proxy server, can be accessed by any internet user. A reverse proxy server performs load balancing and decryption. Finally, load-balancing systems distribute workloads among multiple computing devices to improve CBEC operation. They increase scalability by directing traffic among servers and minimizing response latency. Various algorithms can be used for load balancing, among them round robin, least connections, and source IP hash.

#### ***Information Security***

Information security comprises three kinds of components: firewalls, encryption devices, and interactive voice response (IVR) units. A firewall protects a CBEC infrastructure network from outside attackers. It works like the gatekeepers in a shopping center. It screens the traffic, determining who may enter the system. It can also scrutinize data entering and leaving the server. There are three types of firewall: picket-filter firewalls, circuit-level firewalls, and application-gateway firewalls. Picket-filter firewalls use a set of predetermined rules to decide whether particular packages of data are allowed to pass. Circuit-level firewalls also use predetermined rules but have greater functionality as they work in the layer of Open Systems Interconnection (OSI). Finally, the application-gateway firewall works in the application layer of the OSI model.

The success of CBEC depends to some extent on encryption devices because it secures data transmissions and controls data access. Encryption refers to encoding of data using a special algorithm so that it becomes incomprehensible if its transmission is intercepted. It ensures integrity of both company and customer data, and it enhances the reliability of CBEC. Two methods of encryption are widely used in CBEC: Secure Sockets Layer (SSL) and Secure Hypertext Transfer Protocol (S-HTTP). SSL is used at the computer level and S-HTTP at the internet level.

Finally, IVR technology allows computers and customers to interact with each other using voice and dual-tone multi-frequency signaling (DTMF) tones with the help of keypads. It helps operationalize CBEC by handling high call volume and providing services 24/7. Three types of IVR are used in CBEC infrastructure: IVR for self-service, hosted IVR, and agent assisted IVR.

### *Devices*

Devices comprise two types of components: computers and supporting devices. Companies need to choose and install devices according to their financial capability and operational requirements. For CBEC infrastructure to function well, companies need to adopt state-of-the-art devices and continuously renovate and upgrade those devices to keep up with the changing technological landscape. Estimating the number of required devices depends upon the following questions:

- Does the webshop experience high traffic or low traffic?
- How many persons visit the website per day?
- What is the maximum number of simultaneous visitors?
- What is the maximum number of simultaneous orders?
- How complex is the product catalog, and how many products does it offer?
- What is the size of the database?
- What is the number of search queries?

Answers to those questions inform decisions regarding requirements for computers and other devices. A simple CBEC infrastructure with very low traffic and few products may require a CPU of 1.6 GHz, a 4x1.6 GHz database, 4 GB RAM, and 10 GB of database space. According to Appedology, for up to 7,500 users, 200 GB disk space, 8 CPU cores, and 16 GB RAM is enough.

### **Software Components**

Software components of CBEC help companies to streamline business processes relevant to selling products internationally. Choosing the right software improves international sales strategies, increases operational efficiency, and lowers trade risks. Companies must integrate CBEC software with payment gateways and shipping software to complete the business process. Generally, logistics managers are responsible for implementing CBEC software because they manage almost all aspects of a global business including global payments and shipping. For successful implementation of CBEC, three kinds of software are needed: software modules, standards, and web analytics.

#### *Software Modules*

Software modules such as content management systems (CMS), application programming interfaces (APIs), database management systems (DBS), and middleware are required for developing and maintaining CBEC websites. To develop a CBEC website, a business needs a domain, a platform, an integrated payment system, and initial capital. CMS create and manage digital website content. Web content management systems are included in the category. Some of the best CMS include Magento, WooCommerce, Shopify, Prestashop, and OpenCart. APIs are used to share data between applications. They are tools

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Table 2. Hardware and software components for CBEC

Infrastructure overview	Main classifications	Components	Tools	
Software components	Software modules	CMS	Magento WooCommerce Shopify Prestashop OpenCart	
		API	Amazon API Shopify API ebay API WooCommerce API Magento	
		DMS	Oracle Database MS SQL MY SQL IBM BD2 IBM Informix	
		Middleware	Database middleware Application-server middleware Message-oriented middleware Web middleware Transaction-processing monitors	
	Analytics	Web analytics	Google Analytics Spring Metrics Woopra Clicky Mint Chartbeat	
		Text analytics	QDA Miner WordStat SimStat	
		Big data	Big-data analytics	
	Standards	Object oriented	COBRA	
		Communication protocols	https, messaging	
		Database	Open database connectivity (ODBC)	
		Application specific	Common gateway interface (CGI)	
	Hardware components	Information repository	Servers	Virtual server SQL server Cloud-hosted server Local-network server
			Proxy servers	Open proxies Reverse proxies Web-proxy servers SOCKS proxy Transparent proxy CGI proxy Suffix proxy I2P anonymous proxy
Load-balancing systems			Round robin Least connections Source IP hash	
Information security		Firewalls	Packet-filtering firewall Circuit-level gateway Stateful-inspection firewall Application-level gateway (proxy firewall) Next-generation firewall (NGFW)	
		Encryption devices	SSL Transport Layer Security (TLS) S-HTTP	
		IVR units	IVR for self-service Hosted IVR Agent-assisted IVR	
Devices		Computers	PC, laptop, pump top	
		Others	Hubs, routers, data centers	

for building software applications. APIs specify how different software components interact with each other. Among APIs used for CBEC, Amazon API, Shopify API, and eBay API are noteworthy.

That is why companies should focus on designing different databases that can be used in CBEC website development. Some commonly used database designs are Oracle Database, MS SQL, MY SQL, and IBM Informix. Middleware is an intermediate system between the clients and the service providers. It includes communication protocols, data access, specialized servers, or a mix of all of those components. Two computer systems are connected by it. It allows those computer systems to send data from one side to the other. Some commonly used types of middleware are database middleware, application-server middleware, message-oriented middleware, web middleware, and transaction-processing monitors.

### *Analytics*

The environment for CBEC is very competitive as barriers for new entrants are very low. To succeed in the market, companies must analyze their capabilities and capacities. Doing so can improve their overall systems. Analytics tools help companies to assess the real condition of e-commerce sites. They generate reports that are quite similar to business reports with purchasing activity and transaction details. Companies can analyze average order value, order data, transaction data, purchase time, and so on. Companies can make decisions about how to attract more visitors and how to retain existing customers. Three kinds of analytics are commonly used for CBEC: web analytics, text analytics, and big data. Web analytics enables a company to analyze transactions and data on purchases completed through the website. Various tools are used for analyzing web traffic. Among them, Google Analytics, Spring Metrics, Clicky, and Mint are commonly used in CBEC. Text analytics is commonly known as text data mining. It is used for analyzing written communication. Some of the tools that are considered best for analyzing written communication for CBEC are QDA Miner, WordStat, and SimStat. Finally, big-data technology can help a company by predicting the latent trends in the CBEC sector. The greatest advantage of big-data technology is that it can simultaneously analyze structured, unstructured, and semistructured data and provides an integrated result. With the help of big-data technology, a company can understand the purchasing behavior of customers in the context of existing market trends.

### *Standards*

Standards for CBEC may be specific to the object, communication, database, or application. The benefit of object-oriented standards is reusability. Another type of standard is communication protocols. Communication protocols set some kinds of rules that every communication end-point must use to exchange information. Email, internet, EDI software, and other web technologies together with communication protocols enable companies to do business in an e-commerce environment. Such technologies and protocols specify the common packet format for all nodes connected to e-commerce sites. Two commonly used communication protocols are messaging and https. Standards are also required for e-commerce databases. One example of such a database is open database connectivity (ODBC). It allows a business to access all heterogeneous SQL databases using a common interface. It is based on SQL. The main benefit of this database is that it provides maximum interoperability with a common code. Finally, application-specific standards such as common gateway interface (CGI) provide an interface for web servers executing application programs which dynamically generate web pages for different CBEC companies.



## **A Technology Framework for CBEC**

A technology framework for CBEC is a means of synthesizing various resources such as data repository, DBS, computer languages, security layers, communication protocols, and so on in an integrated platform to help operationalize a business venture according to prespecified objectives. Figure 4 visualizes the technology framework of a CBEC venture. Normally, the technology framework for an e-commerce business venture begins with user interfaces, which pass through web servers, application servers, and security layers to reach a database or data repository. The data repository contains different kinds of data, including customer data, order data, transaction data, and product data. Web analytics enhances the volume of real-time data stored on a database. In all the layers of CBEC technology, framework security is strictly maintained. Almost all CBEC architectural frameworks consist of six layers of functionality:

1. Application services
2. Data-transcription and data-management services
3. Interface and support layers
4. Security layers
5. Middleware and document interchange
6. Communication service and network infrastructure

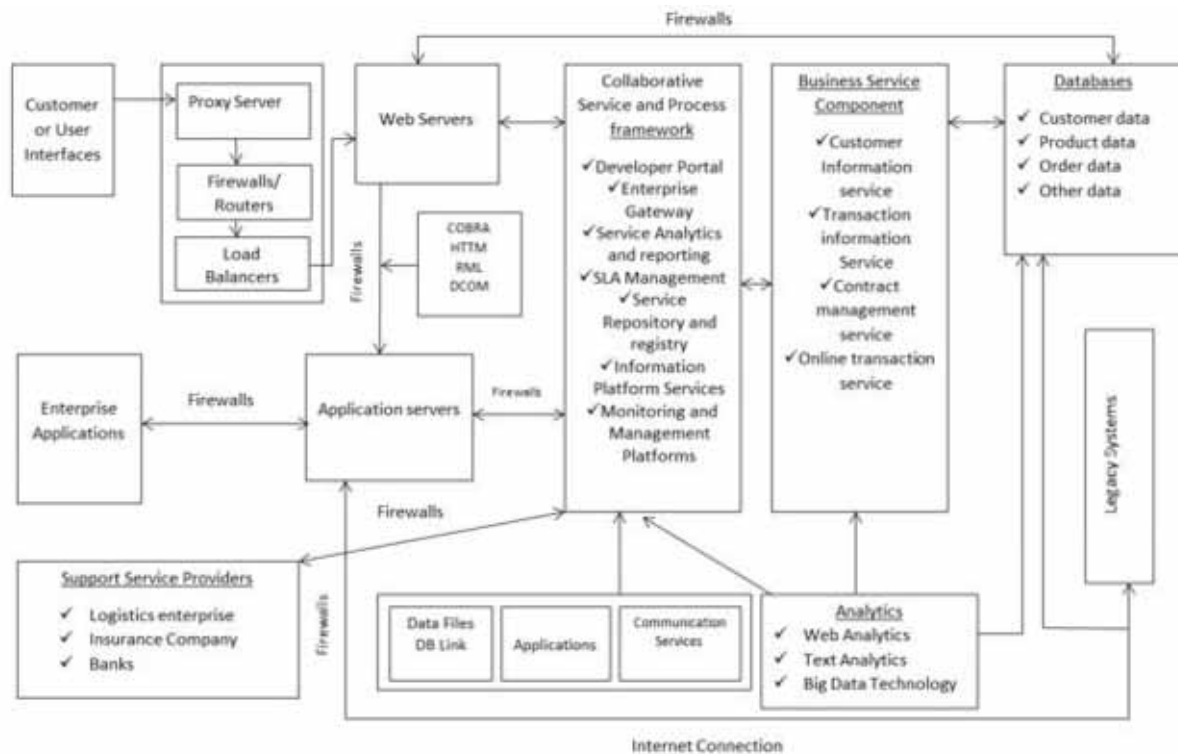
Companies must decide what kind of e-commerce application to implement in application-service layers. The data-transcription and data-management layer works as an intermediary between customers and information providers. It also provides real-time updates about transactions and impressions and facilitates future transactions. An interface layer including such elements as interactive catalogs and directory-support services provides customized information to different users. The main problems of CBEC transactions are privacy and security. To protect privacy and security, companies implement different security layers such as firewalls. Encryption and authentication techniques ensure security, privacy, and confidentiality of users' data. Middleware layers integrate the diversified software programs and improve their interaction. In this case, companies also require following certain standards related to communication protocols, objects, and databases to align with industry practices and avoid regulatory hassles. Finally, to ensure effective and efficient lineage between customers and suppliers, companies develop a prudent network infrastructure.

## **CBEC Technology Infrastructure: Optimization Problem and Solution**

A company needs to carefully consider the design of technology infrastructure because the outcome of operations depends on it. Some CBEC companies, such as Amazon, have reached the peak of success because they have adopted up-to-date customer-oriented technology architecture. Because of its technology architecture and huge product lines, Amazon has been successful in extending its operations to more than eleven countries. Some technological limitations create obstacles to operationalizing CBEC. The limitations are as follows:

- Although various companies are working on issues of CBEC-architecture security, the architecture's security, reliability, communication protocols, and standards still lack stem strength and are vulnerable to hackers and other attackers.

Figure 2. Technology framework of CBEC



- Insufficient telecommunication bandwidth is another problem for successful implementation of CBEC.
- The technology environment is very volatile. Newer and newer software is entering the market, and features of existing software components are changing rapidly.
- Sometimes integrating e-commerce software with existing database and applications is very difficult.
- Companies require special web servers and other infrastructure even after having network servers.
- Incompatibility between hardware and software components and between application software and system software is another major problem.
- Lack of awareness and lack of interest about modern technology hinder CBEC companies from undergoing revolutionary change.
- The digital divide around the world keeps a great many people away from modern technology.
- Technology personnel's lack of skills and expertise and the absence of proper cyber law and cyber brand image decrease the confidence of both customers and marketers.
- The development and maintenance costs of CBEC architecture are high, and the renovation of e-commerce architecture often goes through drastic change.

To overcome those problems, merchants need to provide more-personalized services to clients in addition to providing one-stop shopping and omni-channel delivery systems. Different countries have

## ***Technologies for Cross-Border E-Commerce***

different cultures and traditions. CBEC companies need to take local characteristics into account when designing CBEC technology architecture.

## **ARCHITECTURAL FRAMEWORK AND BUSINESS SIZE FOR CBEC**

The architectural framework of CBEC means the integration of different technologies involved in the exchange of products or services: data depository, software language, communication, DBS, payment agent, international supply chain management, and legal backup. For functionality and operation, the integration of these technologies may take place in different layers. This process differs with the size of operation and level of integration among buyers and merchants and with the nature and policy of governments involved. It is obvious that businesses of different sizes—small, medium, and large enterprises—do not require the same architecture to successfully engage in CBEC.

### **Technologies for Small Firms for CBEC**

Small firms typically do not have many products and much variety of services to offer globally. Thus, they have limited business transactions. However, small business could not engage in CBEC without the support of experts and state-of-the-art technologies. The first part of the solution is for small businesses to look for freelancers on platforms such as Upwork or Fiverr. Second, small businesses must manually check country-specific restrictions on different products since the whole world is not a free trade zone yet. Finally, small businesses must offer scalable technology or a platform for cross-border customers. Many online platforms offer basic features and options for small businesses to operate free of cost. BigCommerce.com, Casengo, MailChimp, and ShipStation are some of the leading ones.

### **Technologies for Medium-Sized Businesses for CBEC**

The global market is saturated with similar products. Hence, businesses seeking to enter the market must carefully and completely examine the cross-border market by analyzing the potential competition and its strategies and what else they can offer. Once they decide to enter, the first step is to recruit the best agents at home or abroad for creative and customized design, customer services, and order processing. Second, once a business has these functionalities, it must merchandise its products by focusing on the target market. Most importantly, merchandising products requires the business to examine the climate, competition, customer trends, and religious sensitivity of the target market. Unlike a small business, a medium-sized business must rely on technological support while preparing to enter foreign market through e-commerce. Major technological supports include email marketing, product-information management, and order processing. Last but not least, medium-sized businesses must have a strong foundation in logistics and shipping.

### **Technologies for Large Enterprises for CBEC**

For enterprises that already have high turnover, engaging in CBEC is necessary to continue to grow. Large enterprises must place a corporate culture within the management practice to respond to any cross-border issues locally and authoritatively. At this stage, incorporating point-of-sale (POS) systems is

very important. They help enterprises to synchronize inventory automatically. Clover, SpringBoard, and Square are commonly used POS systems around the world. Very often enterprises in CBEC emphasize transformative lifestyle. Similarly, enterprises must localize the technology they use for reaching their target market. For example, if one wishes to expand marketing in China, WeChat is a better technology to use to connect with customers than Instagram is. Finally, a transparent, global omni-channel solution is a must for any large enterprise seeking to engage in CBEC.

Regardless of the size of the business, entering CBEC is an expensive decision and time consuming to receive feedback from operations. Hence, a business must undertake a comprehensive analysis of the technologies involved and the entrepreneur must be able to assess trends and risks. Because, little happens quickly.

## **FUTURE TECHNOLOGIES FOR CBEC**

Incredible advancements in technologies have had momentous impacts on CBEC. In this era of continuous change in technology, businesses can never stop developing ways of connecting with customers, making the shopping experience more cost-effective, and empowering customers with delivery to their doorstep. The latest technological trends in CBEC include the following:

- **Omni-channel support:** One new online-shopping trend is cross-channel researching and purchasing. CBEC requires that customers have video-chatting, cobrowsing, screen-sharing, document-interaction, and even digital-signature functions available to them while shopping online.
- **Extensive personalization of product:** Customers in the future will appreciate a product comparing their previous experiences. Their relative judgments have put CBEC in a dynamic and complex direction of making customers happy.
- **Conversational marketing:** Allowing customers to express their preferences in real time through CBEC is now a new trend. Apart from ready-made questions and answers, two-way conversation helps potential customers to learn more about a product. This is made possible by third-party agents or artificial intelligence.
- **Demand-driven forecasting:** Artificial intelligence and big-data technology are now common ways to help a business predict demand for and supply of its product. Anticipatory product design different customized offer and promotion will mostly lead the future CBEC.
- **Artificial intelligence for customer communications:** The use of artificial intelligence in customer support is not a new trend in e-commerce. Common examples are chatbots and virtual assistance. For example, the Starbucks chatbot gives customers details on their order and other matters.
- **Image and voice-recognition search:** Imagine a customer saw a customized chair on a television show. If the customer can take a picture of it and use the picture to search for a similar chair from a company, the customer may be able to act on their preference. Similarly, voice-recognition customer order and conversation are a recent trend in CBEC.
- **Digital supply chain:** Digital optimization of supply chain management through port management (autonomous freight shuttles), inventory management (hack-proof RFID chips), warehouse management, and delivery can ensure customer satisfaction and loyalty.
- **ROBO/ROPO:** Recently, ROBO (research online, buy offline) and ROPO (research online, purchase offline) have been trending.

Other future technologies in CBEC include product visualization, augmented and virtual reality, and big data.

### **DEVELOPMENT STAGES OF CBEC: THE CASE OF CHINA**

The global development of CBEC does not mean all countries are developing at the same time. Countries may reach different stages of CBEC development at different times and different success rates. Despite differences across countries, from the perspective of the industry economic theory cycle there are four common stages of CBEC development for any country (Hongfei, 2017; Ming & Zhongtao, 2017). To illustrate, I present in table 3 the development of CBEC in China along with the development stages.

As in the case of China, the development of CBEC in any country can be measured and highlighted using the four stages of industry economic cycle theory.

### **BUSINESS MODEL IN CBEC**

Notwithstanding the success stories of Amazon, Alibaba, and eBay (Alt & Zimmermann, 2016), recently many cross-border marketplaces have failed because of poor performance (Ahmad, Abu Bakar, Fazi-harudean, & Mohamad Zaki, 2015). For example, in 2016 Metao.com failed in 2016 within only three years of beginning operations. CBEC faces some barriers concerning language, cultural differences, the law, geography, and payments (Terzi, 2011; Turban, Whiteside, King, & Outland, 2017). Earlier research focused on buyers' perspective on CBEC—for instance, their focus on lower product prices (Mou, Cohen, Dou, & Zhang, 2017). Buyers were satisfied with the CBEC marketplace as measured by quality of website, ease of use, security, and other factors (Davis, 1989; Delone & McLean, 2003; Kim, Ferrin, & Rao, 2009; Y. S. Wang, 2008). The problem is one of trust building, a crucial factor (Guo, Bao, Stuart, & Le-Nguyen, 2018). Buyers consider trust along with reputation and word of mouth when making purchasing decisions (for example, (Fong & Burton, 2008). Though only a few studies conducted from the seller's perspective have considered trust and perceived risk, from the buyer's perspective those factors have been considered (Fornell & Larcker, 1981). One exception that focuses on the seller's perspective on e-commerce and the CBEC marketplace is (Huang, 2018), who developed a method for identifying fraudulent merchants.

Based on previous research, Cui, Mou, Cohen, and Liu (2019) develop a business model from the seller's perspective by taking a three-stage sequential multimethod approach and drawing on two popular theories: the valence framework and the system-success model. The system-success model provides a framework for understanding which features are relevant to a system and what the effect of these features is on user behavior (Delone & McLean, 2003). The valence framework shows the variance between perceived benefits and perceived costs. Valences applied this framework on the context of e-commerce and describe user's purpose for maximizing net utility (Peter & Tarpey Sr, 1975). obtain constructs from previous e-commerce research and explore the relationship among such factors as perceived benefit, perceived cost, trust, system quality, intention to use.

Financial benefits, product benefits, strategic benefits, and marketing benefits are variables under the heading of perceived benefits. Another item—buyers' and sellers' perspectives on CBEC—has been added based on earlier research on perceived benefits (Kim et al., 2009). Financial costs, logistic

Table 3. Stages of CBEC

Development stage	Development criteria	Development of CBEC in China
Initial stage	<ul style="list-style-type: none"> <li>• Only a few enterprises begin to integrate their traditional business with the internet to bridge with the international market.</li> <li>• There are few or no regulatory barriers.</li> <li>• Enterprises have very poor customer response rates because the country has few internet users.</li> <li>• The online payment system is very complex and restricted.</li> <li>• Logistics and distribution networks are poor.</li> </ul>	<ul style="list-style-type: none"> <li>• From the inception of the internet in 1994 till 2000, only 5.2% of current e-commerce enterprises' initiated operations in China.</li> <li>• Nanjing Technology Development Company became in 1996 the first chemical company to establish a website. It was a B2B website.</li> <li>• The first C2C e-commerce platform was eBay.</li> <li>• Alibaba, a B2B platform, was established in 1999.</li> <li>• In 2020, the first government office for CBEC—China Electronic Commerce Association—was established.</li> </ul>
Accelerated-development stage	<ul style="list-style-type: none"> <li>• The number of internet users increases exponentially.</li> <li>• The e-commerce industry becomes an important trading channel.</li> <li>• Major foreign investors are attracted by the country's e-commerce potential (go-local strategy).</li> <li>• Governments start to regulate e-commerce activities.</li> </ul>	<ul style="list-style-type: none"> <li>• According to China Internet Network Information Center (CNNIC), by 2007 the number of internet users in China reached 210 million, out of which 46.4 million were online shoppers.</li> <li>• In 2002 eBay bought EachNet and became the first foreign investor in China.</li> <li>• In 2004 Amazon bought Joyo Net for \$75 million.</li> <li>• Alibaba promoted the third-party payment guarantee by launching Alipay.</li> <li>• The Chinese government imposed the Electronic Signature Law of the People's Republic of China, governing online trading platforms in 2004.</li> <li>• In 2004 the first business conference on e-commerce using the C2C model was held in China.</li> </ul>
Standardization stage	<ul style="list-style-type: none"> <li>• All departments of government participate in making policy or promoting short-term and long-term models for integrating e-commerce.</li> <li>• The number of internet users reaches its peak.</li> <li>• CBEC gets higher priority than domestic e-commerce.</li> </ul>	<ul style="list-style-type: none"> <li>• According to CNNIC, the volume of online shopping in China grew to 1.3 trillion yuan in 2012 from 128.15 billion yuan in 2008.</li> <li>• The Ministry of Commerce issued the "e-commerce model specification" and "online shopping service standard" in 2009.</li> <li>• The Ministry of Human Resources and Social Security issued "the Notice on the Entrepreneurship Leadership Program for National University Students."</li> <li>• The General Administration of Quality Supervision, Inspection and Quarantine issued the "e-commerce work product quality improvement action plan."</li> <li>• Many other government departments have adopted CBEC policies.</li> </ul>
Globalization stage	<ul style="list-style-type: none"> <li>• Domestic growth of e-commerce reaches maturity, and CBEC grows steadily.</li> </ul>	<ul style="list-style-type: none"> <li>• In 2014 Alibaba, Jumei, and Jingdong went public in foreign capital markets.</li> </ul>

costs, marketing costs, and product costs are variables under the heading of perceived risk. In the case of perceived cost, overall risk can be considered a measurement variable (Kim et al., 2009). Ease of learning, order management, logistic system, product management, interface, and ease of learning are the variables under the heading of system quality (Y. S. Wang, 2008). Special needs, ability to answer, willingness to help, problem solving, security and privacy, and e-market service are variables under the heading of quality.

Trust is the subjective belief that an entity has to fulfill its obligations on the internet (Delone & McLean, 2003). In the virtual market, it is not possible to interact with the seller, so trust can be obtained

by system quality and service quality (W.-T. Wang, Wang, & Liu, 2016). System quality and service quality are the indicators that constitute trust (Morris, Marshall, & Rainer Jr, 2002).

There are theoretical and practical implications of this business model (Cui et al., 2019). By combining the system-success model and the prevalence framework, we can see that service quality and system quality significantly increase a seller's trust in the perceived benefits of cross-border trade. In this business model, cross-border trade from the seller's perspective has managerial implications also. Firstly, long-term sellers should be focused on improving system quality; at the same time, they need to increase service quality to build trust and enhance subsequent cooperation. Secondly, both cross-border and domestic sellers consider perceived benefits as a strong attractor and plan to recruit sellers.

## **CITIZENS' READINESS FOR CBEC TECHNOLOGY ADOPTION**

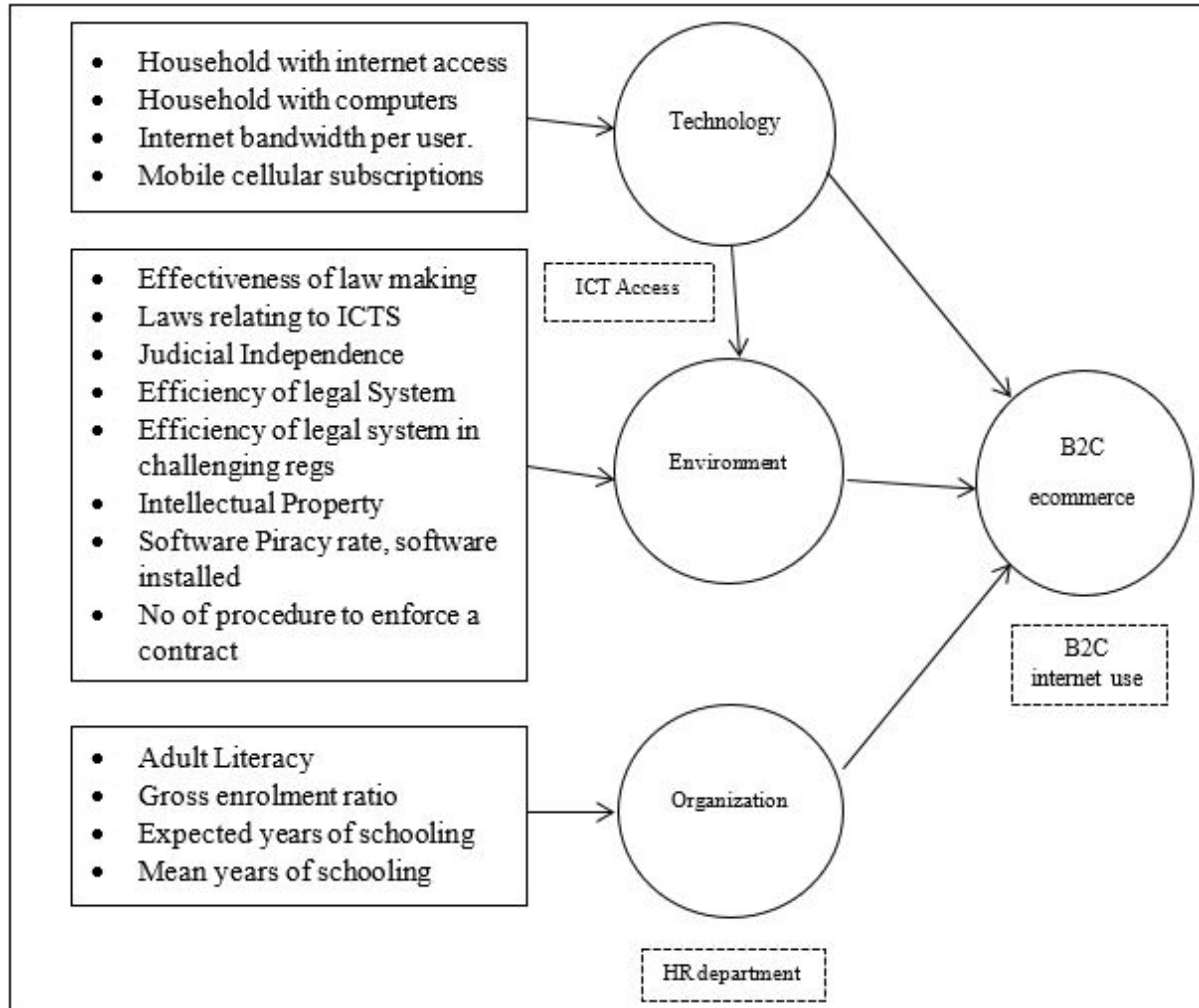
In recent years, many businesses worldwide have given priority to e-commerce (Kang & Kim, 2019). In most cases, companies depend on internet or information technology for business activities such as buying and selling products (Rodríguez-Ardura & Meseguer-Artola, 2010). Europe, Asia, and North America are experiencing growth in online business compared with the rest of the world (Kang & Kim, 2019). E-commerce is categorized by transactions between corporations, customers, and governments (Thatcher, Foster, & Zhu, 2006). Among these categories, B2C transactions especially have got customers' preference (Iddris, 2012). In 2018 about 1.8 billion people—one-seventh of the world—purchased products online (Statista 2019a). It is expected that in 2021 e-commerce retail sales will surge to \$4.88 trillion (Statista 2019b).

A study of Spanish companies on the drivers for B2C e-commerce used the technology-organization-environment (TOE) theoretical model and found technological readiness, ICT usage, government regulations, and scope of firm operation affect the implementation of B2C e-commerce (Kang & Kim, 2019; Rodríguez-Ardura & Meseguer-Artola, 2010). The TOE framework has been adopted in different areas of the field of information systems such as EDI, open systems, and interorganizational systems. The TOE model has been applied to the implementation of CBEC by information-systems scholars. Depietro, Wiarda, and Fleischer (1990) argue that technological, environmental, and organizational contexts influence the procedure for implementing technological innovations in the TOE framework. In this framework, organizations implement technological innovations that are influenced by organizational (features and resources of the organization), technological (equipment, processes), and environmental (the firm's competitors, the size and structure of the firm, the regulatory environment) contexts. Gibbs and Kraemer (2004) explain that technological readiness and environmental factors play important roles in the adoption of CBEC. Technological, environmental, and organizational contexts are discussed in figure 3.

- **Technological Context:** Technological readiness refers to the technology infrastructure of a firm and the application of IT in the HR department; it ensures the availability of technologies to the firm (Oliveira & Martins, 2009). Several studies find that the technological infrastructure of a country greatly influences the implementation of CBEC and also ICT systems (Aljowaidi, 2015; Krishnan, Teo, & Lim, 2013). ICT access includes households' internet access, personal computers, fixed-telephone subscriptions, internet bandwidth per user, and mobile-telephony subscriptions (ITU 2017). In addition, government policies or mechanisms can be applied to control ICT

Figure 3. Technological, environmental, and organizational contexts in CBEC

Source: (Adam, Alhassan, &amp; Afriyie, 2020)



access of citizens countrywide for measuring and ensuring privacy and security issues in CBEC (Adam et al., 2020).

- **Environmental Context:** The environmental context includes regulations governing organizations' environment, the structure and size of the organizations, and the macroeconomic environment (Tornatzky, Fleischer, & Chakrabarti, 1990; Zhu & Kraemer, 2005). Dwivedi, Ayaburi, Boateng, and Effah (2019) study laws that influence the diffusion of ICT among businesses, countries, and individuals. Environmental context refers to the political and regulatory environment including ICT laws, the efficiency of the legal system, judicial independence, protection of intellectual property, software privacy, lawmaking bodies, installed software, procedures, and days needed to enforce a contract (Baller, Dutta, & Lanvin, 2016).
- **Organizational Context:** Organizational context includes management structure, HR, degree of formalization, centralization, and relationships among employees (Tornatzky et al., 1990).



## **Technologies for Cross-Border E-Commerce**

Employees are important sources for the development of organizations. Providing training and educating these employees affects the quality of HR and surely influences technological adoption of CBEC (Srivastava & Teo, 2010). Literacy rate, expected years of schooling, and mean years of schooling are variables under the heading of HR development (World Bank Group 2016).

Adam et al. (2020) find a positive relationship between ICT access and readiness to adopt B2C e-commerce solutions. However, the increased number of internet users across the globe has provided opportunities for CBEC (Amornkitvikai & Lee, 2020). For example, proliferation of mobile devices has enhanced mobile commerce (m-commerce), which ensures substantial growth in CBEC (Adam et al., 2020). The findings of (Adam et al., 2020) are consistent with those of (Aljowaidi, 2015) on the direct relationship between a country's technological infrastructure and its adoption of CBEC.

An earlier literature finds that the rules and regulations in a country's ICT sector curb ICT diffusion (Du, Zhang, Li, & Wu, 2019). Infrastructure development in the ICT sector can enhance ICT diffusion and also enhance market structure and local competition. It is possible to reduce cost by changing the number of ICT providers, which can improve ICT access and service costs such as African and Latin American countries (World Bank 2006). This technology-adoption model also finds that if a citizen uses the internet or has access to ICT, the government will be able to regulate their use and ensure privacy and security of CBEC platforms (Adam et al., 2020).

## **SIGNIFICANCE OF BIG DATA IN CBEC**

Because of the proliferation of internet applications, organizations produce a vast amount of data every second. In this technological era, big data has become a special factor. Big data investigates data in a different way and gathers valuable information that is required for maximum efficiency for today's organizations. In the era of big data, the demand of the organization is development of CBEC.<sup>3</sup> CBEC represents the connectivity of the world, for example, China's CBEC surged to 30 percent in the last five years.<sup>4</sup> CBEC has provided a new direction for trade domestically and internationally. In this context, organizations must reform themselves. With big data has come a profound impact on CBEC.

In this data-driven technology age, enterprises should know how to use data to improve operational efficiency and communication. In the age of big data, there are three key points: data analysis, data acquisition, and data products. The cost is high for participating and visiting customers. Data sorting and analysis is the key to operating a business based on big data. The business model of foreign trade traditionally uses data-management experience, which lacks scientific rigor and is subjective. The whole logic underlying big data is reversed in the business operation. It guides decision making through data change under the big data. The value brought by data is shown in five ways: to make management decisions, it can assist enterprise and monitor real-time marketing activities; it can optimize the supply chain; it can develop personalized services and precision marketing; innovation of models, services, and products; strategies.

## **CBEC in the Era of Big Data**

In the era of big data, companies can analyze data to reduce costs, develop new products, improve efficiency, make more effective business decisions, and so on. Organizations can collect market-based

information with big data and can also improve the management of internal operations to enhance their efficiency<sup>5</sup>. Organizations are well equipped with big data to optimize their own websites, which are more detailed and significant and able to provide more detailed information to the customer who chooses among their products. In addition, big data helps to promote store operations, which is mainly improve marketing concepts and strategy for future operation and development.<sup>6</sup>

## **Suggestions for Applying CBEC Big-Data Marketing**

First, big-data mining technology is used for product marketing that ensures the effective association between data by using big data. It is needed to ensure effective analysis of original data. Using big-data analysis, it is possible to mine the importance of products and effectiveness of recommendation. Second, by using big data for social-network marketing covered huge volume of people in high development of social media and rapid development of social network marketing. Through big-data analysis, people fully understand communication of social network and carry out e-commerce as well as social-network marketing.<sup>7</sup> For e-commerce enterprises, we should make full use of the advantages of big-data analysis, be able to grasp the analysis of social-network media for consumers' preferences, and effectively improve marketing efficiency. Third, geographic marketing uses big data and technical advantages for analyzing websites' transaction data, marketing of goods according to preferences of people located in specific regions. Big data analyzes the location of users' effective division wise, safeguard of differences and relevance of geographic information of users' and interested goods. Fourth, big-data analysis can address user behavior and marketing. E-commerce analyzes consumers' historical records and the purchasing behavior for obtaining consumption habits of users effectively and provides enterprise. E-commerce can analyze potential users' needs through related search behaviors, for further improvement of commodity types. Fifth, it is important to meet consumers' personalized requirements by using big data for personalized marketing recommendation, by which e-commerce enterprises meet the personalized marketing level. Development of a big-data environment, e-commerce enterprises carry out recommendation of product activities and classification of product according to users' personalized requirements and invite for users' attention to interest of the products<sup>8</sup>.

## **CONCLUSION**

There are theoretical and practical implications of this newly developed model (Cui et al., 2019). By combining the system-success model and the valence framework, it is seen that service quality and system quality significantly increase a seller's trust in the perceived benefit of CBEC from seller's perspective in e-marketplace could turn to seller's intention to use. Comparing with previous items, identified new variables of service quality and system quality are more definite rather unclear. For further research it can be used on CBEC. Newly identified variables of system quality and service quality items can be applied to CBEC from seller's perspective. In the meantime, the new variables associated with perceived cost are less influential. Cross-border from seller's perspective has managerial implications also. Firstly, long-term sellers should be focused point by improving system quality from exhibiting switching behavior; at the same time, they need to develop service quality for building trust and subsequent cooperation by training meetings who have intention to use their potential in the marketplace for both sellers and newcomers. Sellers' training in the ISSI model and valence framework is more important

for CBEC than for domestic e-commerce because of unpredictable foreign market trends, foreign laws, and cross-border logistical issues. Secondly, cross-border and domestic sellers both consider perceived benefits as a strong attractor.

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# Chapter 3

## Supply Chain in Cross-Border E-Commerce

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### ABSTRACT

*Cross-border e-commerce has emerged with significant attention in the field of international trade. Exports and imports are more integrated with the revolutionary e-commerce platforms where people can buy things from other countries at their fingertips. However, the supply chain behind the business transactions beyond the country's boundaries is more complicated than traditional businesses. The successful supply chain performance of e-commerce depends on many local and international aspects. Issues and challenges of the supply chain rapidly change due to the fast development of internet infrastructure. The chapter identifies some key issues like supply chain facility, inventory management, legal obstacles with today's supply chain performance of international e-commerce. Comprehensive solutions and recommendations are given here with focusing the integration of blockchain technology, which tells how the businesses can initiate the combination of both e-commerce and cryptography for effective intercountry supply chain performance.*

### INTRODUCTION

With the accessibility and popularity of the Internet, as well as the advancement of information technology (IT), e-commerce has been gaining momentum in the global marketplace. The reason being that the Internet has, in many ways, made our lives much easier. The buying and selling of goods online from another country provides several advantages compared to only buying from local retailers. Customers now have access to a variety of products and sellers all over the world at their fingertips. Information regarding the products and purchases are becoming less asymmetric. As they can compare their desired products right on their devices, hence, product sourcing costs and time has lessened dramatically. Cross-border

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## **Supply Chain in Cross-Border E-Commerce**

e-commerce (CBEC) has turned into a core passage of foreign trade in many countries with a B2C model (Mou, Cohen, Dou, & Zhang, 2019; Qi, Chan, Hu, & Li, 2020). With widespread operations of CBEC in many countries that required less time and money, it has created a huge competition among the seller where customers are getting quality products and services from this competitive market. E-Commerce sales was 1.3 trillion in the year of 2014 and that is expected to grow about 4.5 trillion in 2021, which is around 400% growth. CBEC sales only in China was reported at \$144.11 billion and is estimated to be \$200 billion by 2022. Even in Africa and the Middle East, Deloitte (2017) reports a high-growth path in e-commerce. The authors attribute this growth to the rising middle class in Africa which has contributed to the modernization of the retailing sector. In addition, changes in the shopping behavior of customers in this region has put pressure on retailers to actively peruse e-commerce opportunities.

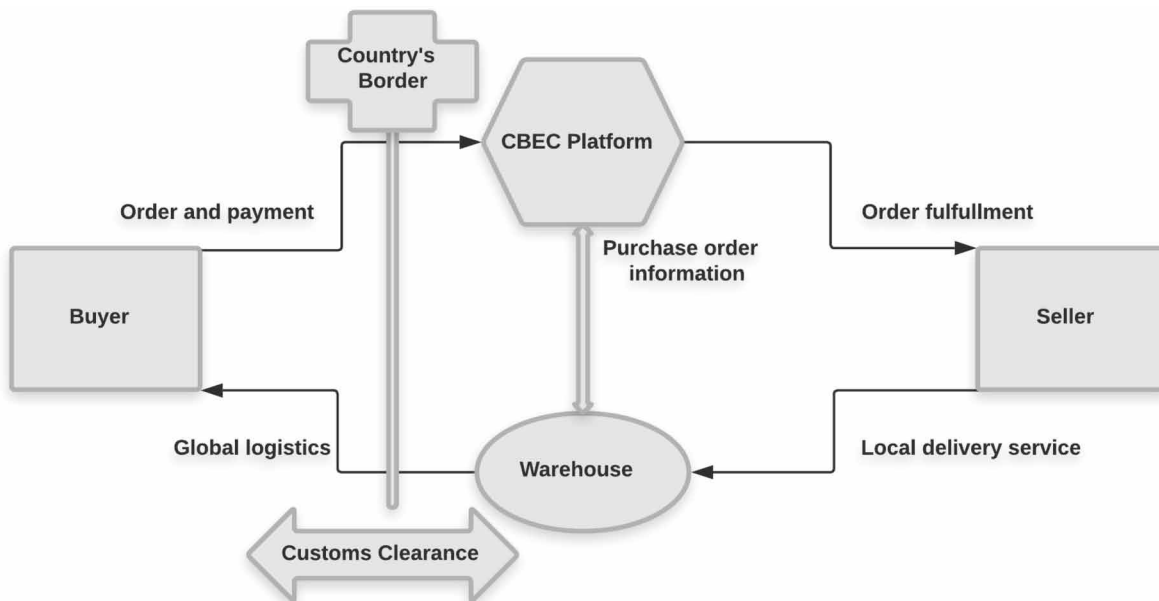
The worldwide the value of e-commerce internationally was calculated as \$412 billion in 2019 with an increase of 4% than 2018. Integration with the social media platforms has given the power of raising customer voice as they review the products and share with others. E-commerce sales are done electronically and that is easy to trace for the convenience of both customer and seller. This has improved the quality control as well. CBEC comes with considerable increase of cost related to distance of physical location (Martens, 2013). The increase in online sales volume throughout the world put immense pressure on global supply chains. Around 54% of people in the US who purchase products online have reportedly bought products online from other countries. Survey data shown around 38% of people of Tier 1 cities and 27% of Tier 2 cities across China purchase products through CBEC (Nielson, 2016). Giant e-commerce platforms are making the “local” experience of global online shopping as seen in e-commerce sites such as eBay (USA), Amazon (USA), AliExpress (China), Jumia (Africa) and Wildberries (Russia). Many manufacturers, logistics and other channels of distribution has emerged to fill the supply chain gaps of e-commerce transactions both locally and internationally. Unlike the traditional business, e-commerce is associated with the delivery of goods till the end of the supply chain stakeholder, the consumer, the whole supply chain must therefore be synchronized accordingly. This is generally a complicated task for the participants of the supply chain and it gets more difficult with cross-border transactions due to different entities of supply chain and various local and international rules and regulations. Supply chain parties have to maintain better insight about the local customs and cultures (Asian, European, Chinese) in order to make the most of it. Ease of transportation facilities (like the air shipments) have put manufacturers and logistic divisions in immense competition; if they don't provide a satisfactory outcome, buyers (or customers) can switch to other options easily. This chapter will discuss issues regarding cross border e-commerce supply chains in a modern age, considering its challenges and probable solutions. The contents of the chapter are arranged with the explanation of the e-commerce supply chain, understanding the logistics in international e-commerce platform, associated problems, solutions and recommendations in chronological sections.

## **UNDERSTANDING CROSS BORDER E-COMMERCE SUPPLY CHAINS**

It is widely accepted that firms do not compete with each other, instead, it is their end-to-end supply chains that fight for market dominance (Aslam, Roscoe, & Azhar, 2020). CBEC occurs when multiple parties in different customs areas (global locations) conclude a transaction involving the international exchanges of products utilizing an e-commerce platform. Typically, the following parties are involved, i.e. a buyer and a seller, the e-commerce platform (cross-border online platform) and other third-party

service organizations (such as cross-border logistics provider and payment provider). The seller utilizes the online e-commerce platform to sell products, the international buyer utilizes the online e-commerce platform to order the product, and third parties (e.g. logistics firms or payment firms) are used to conclude cross-border transactions (Mou et al., 2019). Cross-border shoppers often search for products that are lower in price or greater in variety than what is available in their own city or country (Baek, Lee, & Choo, 2019). Hence, CBEC is becoming a popular new model for international trade (Wang, Chai, Liu, & Xu, 2015). Companies wanting to increase global transactions are attracted to CBEC because of the many advantages it offers (Gessner & Snodgrass, 2015). When a customer purchases a product online with the CBEC platform, a series of supply chain activities helps to send the product to the customer, these activities are summarized in Figure 1 below.

Figure 1. Flow diagram of cross-border e-commerce supply chain



As seen from figure 1, the CBEC process starts with the consumer (or buyer) placing and paying for their order via the CBEC platform. Since CBEC activities are usually involve with the seller of the product based in another country, the CBEC platform plays a central role in the fulfillment of a CBEC order. After the consumer has placed the order, the foreign supplier (or seller) receives and processes the order. Depending on the fulfilment method of the seller, the seller either sends the product to the warehouse (via a local delivery service) or they dispatch the product directly from their warehouse. Hence, local logistics services are used for the transportation to the local warehouse, whereas global logistics services are used from the cross-border transportation of the product to the final customer. Customs clearance are needed before and after the shipment of the products, i.e. on both sides of the countries' border. Some CBEC firms use their own warehouse facilities for the storing of products before they ship their products to the customer. Both individuals or business firms can act as the seller.

From figure 1, it can be concluded that several supply chain processes are needed to complete a CBEC transaction. Firstly, the domestic part of the supply chain involves the processing of customer orders (including adequate packaging to ensure the safe international shipment of the product), also the collection and transportation of products from and to the domestic warehouse. On the other hand, the international part of the supply chain comprises activities like cross-border transportation, clearing foreign customs, foreign transportation and warehousing, and finally sending the product to the customers. The final part of the CBEC supply chain is customer service. Customer service is not only important because it influences the customers' likelihood of using the CBEC service again (Mou et al., 2019), but it also drives on online e-commerce supply chain through better recommendations, reviews and return policies (Wang, Jia, Schoenherr, Gong, & Chen, 2019).

Considering the above discussion, it could be concluded that CBEC could serve as a growth driver for many different industries, not only for retailers looking to expand their footprint internationally but it also offers avenues of growth in other markets such air cargo and postal services (Van Asch, Dewulf, Kupfer, Cárdenas, & Van de Voorde, 2020). In CBEC, international logistics is one of the most important enablers of the CBEC process, as it serves as the only method international sellers can deliver their products to their cross-border customers (Ren, Choi, Lee, & Lin, 2020). In the following section, different CBEC logistics solutions will be considered.

### KEY LOGISTICS SOLUTIONS IN CROSS BORDER E-COMMERCE (CBEC)

Logistics flows refer to the physical distribution activities of goods from the origin of the seller to the final consumer. It also includes the reverse flows of goods, e.g. returns from consumers to the e-commerce platform (Wang et al., 2019). Van Asch et al. (2020) reports that many intermediaries in the CBEC process, such as airlines, forwarders, integrators and airports are trying to increase their market share by capitalizing on the growing e-commerce market and therefore develop strategies to attract as much e-commerce activities as possible. These activities all fall within the scope of logistics. There are several logistic solutions to ensure a product from an international seller reaches its customer in another country. Literature identified four key logistics solutions for CBEC (Zhao, 2019), these are:

1. **International postal pouch:** With the decline in letter volumes, postal services have shifted their focus to include logistics models appropriate for small e-commerce parcel delivery services (Universal Postal Union, 2020). The international postal pouch solution is therefore very popular as a distribution method for low value items, sold outside the country's borders (Zákorová, 2017). This a logistics solution is characterized as 'slow but cheap' (Van Asch et al., 2020), with the cost of an average parcel less than 5 USD per kilogram and a delivery time of between 7 to 21 days. Hence, postal services are a good logistic solution for firms with price-sensitive customers but that and willing to wait longer to receive their products. It is estimated that around 70% of all the cross-border online sales from China are processed through the international postal pouch service as the products are small items such as handicrafts and clothing. At present, more than 200 countries worldwide are connected with a postal service, which highlights the attractiveness of this logistic solution for CBEC. In China, postal services are one of the most used logistics solutions. Not only because of China Posts' efficiency in handling domestic shipments, but also because of the extended service they offer which facilitates international shipments. In other countries, National

Postal Offices (NPO) are also being used for the transportation of e-commerce products between countries, e.g. La Poste in France, Deutsche Post in Germany, Royal Mail in the UK (Hearn, 2016). Along with the basic service of transportation, these NPO's also provide additional services like the assessment of customs duties, the collection or delivery of packages, warehousing and even shipment forwarding. China Post, for example, provides an insurance facility along with their logistics service. Targeting the e-commerce business operations, to facilitate the small and medium firms to transport products to and from other countries. Despite the success of the international postal pouch in countries such as China, this logistics solution has been ineffective in other countries. The reason being, that the NPO model relies heavily on the efficiency of the country's NPO. In South Africa for example, the South Africa Post Office (SAPO) is viewed as unreliable and futile as a CBEC solution. The SAPO is plagued by extensive delays in receiving products and a high proportion of products that are lost in transit. In South Africa, the SAPO serves as one of the main reasons why many international suppliers have chosen not to enter the South African e-commerce market (Goga & Paelo, 2018). Nevertheless, in countries with efficient NPO, these postal offices provide additional services such as supply chain consultations, payment gateways, various shipping options and even return management processes with comparatively cheaper price, extensive coverage and great efficiency, international postal pouches are a popular logistics solution for CBEC. However, there are some limitations which include products losses, poor customer service, longer delivery time, ambiguous return processes and bottlenecks at customs (Wang et al., 2019). Nevertheless, Van Asch et al. (2020) reports that National Postal Offices (NPO) are still dominating the CBEC market.

2. **International express service:** International express services are offered by large international organizations who specialize in logistics and freight services. These express services are usually run by big organizations with operations around the world, some of these companies include FedEx, DHL, UPS and Amazon (Liu, Jiang & Wu, 2018). International express services are characterized as 'fast but expensive' with an average cost of 25-35 UDS per kilograms and a delivery time of 1-2 days (Van Asch et al., 2020). Hence, express services are considered an effective logistics solution for firms with customers who are less price-sensitive but with a higher degree of urgency in receiving their product. One of the main advantages of this logistic solution is that these firms operate on a large global scale, they therefore have skills and knowledge the CBEC firm might be lacking and could provide valuable insights on ways to reduce logistics cost and can offer logistics solutions the seller would not be able to offer in-house (Weber & Badenhorst-Weiss, 2018). In addition, Express Logistics providers usually provide services with high-end technologies and excellent efficiency. Yet, the high cost associated with express delivery still serve as a major obstacle for retailers and customers in CBEC.
3. **Cross border dedicated logistics:** Dedicated logistics are permanent logistics solutions set up between two countries or regions due to the frequent and high volume of imports and exports between the countries. These solutions include dedicated staff and resources to focus specifically on the logistics requirements set by CBEC (Marchet, Melacini, Perotti, Rasini, & Tappia, 2018). Usually, air transport is utilized for dedicated logistics solutions. A centralized system supports the logistics supply through air cargo, which holds the advantage of minimizing the cost of transportation. As the service is focused on a particular destination, the cost is usually lower than the express services. The China-European lines and China-Australia lines are some of the dedicated logistics lines that

supports the e-commerce supply chain in those areas. Usually, these lines are not widespread and are therefore dependent foreign logistics networks to facilitate last-mile delivery.

4. **Overseas warehouse or border warehouse:** This supply chain solutions works with both B2B and B2C models on the principle of “stock first, order later”. E-commerce platforms usually build or use their warehouse in another country or in the origin country to arrange the last-mile logistics (Lin, 2020). When a firm uses a foreign warehouse, integration between international and local partners’ information systems are essential to facilitate the delivery of products to end customers. Modern logistics information systems help the vendor and e-commerce platform to have real-time monitoring and management of the items across the countries’ borders. In border warehouses, products are usually transported to the other destination in neighboring or non-neighboring countries. E-commerce sellers send their goods to the warehouse first. This logistics solution is popular and practiced especially in China, where the government has exempted an extensive list of products from the payment of custom duties (Hou, Quancheng, Huanfang, & Weikang, 2018). Hence, when a customer orders a product, they do not need to wait for the seller to deliver the product from the factory to the warehouse before shipment can occur. Rather the product can be sent directly from the warehouse located closes to the customer. A key advantage of this logistic solution is fast delivery, usually within 2-3 days. One of the largest CBEC platforms in China, Kaola.com has the biggest bonded warehouse in China and a vast network of third-party logistics providers (3PLs). This logistics solution gives them the advantage of processing more than 300 000 orders a day.

In the discussion above, four different logistics solutions used by CBEC firms were discussed. From the discussion, it could be concluded that the services of large 3PLs are required in a CBEC supply chain in order to facilitate the delivery of products to the final consumer. In the next section, other CBEC issues such as legal and payment issues will be considered.

## ISSUES IN CBEC SUPPLY CHAINS

In CBEC supply chains, firms are not only responsible for the manufacturing and distribution of goods. There are several other issues, and challenges CBEC supply chains face. These issues and challenges could cause hindrance of e-commerce operations outside the country’s borders (Gomez-Herrera, Martens, & Turlea, 2014).

### Legal Issues

The first and foremost issue in CBEC is the legal challenges. Legal issues in the supply chain occur when establishing a business for operation in a foreign country, all while ensuring that firm follow all the legal directions. Legal issues in global supply chain operations are particularly difficult since global supply chains span many different countries, each with its own set of regulations and requirements (Christiansen, 2016). For example, the CBEC firm may adhere to the regulations of country A and country B, however, when a new country is added to the supply chain (country C), the difficulties grow bigger as the firm need to follow the rules of country C as well which, is sometimes complicated. Legal issues are usually established in countries to maintain certainty, transparency and security of the supply chain. Domestic rules and regulations may differ between countries in CBEC (Bieron & Ahmed, 2012).

Foreign countries' legal frameworks are often confusing and not clear to firms not from that country. This confusion becomes intense if the country's legislative authorities are not well aligned to international standards. CBEC supply chains regularly face this problem. For instance, a Chinese firm manufactures and sells products only in China. The firm decides to extend its supply chain globally to sell its products in Norway as well. According to international regulatory customs requirements, the firm will now need to change their product labels to state, "Made in China". Several other legal issues like product standards, consumer rights and certification need to be changed or aligned to adhere to the Norwegian standards. As a Chinese manufacturer, the firm would already be adhering to any Chinese regulations, however, since the firm's market has now extended to Norway, there will be additional legal requirement they would need to adhere to. To avoid confusion or vague rules, both parties needs to be involved to ensure all legal requirements are met. Should the Chinese firm decide also to export some of its products to Vietnam, the firm would once again face the Vietnamize country's national policies which might conflict with other regions they are already operating in.

Hence, when establishing a CBEC platform, it is essential to work according to the legation of the countries the firm will operate in. Some of the most important regulators include the World Customs Organizations (WCO), the World Trade Origination (WTO) and especially the Trade Facilitation Agreement (TFA) as well as all other necessary agreements and standards of the relevant countries (Yu, 2018). There are however global logistic providers, such as UPS and FedEx who are well versed in clearing customs and other regulatory issues of all major countries around the world. Hence, utilizing the services of these logistics providers might be beneficial to CBEC retailers.

## **Payment Issues**

Online customers expect multiple payment options, which is particularly challenging for CBEC retailers with operations across many countries borders (Ternstrand, Selldin, Virta, & Linder, 2015). E-commerce retailers running operations outside their own country's borders, could use existing payment infrastructure options such as credit and debit cards, as their online payment gateways. However, there are still some shortcomings associated with these payment gateways. Certain types of payments need to follow specific legislative requirements from different regions like the EU and Asia (Gomez-Herrera et al., 2014). Also, sellers from different countries finds it challenging to offer a payment option suited to all customers from different countries. Research indicates that credit and debit cards are still the most preferred method payment for CBEC transactions worldwide (TSYS, 2018). However, each continent has payment options that are trusted by consumers also from that specific region. China, for example, has the popular digital wallets (eWallets) called Alipay with 1.2 billion users globally by 2019 and WeChat with 902 million daily users in 2019 (Mombeuil, 2020). In the USA, apart from credit and debit cards, the eWallets PayPal and Venmo are most often used for e-commerce payments (TSYS, 2018). In Africa, electronic funds transfer (EFTs) is a popular payment solution (PWC, 2019). EFTs allow customers to make an electronic payment via their own bank account directly to the seller. However, considering EFTs from an international payment perspective, it becomes clear why payment issues are a cause for concern in CBEC transactions. With EFT payments, consumers need additional codes, e.g. SWIFT codes to make international payments. Also, fluctuating value of currencies make this more vulnerable. Hence, in emerging economies, the bank facilities as well as payment options can limit CBEC transactions. In global e-commerce, "cash on delivery" still lack the necessary payment infrastructure to facilitate such payments for CBEC transactions.

## **Supply Chain in Cross-Border E-Commerce**

As CBEC integrates both the buyer and the seller, and it is highly likely that they are following different monetary systems, converting and aiding each other with convenient, secured payment options are still costly and not fast enough. CBEC payments are also exposed to the high risks of fraudulent transactions unless precautionary steps are taken (Xiaoyong & Jie, 2019). Fraudulent activities are mainly caused by operations which are not authorized by the actual party, hence fake product purchases or returns. Hackers can illegally gain access to customer information in several ways. Firstly, hackers can take over the e-commerce system and make purchases using other customers' credit cards details. Another way a hacker can gain access to customers' personal and credit card information is by creating a similar site to that of the original e-commerce site. Hence, customers think that they are making a purchase on the e-commerce site; however, they are revealing their sensitive information to hackers. Lastly, using various malicious programs, e-commerce platforms are often targeted for customer credit card theft (Guo, Bao, Stuart, & Le-Nguyen, 2017). The Australian Payments Network Limited has reported that in 2016 around three quarters of all credit card related fraud could be classified as 'card-not-present' fraud. Hence, hackers making purchases via the Internet without presenting an actual credit card. Security concerns about online payments are getting more crucial for CBEC firms to manage (Mombeuil, 2020).

Supply chain operations for international transactions also face problems of taxation and VAT issues when operating outside the country's border. Tax and VAT costs differ from country to country (Xue, Li, & Pei, 2016). Accordingly, finding a suitable competitive price for local markets is difficult for an international seller. Moreover, both seller and payment options need to be authorized by the local governments. Sometimes there is relaxation of the registration for Tax and VAT to allow for a certain amount of transaction volume. In conclusion, since preferred payment methods, as well as tax and vat regulations are not uniform in all countries, when configuring supply chains for CBEC, firms have to navigate several complex phrases that costs them both money and valuable time.

## **Supply Chain Facilities**

When an e-commerce business goes beyond their national border, it usually needs to build new facilities to accommodate its global expansion. However, this is expensive and often not possible from the start. As the CBCE firm grows, they might be able to set up facilities in a foreign country. Warehouses often need to take prompt decisions regarding visibility, mobility and flexibility which can be difficult when warehouses are geographically dispersed. CBEC operations are often unpredictable. Therefore, due to the quantity of business order, frequency of product collection and packaging, the warehouse needs to be efficiently designed (Hsiao, Chen, & Liao, 2017). However, building adequate infrastructure for the supply chain facilities to ensure flexibility is challenging.

Moreover, for the companies producing more than one type of products relying on a uniform physical facility across locations could be more daunting. Fulfilling orders from major countries like the EU or the US is not the same as the fulfillment of orders in smaller countries such as South Africa or Peru. Even product deliveries to the remotest places in developed countries are sometimes a difficult task as existing supply chain infrastructure need to be expended to offer e-commerce operations in these areas.

In a CBEC supply chain, consumers are the final link the supply chain (McDermott & Payvission, 2015). Hence, logistics services are needed to link the consumers with the CBEC firm. However, for CBEC firms, creating their own logistics infrastructure is often too expensive and sometimes not economically feasible. Consequently, firms operating CBEC supply chains often employ the services of Third-Party Logistics Providers (3PLs) for their cross-border supply chain solutions. As stated above,

when the supply chain of an e-commerce retailer extends beyond their countries' border, the supply chain operations are more time consuming and costly. Since 3PLs have their own business strengths and weaknesses, they can offer CBEC services in other countries, which would not have been possible for e-commerce firm to develop on their own. For example, the consolidations of orders and increased fleet utilization (Lim, Jin, & Srari, 2018). There are times when the 3PLs also outsource their job to other companies, and these become partner of the whole supply chain. This complex supply chain makes it more difficult for e-commerce to maintain their global supply chain.

## **Managing Inventory**

Unlike the “loyal” customers of traditional businesses, e-commerce customers usually do not rely on a specific seller or supplier. If the product is unavailable at a certain seller, the customer will switch to another platform or seller in seconds (Xu & Jackson, 2019). If they think the cost of the product and transportation is not competitive, they have numerous options available at hand. Customers demand an easy and fast e-commerce experience. One of the major issues in meeting customer demands in a CBEC supply chain relates to inventory availability and customer waiting times. Ensuring the availability of products with affordable price is challenging in CBEC supply chains considering the difficulty of demand forecasting and planning, as well as the cost of product delivery if foreign countries. Hence, proper inventory management is crucial (Shuyan & Lisi, 2013). CBEC face the challenge of unpredictable consumer demand (Qi et al., 2020) when entering into a new geographical region. This complicates inventory planning for e-commerce retailers who might not hold stock of the fluctuating demand products in their warehouse.

Unlike the traditional brick-and-mortar channel, e-commerce customers cannot see or feel the product before they make the purchase (Piotrowicz & Cuthbertson, 2014). Therefore, free and easy returns become a key decision-making criterion for online shopping, especially for fashion products, where the “fit” of a garment is difficult to translate within the parameters of online shopping (Hines, 2013). Consequently, if the return policy and process are not clear or convenient, customers may not purchase the product (DHL Consulting, 2016). Therefore, effective returns management is a key process in offering the CBEC experience customer's expect (Bernon, Cullen, & Gorst, 2016; Zhang, Xu, & He, 2018). However, considering the cost involved with returns, returns continue to plague the online retail industry. A number of research findings have shown that some products bought online with e-commerce platforms are returned to the seller (Fan, 2019). As stated above, in global e-commerce delivery and product returns cost high, and the seller usually carries these costs.

## **Knowing the Customers**

Communication and information collection are key aspects to understanding customers. Due to the language and cultural difference, sellers often find it difficult to understand the customers (Qi et al., 2020). Global e-commerce supply chain platforms have already made this easy for the sellers. While traditional business operations were highly depended on the performance of logistics, customers were not directly involved in the logistics process until the last stage of product delivery. However, nowadays, customer service is central to the e-commerce process, meaning customers are involved in all the stages of the supply chain. Nevertheless, giving a customer a the tracking number to trace the product delivery is no longer enough (Ren et al., 2020). Companies need to have real-time communication with their customers. For CBEC firms there is no off-duty time as a customer from a different time zone may require information



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about the products and the deliveries. Consumer expectations are high, as they are aware of the details of the market due to the availability of information at their hand. Therefore, the issue of delivering the product according to purchase arrangements in complete timely manner must be guaranteed.

Product review platforms have united customers from all over the world into one platform. Hence, reviews create a virtual community of e-commerce customers who want to buy a product. Good reviews can accelerate sales growth. Nevertheless, if any seller fails to provide the customer with satisfactory service and the negative product review from that customer will most likely to hamper the business reputation. So, each customer is essential to manage.

Online sellers need to identify the localization of the buying experience and provide it to the customers. Someone from China buying something from his Chinese smartphone will expect the e-commerce platform UI would be localized in their language and fit with their devices (Lin, 2020). Forrester Research Inc. has found that customers have 4.5 digital devices as an average. Localization of the online buying experiences should be similar to all of their devices. Lack of mobile shopping experience and difficult UI design of global e-commerce platform often serves as an obstacle to completing the transaction. Apart from that, knowing the trends of target customers, their preferences and complaints are one of the biggest issues to consider by the sellers in any supply chain.

### **Delivery Issue**

CBED delivery performance is still not fast enough, which serves as a big deal-breaker for many customers around the world. Unlike the domestic e-commerce which can now be delivered in the same day (Ni, He, Liu, & Hampapur, 2019), when it comes to other countries, there are issues like long delivery times and absence of parcel visibility (tracking). The physical distance from the seller to the buyer rises the delivery cost and creates disappointment among consumers. Then crossing the country's border, products are usually subjected to a customs clearance process which increased the waiting time for customers. Product delivery companies are generally different from country to country and that makes it difficult to trace the product. Depending on who is responsible for the payment of custom duties, customers often need to pay high customs fees since the monetary value of the purchased item surpasses the threshold value. These rules and regulations vary largely between geographic regions and both seller and customers are often unaware of the most recent regulations (Kawa, 2017).

As international e-commerce is associated with the seller and customer, there are some other standard documents like insurance policies, invoices which form part of the process and serves to protect all party's rights. The e-commerce platform here assists in ensuring that the seller will be paid accordingly and customer would receive the product as expected. However, these crucial documents are often forged during the shipment of products which results in the delivery of the shipped to other persons than the actual customers and altering the products during different stages of shipments. There is an estimation of stolen cargo products worth of \$30-\$50 billion US dollars globally. Selling and buying things online is highly based on reputation and security, once it is lost, it is hard to regain.

In some places, the delivery addresses are not standardized. E-commerce delivery persons find it challenging to find the exact location of the customer. Unwanted delays or even lost products are common problems in developing countries. Once a customer faces this disappointing experience, it becomes hard to get the confidence to shop online.

## SOLUTIONS AND RECOMMENDATIONS

To make the CBEC supply chain experience smoother, organizations need to be very flexible and dynamic toward the new changes. Fast and reliable internet connectivity is the key issue to be ensured. Customer loyalty and retention is vital and can be achieved through active customer service. Companies need to identify the competitiveness of the market which changes very quickly in the global supply chain. Logistics play a vital role here; warehousing and transportation must be adequately synchronized to minimize costs and ensure availability of products “on-demand”. Newer technologies should be adopted by the e-commerce retailers to equip them with the necessary forecasting data of demands and information about products to be sent to the last mile consumer. Global supply chain parties need to give the customers a “local” experience of online shopping. They should be transparent in each activity. Nevertheless, there are several solutions to overcome the issues and challenges of a CBEC supply chain discussed above. These key points are addressed below:

### Supply Chain Infrastructure

Considering the complexity of global e-commerce, the supply chain infrastructure of the seller requires a complete redesign. Hence, transforming a traditional supply chain mechanism into a global e-commerce supply chain needs some considerations (Kawa, 2017). In the beginning, e-retailers need to develop a supply chain network that would integrate all parties in that network. Wisner et al. (2019) describes a supply chain as the integration of all upstream and downstream flows of products, services, finances and information from the raw materials supplier to the end customer. As such, Wang et al. (2019) state that the integration of flows related to information, logistics and finance can be considered as the basic component of e-commerce supply chain management activities. When these flows are integrated with the entire supply chain network, and many of the challenges discussed above can be mitigated. These three flows can briefly be described as - *Information flow* which relates to the extent of operational, tactical, and strategic information is shared between a CBEC firm and its supply chain partners. These firms use modern information technology (such as big data analytics and artificial intelligence) to make the flow of information more efficient. By communicating with customers, CBEC firm can learn customer behavior and engage on a deeper level with their customers. Consequently, firms have access to more content-specific, targeted and valuable market information which allows firms to make better supply chain decisions. As already highlighted above, *logistics flows* refer to the physical distribution activities of goods from the origin of the raw material supplier to the end consumer. In a CBEC supply chain, 3PLs can reduce the complexity of cross-border logistics. Lastly, *financial fluidity* relates to monetary flows between a focal firm and all parties in the supply chain, including the end customer. Different payment methods have already been discussed above.

As the supply chain network integrates these flows among parties and resources to make it functional from the beginning to the end, the whole supply chain gets simplified and easy to manage to ensure efficiency. The integration could also provide the CBEC service at a lower cost and therefore create a competitive advantage. Overall improved efficiency is achieved with the integration of information, logistics and finance.

If a CBEC firm, cannot create an entire global supply chain infrastructure, there are other options available, for instance, online marketplace models. The online marketplace model is described as a ‘virtual shopping mall’ (Hänninen, Mitronen, & Kwan, 2019). An online marketplace is unlike a retailer’s own

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e-commerce website. With an online marketplace, the website owner allows third-party sellers to sell various products on their online marketplace under the name of the website owner (Mantin, Krishnan, & Dhar, 2014). One of the most successful examples of an online marketplace model can be seen by the e-commerce giant Amazon. Amazon has not only built a network of logistics for its global operation, but Bain (2018) reports that by 2018, third-party sellers were selling more products on Amazon than Amazon themselves, while Dayton (2019) adds that more than 50 per cent of Amazon's sales revenue was generated from third-parties in 2017. Hence, if a seller from Asia wants to sell their products in the US, they use Amazon Global Selling platform to list their products. The supply chain of Amazon has global Fulfilment by Amazon (FBA) shipping for the international fulfillment, US fulfillment facility services work in the United States, a number of diverse electronic marketplace works as hubs for product distribution globally. Apart from that, Amazon also includes their other services of logistics to support CBEC in their ecosystem.

Amazon's FBA program enables sellers from all over the world to have access to Amazon's world-famous supply chain. Currently, the FBA program supports over 100 countries. The FBA program provides logistics services like warehousing, packing and also freight to the sellers. The program supports the facilities of multi-channel fulfilment (i.e. orders placed via the Amazon website or mobile application) for marketplaces too. With this platform, sellers could significantly reduce the number of complexities in international e-commerce. In the US, there are more than 200 fulfilment facilities that support the FBA export program with transportation across the country. The company arrange its retail items combinedly along with the other sellers' products that might be sourced from a third-party. The expenses of the logistics inside the supply chain network is usually shared by all the parties.

Following the success of the online marketplace model in the U.S., Amazon also wants to build another ecosystem that will work in China. The idea is to give the facilities to the e-commerce vendors who are willing to sell their products in this Asian country. All the resources will be connected as part of complete supply chain support for the cross-border sellers to help their business. Although there are other competitors like AliExpress or JD.com inside China, the competition will create greater benefits for consumers. Even Africa has embraced the online marketplace model with the biggest e-commerce site in Africa, Jumia.com, now reporting over 81 thousand active sellers supplying products to 12 different African countries.

The supply chain ecosystem like that of Amazon is closed-loop in nature. However, implementation of this system aids the parties of CBEC supply chain immensely.

## **Inventory Management**

The emergence of e-commerce has made the inventory management issue more important than ever before. CBEC inventory demand issue is unpredictable (Shuyan & Lisi, 2013). Nevertheless, the rising amount of stock-keeping units (SKUs) is unavoidable for retailers to be competitive in a global market (Boysen, De Koster, & Weidinger, 2019). E-retailers often face the problem of running out of inventory or in case of CBEC it is not always feasible to stock all SKUs in all countries, considering time and cost constraints. Some products are also not easy to stock, because of its size or perishability. Sellers need to know the level of inventories in real-time. As it involves with the foreign suppliers, the seller also needs to have sound knowledge regarding when should it arrange new supplies when consider delivery time calculations.

On the other hand, inventory is changing too fast these days. If any retailer stockpiles the electric items, assuming it will be sold over a long time, there is a high chance of the products becoming redundant. The reason being that the product life cycle of electronic products is short, as the specifications of such products changes very quickly. This trend is even more prevalent in the fashion industry. As Ye, Lau, & Teo (2018) reports that the fashion apparel industry is characterized by short product lifecycles, high market volatility, low demand predictability, and a high number of impulse purchases. Nevertheless, there are different strategic actions to be taken to maintain normal flow of the inventory.

For instance, global clothing retailer, H&M is one of the big players in clothing industry with their offline and online business where the products are mostly produced from other countries. Some of their strategies of inventory management are:

- The newly designed products usually come to the retail shops within a few weeks to half a year.
- They launch up to 16 collections a year, this huge collection creates the trends, rather than following the trends.
- H&M ensure that the inventory goes to the retailer shops on a daily basis.
- Although around 80% of their products are made in Asia, proper inventory management ensure availability in European markets.
- Replenishment a key for their business. In the European market, there are products which need quick replenishment or those are sensitive, H&M use their European suppliers to manage those.
- The company is investing huge amount of money in the supply chain.

One of the key business strategies of this industry is to refill the shelves as quickly as possible. In CBEC supply chain here needs to adapt with the fast-tracked schedule. Fulfilling the customer orders, manufacturing the clothing, shipments and warehousing also needs to accommodate accordingly. Competition is very high, speed-to-market is the core substance of fast fashion business.

There was a time when the apparel industry was at large risk due to the high production costs and unclear market segmentation. Thanks to the inventory management performance of global e-commerce supply chain, customer need is now being fulfilled with sourcing from all over the world at a comfortable price.

### **CBEC Payment System**

Like the local payment system, a global e-commerce payment system is still largely depended on the online payment system to facilitate the supply chain. The payment system is suitable for online transactions between the seller and the buyer. Among several payment systems, only a few payment solutions are appropriate for e-commerce transactions, debit and credit card, e-wallets, electronic cash etc. Recently, the emergence of mobile payments has also gained popularity. Apart from these newer technological solutions, there is other traditional payments system like the wire transfer, cash on delivery and bank deposits also work with the CBEC.

On the other hand, there are third-party payment solution working as medium in CBEC as well. Google Pay, Apple Pay, Alipay, WorldPay or PayPal works as a third-party solution that would pay to the seller on behalf of the customer upon customer pay them first. The most significant advantage of these solutions is the privacy and the security of the data. Both customers and vendors are protected with their information and payment that has made these trustworthy. As a solution to personal and e-commerce

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payment service, PayPal is popular around the globe, in the last quarter of 2019, the company has a net payment of 199.4 billion US dollars.

To solve the problems associated with fraudulent payments in CBEC transactions, it is necessary to integrate the supply chain parties into a uniform system of payment. The seller needs to identify the weak points of the payment methods they are using. More customers are now moving towards mobile payments options (Miao & Jayakar, 2016), which are riskier than other payments options as identity theft is easier for mobile devices. To assess the potential risks associated with the payments in e-commerce, a thorough audit system is needed to be established which will run from time to time. Seller and customers are usually based in different countries in this type of transaction, that make it more vulnerable to counterfeit. There are some third-party solutions who assess and audit the possible payment risks and provide suggestions. Sellers can get professional help from them as well. An essential aspect of choosing the payment option would be the security features of the system, that will come with fewer risks associated with the transactions.

Choosing the right payment option for e-commerce also comes with compliance and scalability issues (Lin, 2017). Payment solutions should be flexible enough to assist the whole supply chain. As countries have different rules and regulations regarding payments, the gateway of payments must function within the guidelines of each country. E-commerce is more technology-oriented; the payment methods must be integrated technically with the supply chain. Another concern for the vendors and customers is the payment fee or handling charges taken by the payment solutions, they tend to find the payment method with less fee to get a competitive advantage. Both customers and sellers should have access to the customer support with the payment gateway regarding their monetary transactions.

There should be necessary steps to keep the e-commerce transactions away from the possible losses of rate fluctuations and the payment solutions should also support multi-currency payment when it comes to CBEC. More localization is needed for international purchases, local currency support is one of the most crucial parts here. Mobile phone usage rate is getting high everywhere in the world, user should find it easy to pay with their devices. Even developing economies in Africa are seeing a rise in mobile usage and mobile payments. According to Benzitouni and Wawira (2019), Africa is positioned to become the next big mobile commerce market and is set to generate \$29 billion in m-commerce revenue by 2022. The growth of m-commerce in Africa is attributed to the mobile-friendly payment systems put in place in several countries in Africa, allowing approximately 280 million people in Africa to have eWallets, which is three times more than those with bank accounts. Also, of the 282 mobile money services operating worldwide, more than 50% are situated in Sub-Saharan Africa. Hence, although there are some studies who argue that is difficult to pay for their global transaction, easy user-friendly transactions are critical to the CBEC process, therefore, businesses should come forward to build a user-friendly payment experience.

## **Blockchain in CBEC Supply Chains**

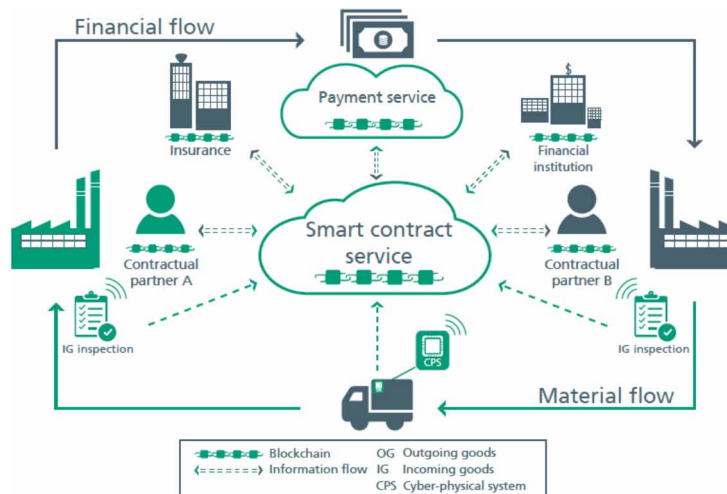
One key characteristic of the modern global e-commerce supply chain is the functions are becoming more dynamic than ever before. When a customer order something online whether from local online store or across the country's border, the order is ought to be processed in an integral way. Any kind of service or product needs to be tracked in real-time. Supply chain e-commerce is no more in the traditional format, rather, it has now become a Digital Supply Chain (DSC) with the feature of integrated information. Companies usually get the support of 3PL intermediaries who aids in information processing and integration.

Newer technological adaptation is widespread and necessary in CBEC supply chains. Blockchain (BC) technology has emerged as a tool to assist the businesses to minimize the use of intermediaries (Chang, Iakovou, & Shi, 2019).

Blockchain technology is known as digital register, where the main feature is the encryption of the data in a decentralized way (Wang, Han, & Beynon-Davies, 2019). It could also be viewed as data storage different than the traditional format. The ‘blocks’ of the information are connected with each other within the cryptography framework. Transaction information are enclosed with the blocks. Due to the potentials of the technology, in 2016, BC was declared as one of the top ten emerging technologies. Participants of the blockchain network nodes usually contribute to store the information based on certain protocol. The technology is arranged so that the data cannot be altered with unauthorized access.

The most popular use of Blockchain technology for cryptocurrencies like Bitcoin. The usage of payment system in Bitcoin Blockchain is supported with the distributed consensus in order to authenticate the transactions. Worldwide large network of computers is working to facilitate the bitcoin network.

Figure 2. Supply chain network with blockchain technology (Prinz & Schulte, 2018)



As the functions of traditional supply chain are limited, especially in terms of CBEC supply chain, blockchain technology is now implemented in a number of ways in the supply chain. Supply chain transactions involve seller and other parties, BC technology can be used as records of the parties without revealing the identities of the parties. As shown in Figure 2, nodes of the user end devices are encrypted in a secured way that could be decrypted upon proper authentications. Smart agreements of the supply chain parties are common practice with the use of one-time keys to process the transactions. Insurance, financial institutions, inspections and payment related activities of supply chain covered with the BC.

The digital supply chain integration through the blockchain technology should consider the parties and associated structure functionality that may get more complex in terms of cross border transactions. The Design by Expectation (DBE) framework is known as a way to design and evaluate comparatively extensive supply chain network and other functionality of the business. The framework is adapted to incorporate with BC activities in the system.

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CBEC activities involved with the vendors and customers who are not physically close; therefore, a crucial thing in the supply chain part is the assurance of the authenticity of the product. A customer may find it tracing the seller or the product legally as the seller might be staying in another jurisdiction; this creates a considerable risk of transparency (Deloitte, 2017). An example of this lack of transparency and traceability results in 55 infected cases of E.coli in the U.S. in 2015 at Chipotle Mexican Grill outlets. However, the authority could not find the source even after long-time (CDC, 2016). There is a plethora of cases regarding fake products associated with global e-commerce activities. It is estimated that around 2.5% of the internationally traded product worth \$461 billion US dollars are fake or counterfeit (EU Intellectual property office, 2018). Some sensitive items like pharmaceutical items, food and drinks might cause a big problem for the customer's health.

To solve this problem, BC can assist the supply chain of CBEC firms with traceability and the audit of transactions. There are records of products' digital certificate in this technology, therefore, the unchangeable records of the supply chain can be identified transparently. Governments are also part of the authorities to scrutinize the e-commerce activities. The sustainable supply chain of e-commerce can be assured with transparency, identification of counterfeit products by the involvement of BC in the supply chain network. A case of Walmart with BC technology is given in Figure 3.

*Figure 3. A case study of how Walmart is using BC in their Supply Chain*

**Case 1:**

Walmart source a big portion of their product from other countries. In 2017, the company has initiated the blockchain technology with IBM to ensure the 'farm-to-fork' as part of their supply chain. Although the supply chain involves with suppliers from other countries, they have used the technology and studied the effectiveness of its transparency and trace record. With an investigation of 16 mango farms, two packaging, three dealer, two stockrooms and another processing facilities, it has been found that they can track their product within only 2.2 seconds, dramatic reduction of time where it used to take a week before implementing the BC technology. The other part of the study was conducted by Walmart and IBM with collaboration of Chinese giant ecommerce platform, JD.com regarding the pork commodities and they conclude that BC technology helps the supply chain with pinpoint registers of the business transactions in transparent way (Kamath, 2018). They found evidence that even across from the country's border, this technology helps to ensure food safety, and build trust of the customers. Walmart has made all of its supply chain partners to join their blockchain network in 2019.

There are a number of disputes regarding global e-commerce which is difficult and expensive to resolve due to the country's boundary. To cope with the highly competitive market, e-commerce business also needs to go for the dispute resolutions quickly that supposed to be lengthy due to the auditing activities. Concerning cross-border transactions, the parties are usually unwilling to face another country's legislation. In these cases, BC has the competence with ledgering the origins of the products, transactions, transmission of the traded items, safety instructions, real-time trace data that can handle the disputes. Any violation of the agreements in the supply chain in e-commerce can be identified and resolved easily in less time and cost with previously decided conditions among the parties.

Cybersecurity is one of the biggest concerns of CBEC supply chain. BC technology offers the solution of keeping the supply chain functionality by strengthening the mutual relationships among the shipment

facilities and cybersecurity aspects. Usually, a vendor of the product can change the possession of the cargo in digital way through BC. Some agreed complaints are to be followed that needs to be determined first. Tracking and supervising the consignment is safeguarded in a secured way with the (a) supply chain participants secured identification number to avoid the cargo arrival at unauthorized authority or theft; and (b) encryption of the functionality data of the supply chain to avoid possible cyber-attacks or hackers (Gupta, 2017). Any emergence of cybercrime or suspicious activities can be identified with the source of the problem. Key supply chain functionalities in cross border e-commerce like the cargo booking, product shipment information, documentation of transportation etc. all are supported with the Oracle-based BC solution by CargoSmart.

*Figure 4. Case study of UPS*

**Case 2:**

DHL, TNT, FedEx and UPS are amongst the largest express delivery companies in the US. These companies are key carriers of cross border parcels from and to the country. United Parcel Service (UPS) has recently installed BC technology that supports the tracking of the packages for global supply chain. The tracking information can handle several carriers. The BC records can identify all the shipment related information and validate with the requirements. Monetary transactions are also handled by the system with support of smart contracts upon the accomplishment of supply chain stakeholders. As the cross-border total ecommerce sales is anticipated to reach around \$1 trillion in 2020 around the globe, the company is now getting benefits of BC in their order and inventory management.

As e-commerce is highly dependent on the digital communication among buyer and the seller, the supply chain e-commerce is also be expected to be digitalized. CBEC supply chain activities are supported through blockchain technology as part of its digitization. An example of UPS is using BC is provided in Figure 4. A modern supply chain is enabled with the computerization of workflow, use of Artificial intelligence and Internet of things to eliminate the supply chain operation time and costs. This also eradicates the bureaucracy and foster the consignment flow by removing the usage of traditional paper-based documentation and eventually eliminating the supply chain intermediaries (Morabito, 2017).

The modern CBEC supply chain often needs to go with vital queries of ways the SC parties would access the compliance data as they need and coordinate the whole SC to get efficient performance with communication. Blockchain technology offers the real time information as per the requirements of participants, no matter their physical location. The conditions of the SC agreements are fulfilled by providing aids of cooperation among stakeholders. Along with that, real-time data supports the auditors with necessary insights which is usually troublesome for cross-border transactions. As the BC based supply chain data are immutable, it delivers the projection of rights of the participants of SC.

Stakeholders of any supply chain need to build confidence and trust among them, this need becomes more important in case of the global supply chain of e-commerce where participants of the supply chain usually have distance and no connection inside country's boundary. BC technology helps to remove the intermediaries and the stakeholders can build reliance on each other. As the participants of the supply chain are following the same platform of data storage and usage which is highly secured based



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on cryptology and codes, the risks of trust issues are eliminated. As an example, validating the vendor and customer reputation based with BC technology is practiced with an e-commerce platform, Coupit. Cross-border trade through e-commerce has the asymmetric dependence and trust issues which can be monitored by the government and BC can help them as the ledger is immutable.

## **FUTURE DIRECTIONS**

E-commerce practice has huge impact on the speed of the product delivery, some of the existing logistic models are providing fast service, however, these are still very costly. There is more research needed to find out the cost-optimized fast delivery service. Government agencies authorized to monitor the activities of supply chain performance of online sales from other country are not fast enough, collaboration with the rules and regulations, duty and customs are acting as a hindrance of the development of CBEC. The business activities related information flow should work with all the related agencies in real-time basis with complete automation that might reduce the adverse impact. More research is needed to get the Blockchain imbedded with the monitoring agencies where opportunities will be created for the government and private sector to work jointly.

Existing research literature works are mostly related to the performance of giant e-commerce platforms and their performances which may not providing the complete picture of the scenario. Vast amount of research is needed to identify and address both technical and non-technical challenges from all the regions.

## **CONCLUSION**

The general concept of CBEC transactions, their supply chain, issues and challenges of supply chain along with probable solutions and recommendations are discussed in this chapter. E-commerce is taking over the places of traditional business, opening the border of national boundary for the trade. Consumers all over the world are using these platforms more and more. Although the popularity is skyrocketing, there are still limitations of supply chain performance that deter the real development of e-commerce in the global arena. E-commerce operations outside the country's border examine the integrative performance of supply chain network from both local and international level, along with the compatibility of the products and service in another market. Modes of CBEC supply chain should be selected based on the market and user demand following the efficiency performance. Security is getting a big concern above all. Blockchain technology adaptation is inevitable as the future of the e-commerce supply chain because the transactions are getting more and more complex to handle with existing technology. More academic researchers and practitioners should come forward to the developed improved supply chain.

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### **KEY TERMS AND DEFINITIONS**

**B2B2C:** Business-to-business-to-consumer is business transaction with the consumer keeping another business organization in the middle.

**B2C:** Business-to-consumer refers to business transaction directly from a business entity to the consumer.

**E-Retailer:** Electronic retailer is someone who sells their products or services online.

**Inventory:** Raw materials to manufacture products or the finished products.

**Product Review:** Access to comment and rate on the product site about the by the consumers.

**Product Sourcing:** Finding product with a view to resell it.

**UI:** User interface is user and device interaction point, usually consists of phone display, computer monitor, etc.

**VAT:** Value added tax.

# Chapter 4

## Cross–Border E–Commerce Payments

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### ABSTRACT

*The rapid expansion of the internet provides the world great achievements both in social and economic life. E-commerce has become one of the serenest ways of doing business and has a persuasive impact on the economy. It is the set of transactions that have been conducted through internet connections and computer networks. This chapter aims to look at the cross-border e-commerce payments. Specially, the chapter has focused on the trends in e-commerce payments, methods of online payments, effects of cross-border e-commerce, factors affecting cross-border e-commerce payments, friction of cross-border e-commerce system, drivers and impediments of cross-border e-commerce, growth of cross-border e-commerce in emerging markets. Moreover, this chapter shows how information has become the blood of e-commerce. It has extensive effects on the economy, society, and indeed national security.*

### INTRODUCTION

In the twenty-first century, the rapid expansion of the Internet provides the world great achievements both in social and economic life. E-commerce has become one of the serenest ways of doing business and has a persuasive impact on the economy. It is the set of transactions that have been conducted through internet connections and computer networks. It involves the buying and selling of products and services through the internet connection. As a result, it named as electronic commerce. The latest version of e-commerce is cross border trade. That means the combination of buyers and sellers will be across the national border. Though there are several impediments in cross border transactions like prolonged delivery, language barrier, tax and regulations, customer and seller loyalty, high cost, etc. The Internet, as

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## **Cross-Border E-Commerce Payments**

well as e-commerce, is changing the mode firms run by reclassifying how back-end operations – product design and advancement, procurement, production, inventory, distribution, after-sales service support, and even marketing – are conducted. In this manner, the Internet and e-commerce alter the roles and relationships of various parties, fostering new supply networks, services, and business models. The end results are proficiency improvements, change for the better asset utilization, quicker time to market, reduction in total order fulfillment times, and improved customer service (Terzi, 2011). Cross-border e-commerce can bring potential benefits to worldwide buyers. For instance, the worldwide buyer can buy high-quality products at lower cost from foreign markets through an export cross-border e-commerce supplier. In addition to monetary savings, other potential benefits for cross-border e-commerce buyers might incorporate improved product offerings. The success of cross-border e-commerce depends on firms attracting more buyers and increasing market share. This requires that buyers experience a satisfying transaction platform along with minimizing uncertainties and unexpected negative impacts and maximizing the benefits of purchasing. Hence, understanding how uncertainties and benefits combine to influence cross-border e-commerce buyer behaviors is a critical issue for both academia and industry. (Mou *et al.*, 2017).

## **Trends in E-Commerce Payments**

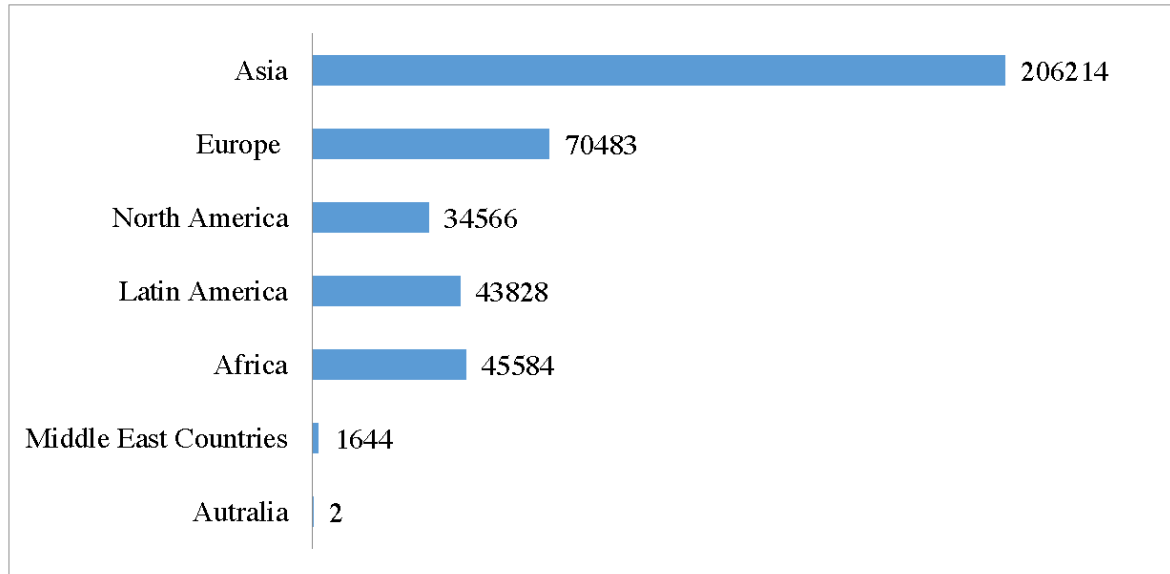
E-commerce can be characterized as utilize of the Web to conduct commerce exchanges broadly or internationally (WTO, 1998). E-commerce has come to require on two imperative parts; to begin with as a more effective and efficient conduit and aggregator of data, and moment, as a potential component for the replacement of numerous financial exercises once performed inside a commerce enterprise by those that can be done by outside providers that compete with each other to execute these exercises (ECLAC, 2002).

In prevailing, the intensity of use by diversified subjects of viable e-commerce services, first of all, correlates with such indicators as the number of Internet users in the country. By analyzing the figure 1, it is obvious that given the high population thickness and the quick spread of data innovation, Asia occupies the main position. Likewise, it is significant the nations of Europe and America, since these areas are profoundly evolved and the presentation of Internet advances are a piece of the dynamic improvement of business effectiveness. Discussing the retail online business deals around the world, it is seen that in 2017 retail internet business deals overall added up to 2.3 trillion US dollars (Fig. 2). The main 3 online stores' income (amazon.com, apple.com, wallmart.com) added up to right around 100 billion US dollars in 2017 (Babenko *et al.* 2019).

Throughout the planet, e-commerce is a much-growing venue without signs of a decline in 2019 and even in next year's. It stays a famous decision for the venture and new organizations, and further development will encourage the advancement of easy to use improvement procedures, innovations and, obviously, expanded challenge. Discussing investigation regarding web-based business portions, by the end of 2017, B2C internet business deals will hit \$2.3 trillion around the world. B2B web-based business, then again, will reach \$7.7 trillion. Those two information focuses speak to a 234.78% contrast in advertise size (Babenko *et al.* 2019).

Understood the growth in globalization, the way that the US share in worldwide online business deals is consistently declining isn't stunning in any way. In any case, numerous enterprises don't consider how quick this decrease truly does (Babenko *et al.* 2019).

Figure 1.  
Source: Babenko et al. 2019).



Where the United States once reigned in online business, it is normal that by 2020 their offer will be 16.9% (contrasted and 22.2% in 2015). Therefore, a lot of worldwide online business deals of B2B, specifically (84%), presently live outside of the western continent, for example, North America and Europe (16%). If the immediate growth of other countries is not enough to awaken the help of a global come, the easement of the West is another path to Often up any disinclined group members or leaders(Babenko et al. 2019).

An analysis of the portion of internet business in worldwide retail deals volumes likewise shows an inclination for quick development (Fig. 3). Directing an examination of the web-based business advertise with regards to existing online business models shows that B2B worldwide deals reach \$7.7 trillion in the USA in 2017(Babenko et al. 2019).

## Methods of Online Payments

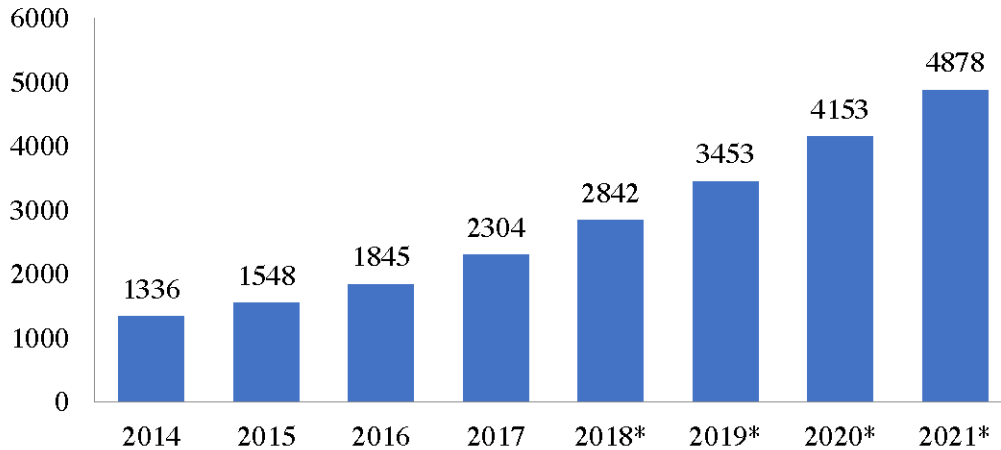
In this segment, diverse strategies on making online payments are talked about:

**Credit Cards:** A credit card is a payment card, released by a monetary institution that lets a person to borrow cash at the point of sale (i.e. checkout) to complete a purchase. Its enable the cardholder to pay a trade for goods and services based on the card users promise to the card issuer to pay them for the amounts plus the other agreed charges (Arthur and Sheffin, 2003). This has been the overwhelming shape of online payments when purchasing online. In any case, numerous individuals still stand up to the offer and straightforwardness of credit-card exchanges due to security concerns. Until presently there is a high chance for stolen cards, character robbery in this way clients fear credit-card extortion by sellers and other parties (Deitel et al. 2001). However, there are a few credit card guarantors who have

## Cross-Border E-Commerce Payments

Figure 2.

Source: Babenko et al.(2019).

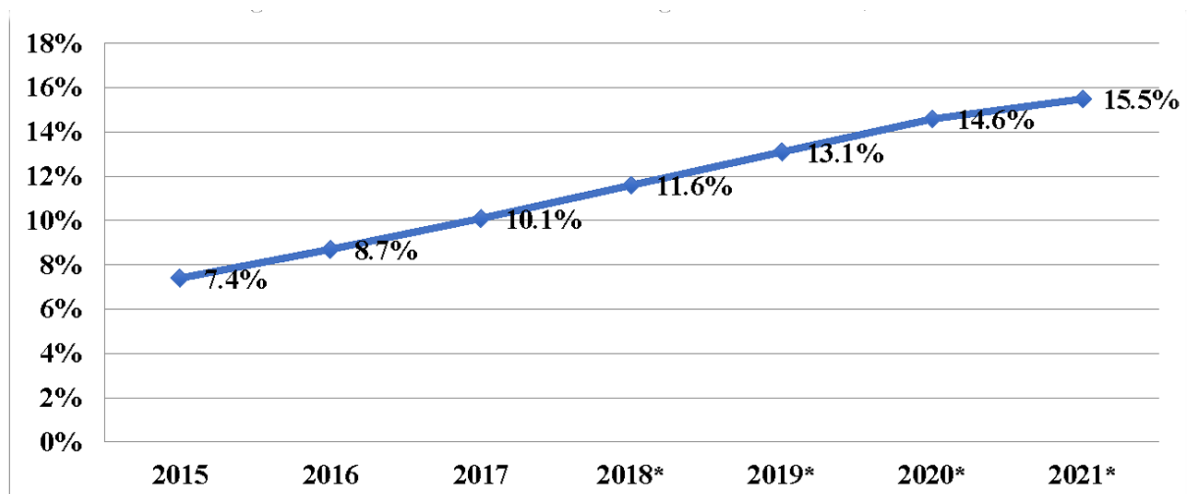


highlights that give online extortion security. For example, American Express credit card, Visa credit card of different bank.

**Virtual Credit Cards:** This virtual credit card is a development in online credit cards. Credit card issuer gives a special number that can be utilized in place of the regular credit card number to create online purchases. This permits the client to utilize a credit card online without unveiling the real number. Also, the user gives an exchange number rather than the credit card number – Example is Private payment by American Express (Deitel et al. 2001).

**Debit cards:** With the debit cards, the cash for an acquired thing comes specifically out of the holder's checking account. The real exchange of reserves from the holder's account to the merchant takes place inside 1 or 2 days (Turban et al. 2004).

Figure 3.



**Smart Cards:** This card looks like several plastic payment cards but it contains a microchip fixed on its face. This may hold more data than conventional credit cards with smart strips. Instead of holding as it were card's data, it can hold data for such as health care, transportation, identification, and bank and others. This empowers data for distinctive purposes to be stored in one area. The smart card can be used to make purchases over the Internet with the use of a card reader to read the card details necessary for payment and secure sending of data over the Internet (Turban *et al.* 2004).

**E-Checks:** An e-check is an electronic form or representation of a paper check. It contains the same data as a paper check and based on the same lawful system. It works the same as the paper checks in any case they are quicker, cheaper and more secure (Deitel *et al.* 2001). To pay by e-check, an account number is keyed in and alongside the bank's routing number. The seller authorizes payment through the customer's bank, which at that point either starts an electronic fundtransfer (EFT) or prints a check and sends it to the seller.

**Digital Cash:** Digital cash is an illustration of computerized cash, where it permits individuals who don't have credit cards to shop online. It is comparative to a traditional bank account: customers store cash into their computerized cash accounts to be utilized in the purchase online. This is often used with other technology such as digital wallets (Deitel *et al.* 2001).

**E-Wallets:** An e-wallet may be a computer software component that a client downloads to their desktop and in which the client stores credit card numbers and other individual data. When a client shops at a shipper who acknowledges e-wallet, the client clicks the e-wallet and the shapes are naturally filled in with all the vital data in just one click. Credit card companies such as Visa and MasterCard moreover offer this e-wallet (Turban *et al.* 2002).

**Peer-to-Peer Payments:** P2P payments are one of the fastest-growing online payment tactics as they allow the exchange of funds between two people. PayPal is one of the primary companies to offer this benefit. A client will open an account with the username, password conjointly an email address as well as the payment card or bank account number. At that point, the client includes funds to their account and once an account has been funded, the money can be sent to the recipient who additionally has an account at PayPal. The email that's sent to the beneficiary contains an interface back to the service's (PayPal) site and can exchange the money from the PayPal account to their credit card or bank account (Turban *et al.* 2002).

**E-Billing:** E-Billing is additionally called electronic bill presentment and payment (EBPP). This empowers the presentment, payment, and posting of bills through the Web. Presentment means taking the data that's regularly printed on a charge and facilitating it on a bill-presentment web server. Once the charge is accessible, the client can view it with the browser, survey and after that pay online. When the payment is gotten, it is posted into the biller's account receivable framework and the payment is exchanged from the customer's account (Turban *et al.* 2002).

## **Online Credit Card Payment Process**

Within the handling of a credit card payment, there are a few substances that play critical parts to form the online payment possible. For the payment to be fruitful, dealers must interface to arrange of banks (both acquiring and issuing banks), processors and other monetary institutions so that the data given by the customer can be directed safely (Bayles & Bhatia, 2000).

## **Cross-Border E-Commerce Payments**

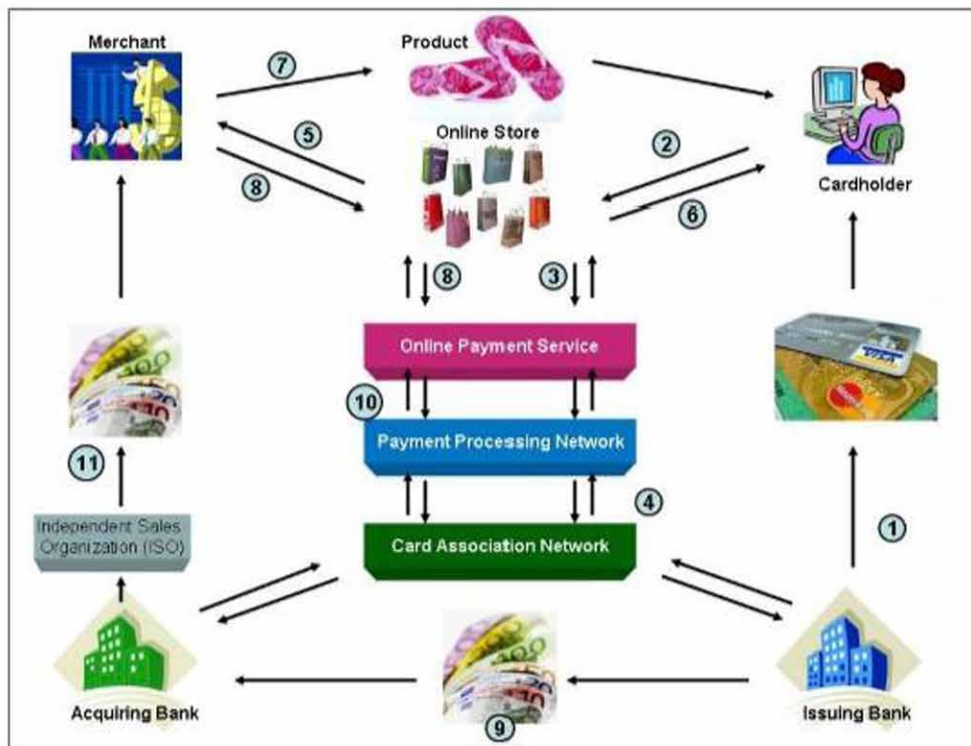
- **Cardholder** – the person or the substance or the client that employs his credit card to pay the purchase made online (Bayles & Bhatia, 2000).
- **Issuing Bank** – the monetary institution that issues a credit card to the cardholder. The issuing bank builds up and confirms the cardholders' credit line to see if he has available credit to pay for a product/service and it provides the cardholder with the monthly billing statements, etc. (Bayles & Bhatia, 2000).
- **Credit Card Issuer/Association** – a money related institution that gives credit cards and other items for banks who secretly brand items such as Visa Worldwide or MasterCard Worldwide. Moreover, they frequently set up programs for vendors to acknowledge the cards (Bayles & Bhatia, 2000).
- **Merchant** – the substance or a person that's offering products/goods or services. Goods can be either hardgoods (tangibles) such as attire, computer equipment any kind of goods that's conceivable to offer over the Web or softgoods (intangibles) for example service contracts or pay-per-view substance (Bayles & Bhatia, 2000).
- **Acquiring Bank** – an entity that regularly alluded to as the shipper bank or acquirer. It is the budgetary institution that empowers dealers to acknowledge credit card payments. The acquiring bank regularly works with the third-party processor to accept or reject the cardholder's credit card purchase or request, deposits funds into the merchant's bank account gives the merchant with the periodic deposit statements, etc. (Bayles & Bhatia, 2000).
- **Payment Application** – the application utilized by the merchant to ask credit card authorization and settlement of funds between the dealer and the procuring bank. This application can either be a self-managed application or an outsourced service (Bayles & Bhatia, 2000).
- **Third-party Processor** – too known as payment handling systems, front-end processors, or fair processors, the organization that works with a procuring bank (shipper bank) to prepare credit card transactions through the card issuers/associations. The third-party processor communicates to the card associations/issuers to get authorizations and execute fund exchanges. In a few cases, the procuring bank and the third-party processor may be the same substance (Bayles & Bhatia, 2000).
- **Independent sales organization (ISO)** – an autonomous operator that requests prospective merchants for merchant banks, ISOs are too alluded to as merchant account suppliers. ISOs help merchants in setting up merchant accounts and guarantee that the accounts interface to the third-party processors. ISOs may either accept partial or shared financial risk for merchant action (Bayles & Bhatia, 2000).

When utilizing the credit card for online payment, the merchant's account must be in place with the securing bank or with the third party service. As before long as the client makes a purchase online and pays utilizing credit card, it is required to present credit card data which is at that point sent safely over the internet to the merchants. Below is an outline (see Figure.4) on how is the method going on when a transaction of purchasing and payment (through credit card) is made online, as well as the step-by-step, prepares clarification of the figure. In any case, please take note that this can be a basic and non-specific online exchange handling, authorization and settlement where potential steps can be included in it (Bayles & Bhatia, 2000).

- a) **Card issued:** The client incorporates a credit card with him issued by the issuing bank with the credit limit and an available balance (Bayles & Bhatia, 2000).

- b) **Buy button:** The client visits a web location or the online shop utilizing a standard web browser and begin shopping and include the product(s) into his shopping cart. Upon checkout, it is required to submit credit card data, expired date, billing address. After this, he additionally chooses the method of shipping for example and then click the submit button to start the transaction. The data is then transmitted to the merchant's online shop where the outsourced payment service is setup. The outsourced payment service gets the encrypted information from the online shop, perform a fraud check and after that start the method of communicating the billing information and purchase amount to the third-party processor (Bayles & Bhatia, 2000).

Figure 4. Anatomy of an Online Credit Card Transactions  
Source: (Bayles & Bhatia, 2000).



- c) **Authorization request:** The outsourced payment service encrypts the purchase data or information and transmits it to the third-party processor, who will forward the data or information advance to the card association or card issuer for authorization and confirmation (Bayles & Bhatia, 2000).
- d) **Authorization response:** The issuing monetary institution confirms the credit card data and decides whether the client has adequate credit available to pay for the purchase. An authorization number is created and the available credit is reduced by the authorized amount. If it so happens that the credit card data isn't corrected or if there's not sufficient available credit, just then a message declining the transaction is created. Along with this short period, the issuing bank performs other operations

## Cross-Border E-Commerce Payments

such as address verification service (AVS), where the billing data entered online is compared to the entry in the issuing bank's database – typically the verification portion. After that, an authorization message is returned to the card association and sent to the third-party processor (Bayles & Bhatia, 2000).

- e) **Merchant notification:** The third-party processor gets the authorization message and other relevant data from the card association or issuer and starts the method of communicating the authorization message to the merchant. The third-party processor encrypted the authorization message and transmits the encrypted data to the merchant's secure commerce server (Bayles & Bhatia, 2000).
- f) **Shopper notification:** The merchant's server gets the data and is programmed to send quickly the purchase approval or decline message to the cardholder/customer. Normally when the credit card was declined, a few relevant data like a suggestion to check for the exactness of the data given or to use a different credit card is sent. As long as the client gets this data for illustration confirmed transactions he at the same time gets an affirmation number. It takes normally few seconds end-to-end from the moment that the client hit the purchase button until he gets the authorization message back. The authorization prepares usually not takes many seconds, depending on the merchant's payment application and methods as well as Web activity and other variables (Bayles & Bhatia, 2000).
- g) **Fulfillment:** The shipper starts the method of satisfying the customer's order with a suitable product/service (Bayles & Bhatia, 2000).
- h) **Settlement request:** The shipper compiles a group of orders that have been satisfied and starts the method of transmitting group to the third-party processor for the settlement. The shipper, to begin with, transmits the group to payment benefit that scrambles the purchase data and transmits the encrypted data to the third-party processor. The third-party processor gets this data and sends the settlement instructions to the appropriated financial institution to transfer the ticket amount from the cardholder's account to the merchant's account (Bayles & Bhatia, 2000).
- i) **Settlement:** For each credit card transaction, the appropriated monetary institution is debited and the cardholder's credit card statement is updated. The acquiring bank gets the reserves and deposits into the merchant's bank account (Bayles & Bhatia, 2000).
- j) **Settlement response:** The merchant gets the notice that the funds have been deposited into his bank account. Periodically, the merchant gets reports that can utilize to accommodate with his group settlement demands with his deposit activity (Bayles & Bhatia, 2000).
- k) **Funds available:** The interim between the merchant's issuance of a settlement request, funds exchange, and funds accessibility can take up to a few days, depending on the issuing bank, the procuring bank, and the third-party processor. The settlement cycle time is influenced by the procuring bank's holding period on stores, as well as other methods and approaches set up by the securing banks and third-party processors (Bayles & Bhatia, 2000).

## CROSS-BORDER E-COMMERCE OUTCOMES

### Savings of Time, Energy and Cost

Considering the categories of purchase that require physical conveyance, utilize of e-commerce for design and entertainment (i.e. DVDs and CDs) is getting to be more common. In any case, the homeware, nourishment and drink and hardware divisions are faring ineffectively (Morganti *et al.* 2014) Unlike a

traditional international trade, has cross-border e-commerce taken advantage of Internet technology, which brings comfort to both sellers and buyers in securing item information, causing information cost to reduce. Transaction gets to be simple for both sellers and buyers to compare items and carry out transactions on a cross-border e-commerce arena. It diminishes a large amount of time and money spent on negotiation. In this manner, the negotiation cost decreases. Transportation strategies for both traditional trade and cross-border B2B e-commerce are very similar. Both provide the merchandise by implies of transportation by ocean. Consequently, there's no significant difference in transportation costs between B2B and traditional trade. Taxes of B2B are nearly the same as those in traditional trade (Wang *et al.* 2017).

### **Reduction of Middleman Cost**

The middlemen cost diminishes in cross-border e-commerce since the Web technology connects sellers and buyers effectively, reducing the middle steps of transactions and price differences among dealers. Therefore, transaction costs will decay when and only when the increase of tariffs cost is less than the decreases in other costs (Wang *et al.* 2017). The change of information cost, negotiation cost, tariffs cost, and middlemen cost in B2C is similar to that in B2B. Therefore, in the B2C part, focus on the change of transaction cost. In B2C, as orders are small, and the goods are usually delivered by air, transportation cost is a serious burden for consumers (Wang *et al.* 2017). Therefore, the transportation cost will increase. In short, transaction costs will decline when and only when the increases in tariffs cost and transportation costs are less than the decreases in other costs.

### **Elimination of Physical Existence**

These days, clients can buy goods in borderless online markets. Cross border electronic commerce offers appealing opportunities to clients because of competitive costs and wide item collections. The quickly expanding international e-commerce market for online business-to-customer (B2C) supply shares the significance of income and distance factors with traditional offline business-to-business (B2B) worldwide trade streams. The most improvement with traditional international trade lies within the distance dimensions that separate online buyer's from e-business providers over borders. The internet has made the world flatter and a few have claimed the "death of distance", while others still find out cross-border distance effects for online trade but to a lesser extent than for offline trade (Kim *et al.* 2017).

E-business providers have different alternatives to decrease the distance from their online clients overseas. For example, they can reduce psychological boundaries for cross border clients by advertising websites in their language. It can be done by personalizing websites based on client-specific purchase history and individual data as well. By simplifying the search for options and comparison of products and suppliers through websites for worldwide product comparisons and supplier ratings, psychological boundaries can be removed. Suppliers can diminish time boundaries by advertising quick transport modes, such as express delivery, which results in shorter lead times between product order and delivery to the client (Kim *et al.* 2017).

### **Quick Means of Exchange**

The utilize of electronic means and the web can make the method of starting and doing exchange a lot easier, quicker, and less expensive. Collecting data could be a costly activity when it includes acquir-



## **Cross-Border E-Commerce Payments**

ing information over national borders. In reality, these costs can be so large that it can be considered a significant barrier to exchange. Finding the correct supplier, indicating the product's prerequisites and quality, negotiating the cost, arranging deliveries and promoting items is also expensive. With the internet and e-commerce applications, an entire process can happen without having buyer and seller in near physical closeness. In this respect, the internet will likely prop up trade in the same way as lifting other trade boundaries would. Hence, it is the volume of worldwide trade will likely rise. Particularly, the internet when organized through electronic markets through e-commerce applications reduces data costs and permits consumers and sellers to be coordinated and connected electronically, reducing the centrality of geographic proximity and traditional business systems (Kim *et al.* 2017).

## **Satisfactory Communication Medium Between Buyers and Sellers**

E-commerce will too have a vital effect on trade in services. The foremost significant change in trade in services is e-commerce and information technology's capacity to create non-tradable services into tradable. Exercises that were already non-tradable (i.e. inquire about and advancement, computing, inventory administration, quality control, bookkeeping, workforce management, promoting, advertising and distribution) will be traded through the use of e-commerce. All that's required is that the quality, speed, and cost of communication between buyer and seller to be satisfactory. International cross-border trade in a wide run of services, money related, lawful, broadcast communications and customized programs will progressively be carried out by electronic means (Kim *et al.* 2017).

## **Offered Benefits to Developing Country**

The potential benefits from international e-commerce to a developing country emerge from a lessening in the cost of imports as much as from an increase in the price received for exports. Indeed in case a nation does not trade any services, it can benefit from imports of services, paying for them in terms of goods. Cheaper accessibility of medical, designing and engineering services, long-distance learning and reduced costs of trade can confer benefits indeed if the nation does not promptly trade the services traded through the internet (Kim *et al.* 2017).

## **Improvement Supply Chain Management**

For a long time, companies had been disturbed by the gap between the benefits which supply chain technology has and the solutions to convey those benefits. In any case, the rise of e-commerce has given a more practical and successful way of delivering the benefits of the modern supply chain technologies. E-commerce system can integrate all inter-company and intra-company functions, meaning that the three streams (physical flow, financial flow, and information flow) of the supply chain may be moreover influenced by e-commerce. The affections on physical flows improved the way of item and inventory movement levels for companies. For the information flows, e-commerce enhanced the capacity of information processing than companies used to have. For the financial flows, e-commerce allows companies to have more efficient payment and settlement solutions. E-commerce encompasses a more sophisticated level of affect on supply chains: Firstly, the performance gap will be eliminated since companies can be aware of gaps between different levels of supply chains by electronic means of solutions; Secondly, as a result of e-commerce emergence, unused capabilities such implementing ERP frameworks, like SAP

ERP, Xero, or Megaventory, have made a difference companies to manage operations with clients and providers. However, these new capabilities are still not completely exploited. Thirdly, the company's works with technology would keep investing in modern e-commerce software solutions as they are anticipating investment returns. Fourthly, e-commerce would offer assistance to solve numerous problems that companies may feel difficult to cope with, such as political boundaries or cross-country changes. At last, e-commerce gives companies a more productive and viable way to collaborate inside the supply chain (Sridhar, 2017).

### **Creatin of Modern Work Opportunities**

E-commerce creates modern work opportunities due to data-related services, computer program software, apps, and advanced items. At the same time, it too causes job losses because it replaces traditional shopping and does not require an amount of in-store staff. Accompanied by the e-commerce advancement, it requires a broader range of skills in digit, innovation and information base. The employees ought to be capable of managing with a huge number of customers' demands and order process. In this manner, it increases the appeal of workers with high skills and specialized expertise as well as enhancement of the wages for this group of people. In differentiate; people with poor specialized skills cannot get benefit from the wage welfare. On the other hand, since e-commerce requires adequate stocks that could be delivered to customers in time, the warehouse becomes a vital component. Warehouse centers need more staff to manage, supervise and organize, thus the condition of the warehouse environment will be concerned by workers(Sridhar, 2017).

### **Maximization of Social Welfare and Economy**

The e-commerce and its interesting charm that has shown up steadily, virtual enterprise, virtual bank, network marketing, online shopping, payment and promoting, such this modern vocabulary which is unheard-of and presently has turn into familiar to people. This reflects that e-commerce has a tremendous affect on the economy and society from the other side. For occurrence, B2B is a rapidly growing business within the world that leads to lower cost and after that progresses the economic efficiency brings along the development of employment. E-commerce has changed the relative importance of time but as the pillars of indicator of the country's financial state that the importance of time ought to not be overlooked. E-commerce offers the consumer or enterprise different information required for the necessary operation. Besides, in theory, perfect competition between consumer sovereignty and industry will maximize social welfare(Sridhar, 2017).

### **Factors Affecting Cross-Border E-Commerce Payments**

**Customer Satisfaction:** In neoclassical microeconomics, customers base their personal choices on marginal utility in terms of costs and benefits. In line with this common thought, the hypothesis of buyer behavior proposes that consumer satisfaction comes about from an assessment of the rewards and sacrifices associated with the purchase. The experienced utility or fulfillment of consumption depends on the cost, quality, and esteem of items or services too for online clients. Consistency of cost with performance is an essential arbitrator of customersatisfaction in the process of pre-purchase expectation, real performance and post-purchase assessment. E-service quality in terms of proficiency, trustworthiness, performance,

## Cross-Border E-Commerce Payments

and privacy are key variables to empower repeat purchases and to build client loyalty. Online customer's involvement costs in terms of product cost, charged costs for transportation and delivery and waiting time between order and delivery and experience benefits in terms of quality of delivered products and value of offered services. Since online customers miss face-to-face contact with retailers, e-commerce managers need to pay consideration to all the perspectives of the purchase involvement and the satisfaction of their clients. Better experiences lead to higher customer e-loyalty, characterized as the "customer's positive outlook toward the e-retailer that comes about in repeat purchasing behavior". Loyalty is exceptionally vital for business profitability because it costs five to eight times more to attract a new customer than to hold an existing one. E-commerce is characterized by a generally high level of customer loyalty, depending on market share, positioning strategy, the concentration of customer spending, and the number of working categories. The service quality experienced by online clients can be improved by offering personalized web pages within the customer's language. The perceived costs can be decreased by altering transport pricing measures and by offering speedy delivery alternatives. Online retailers can attempt shipping-fee dividing strategies to generate more customer requests without destroying their margins by subsidizing light, little, and premium-priced items since customers wane about paying shipping charges for these categories. Customers can compete in online markets with the full product and price information by improving their physical distribution service performance (Kim *et al.* 2017).

**Distance:** A recent issue of much interest and debate is whether separate impacts are declining in modern globalized economies. Though a few have claimed that the death of distance, others find that distance effects are increasing for offline international trade. Results for cross border online B2C exchange are blended. E-commerce offers different offers to influence the distance perceived by online customers. Online shops can take up partitioned delivery pricing strategies that differ from genuine shipping charges, which depend mainly on product weight and volume. For illustration, online retailers sometimes offer free shipping for valuable products. Express delivery is of specific interest because it gives e-commerce managers the option to offer their online customers a trade-off between the two distance dimensions of delivery time and delivery cost. By including normal shipping costs within the product price, e-suppliers can display flat price when products are delivered by standard ground services. As express services by air are expensive and depend on the weight and volume of products, such flat rates are less attainable for express delivery. The charges for express delivery from the transport agent's increase with transportation distance, so that cross-border online shops may select to charge higher express delivery costs to customers to be found far away from their distribution centers. Online buyers can select between cheap and moderate standard delivery or quick and more costly express delivery based on perceived values (Kim *et al.* 2017).

**Express Delivery:** According to the theory of buyer behavior, customer satisfaction from purchase choices depends on the assessment of the sacrifices made and the rewards obtained. The above discussion appears that express delivery options present online customers with a trade-off between the give up of higher charges and the reward of shorter lead times. Customers will tend to compare the utility derived from express delivery with that of standard ground delivery in terms of the associated relative - as contradicted to absolute - gains and losses. The lead-time advantage is therefore characterized as the distinction between the delivery times of standard and express transport, relative to the standard delivery time. The quality of given services is critical to attract and retain e-customers. Reliability and speed of delivery are dominant variables, and express delivery gives a vital benefit to cross-border online buyers to reduce distance effects (Kim *et al.* 2017).

## Friction of Cross-Border E-Commerce System

**Cross-border e-commerce consumption:** Consumers meet numerous issues in cross-border consumption, among which credit issues are most prominent due to data asymmetry, poor transaction time, and network ambiguity. The performance is as takes after: the seller loses his confidence; the logistics party loses credibility, etc. Besides, there are moreover troubles in the unification of product standards, more complaints of wrong bills, weak awareness of intellectual property rights and assessment of information security issues. Not only does harm to the interest of consumers, but moreover is hindering the further improvement of cross-border e-commerce (Shen *et al.* 2018).

**Trade, Tax Barriers:** In the way of cross-border trade, exchange trade, barriers, trade wars, and tariff warfare must raise the cost of domestic seaborne products. Moreover, it also harms customer concentration, which affect consumer demand for abroad shopping and hamper the enhancement of cross-border e-commerce. In expansion, anti-dumping measures in a few nations additionally hinder the foreign trade of cross-border e-commerce (Shen *et al.* 2018).

**Cross-border payment issues:** At present, the management of the capital of cross-border e-commerce companies is usually based on common trade supervision. In any case, in practice, it is hard to recognize payment collection and payment compatible with common trade regulations. In authentic transactions, cross-border e-commerce recognizes the collection and payment of reserves through the offshore accounts, personal spin-offs, underground banks, and extra channels. The need for standard payment frameworks and channels has driven to the uncertainty of cross-border income and use reserves, threatening the company's cash flow and working stability (Shen *et al.* 2018).

## Drivers and Impediments of Cross-Border E-Commerce Payment

**Bad credit environment:** Both the genuine economy and the virtual economy require a great commerce credit environment as a guarantee. With the fast advancement of cross-border e-commerce, a great commerce credit environment is direly required as a guarantee. On the one hand, enterprises or businesses can be effectively bound to guarantee that they can be strict and fair transactions. At the same time, it can also prevent blackmail from very bad buyers and ensure the interest of the trade. On the other hand, for consumers, there's a perfect credit systems and the consumer's purchase products have been guaranteed. As a result, the system effectively secures the rights and interests of customers (Hu & Luo, 2018).

**Incomplete cross-border logistics system:** The logistics framework, the credit environment, and the payment framework are the three most important factors that constitute the cross-border e-commerce. Whereas the credit environment and payment system are gradually perfected, the development of the logistics framework is the foremost vital portion of the cross border e-commerce (Hu & Luo, 2018).

**Imperfect cross-border payment system:** In case of cross-border payment, online payment and settlement can generally be carried out through bank cards, electronic cash, electronic checks, and other ways. Among them, bank card payment is still the most form of online transactions. The market access mechanism isn't standard: Within the cross-border e-commerce trade, the third-party payment institution plays the part of the foreign trade revenue and expenditure management and is the agents of the national foreign exchange management policy. At the same time, it also plays the part of the third party to guarantee payment and is the administrator of the market transaction behavior. In this way, it seems that the third-party payment institution plays a vital part within the cross border payment framework.

## **Cross-Border E-Commerce Payments**

Consequently, it is unavoidable to standardize the development of the market access mechanism of the third-party cross-border payment institution(Hu & Luo, 2018).

**The risk control mechanism is not sound:** The cross-border e-commerce enterprises carry out international trade activities through the internet, which have the characteristics of the network, virtualization, and globalization. The funds within the trade are exchanged through the third-party payment institutions. In any case, this exchange channel is exceptionally simple to create into a circulation channel for illegal funds, which brings great challenges to the risk control work of the country. On the one hand, in the third-party payment commerce, the money paid by the customer is the short-term precipitation fund due to the periodic impact of the transaction completion time. Besides, the short-term control of these precipitated funds is in the hands of the third-party payment institutions. Anyway, if these funds are not managed successfully, it'll lead to the security of reserves and the risk of payment. On the other hand, some third-party payment institutions have irregularities within the way of commercial operation, which provide ease for International credit card malicious overdraft and cash in, illegal access to funds, cross border deceptive transactions and other illegal activities. At the same time, the risk control mechanism isn't sound to enhance the control of this kind of illegal behavior(Hu & Luo, 2018).

**Privacy risk:** The potential loss due to extortion, hackers as well as private data misuse without a buyer's authorization during cross-border trade(Mou *et al.*, 2017).

**Confiscation risk:** The potential for loss due to the product being intercepted or reallocated by the customs authorities of the destination country(Mou *et al.*, 2017).

**Issues that arouse customs supervision:** Fragmentation of foreign trade is getting to be progressively clear in cross-border e-commerce. Portion of the traditional trade in products has been divided into cross-border e-commerce. Entry and exit by mail and courier. Cross-border e-commerce customs clearance has the characteristics of small batches, high frequency and brief cycle, which brings many modern regulatory issues to customs supervision(Dai & Chen, 2019).

**Credit security problems exist in cross-border payments:**A key interface within the cross-border capital flow of e-commerce is cross-border payments. Due to this, the advancement of the third-party cross-border payment industry is speedy. Regardless, compared with domestic third-party payments, it has more complicated business models and processes (Dai & Chen, 2019).

**Lack of professional foreign trade talents:** The need for personnel specialized in foreign trade has turn into a major impediment to the advancement of cross-border e-commerce. This happens in the following areas: first is a small online retailer. Most people occupied in cross-border e-commerce come from traditional businesses or other foreign trade section. In the case of cross-border e-commerce, it is required to communicate with foreign customers in simple English, but they may not know anything about other languages. Under the current circumstances, qualified talent is still exceptionally rare(Dai & Chen, 2019).

## **Growth of Cross-Border E-Commerce in Emerging Markets**

Cross-border e-commerce has presented new dynamics to international trade. It typically includes less intermediate links between sellers and buyers but has a higher demand for services, particularly data, payment, and logistics. Cross-border Business-to-Business (B2B) e-commerce has been relentlessly developing since the 1990s. The growth has sped up with the extended and deepening of global value chains (GVCs) in the 21st century. At present, B2B still overwhelms cross-border e-commerce. But the 'e-related' changes can be troublesome. It is the radical development of Business-to-Consumer (B2C) and Consumer-to-Consumer (C2C) that has pulled in the public's consideration of global e-commerce.

UNCTAD (2016) appears that worldwide B2C e-commerce has been growing faster than B2B exchanges, and the e-commerce market within the Asia-Pacific region is now growing speedier than other regions in the world (Chen, 2017).

## **Benefits for Customers**

Consumers take advantage of individual company's retail websites centering on B2B and B2C as well as online marketplaces that also give C2C services, such as Amazon and eBay. The entire number of digital customers around the world developed by over 100 million between 2011 and 2012 and the number kept on growing a short time later. Digitalization provides customers diversified retail channels with more choices. The share of online sales in total income kept expanding in later a long time. In addition, new business models, such as the combination of an online market with a brick-and-mortar store, have also developed and increasingly got adopted by sellers and buyers (Chen, 2017).

## **Growth in Asia Pacific Region and Around the World**

E-commerce deals have climbed consistently around the world, with supported development. E-Commerce Foundation (2017) accepted that the real market turnover of B2C e-commerce was as much as US\$2.3 trillion by the conclusion of 2015. According to Chen (2017), Asia-Pacific is the region where e-commerce experienced the quickest development within the world. The share of e-commerce in worldwide retail deals expanded by 12 percentages between the years 2015 and 2016. During this period, the markets of B2C e-commerce in China and India were flourishing rapidly. Chinese market extended by 27%, which of India expanded by 75%. China has been the world's biggest B2C e-commerce market. In 2016, Chinese yearly B2C e-commerce turnover come to US\$975 billion, comparable to the combined market estimate of the United States (the second biggest) and the United Kingdom (the third biggest). Measured by global internet reach, 8 out of the 13 worldwide biggest online retail and sell off destinations (by mid- 2014) are Chinese companies. In 2015, the Indian advertisement was comparable as it was to around 70% of the Canadian market. In any case, in a year, its market measure come to US\$44.7 billion and surpassed that of Canada(Chen, 2017).

## **Average Income from Cross-Border E-Commerce Payment**

Worldwide income from cross-border e-commerce was anticipated to reach US\$600 billion in 2018, twice as much as that of 2012. China is among the frontrunners of cross-border e-commerce. The net market value of cross-border e-commerce by China represented about one-eighth of its total trade in 2013. Its share was anticipated to further increase to around 20% by the end of 2017. In general, the scale of advanced economy in ASEAN is projected to extend by 5.5 times by 2025 (Think with Google, 2017). At that time, the Asian market will account for about 40% of the world total revenue generated by cross border e-commerce, making Asia the worldwide epicenter of e-commerce (BCG, 2014). China tends to be a fundamental engine of e-commerce development. Between 2015 and 2020, the e-commerce penetration into Chinese foreign trade is evaluated to extend at the rate of 20%–40% per year, higher than the yearly development rate of international trade in goods. According to the projection distributed by AliResearch (2016), by 2020, the measure of Chinese cross-border e-commerce market transactions will reach 12 trillion Chinese Yuan (CNY), about three times as that in 2015, speaking to nearly 40%

## **Cross-Border E-Commerce Payments**

of its total import and export. B2B exports still overwhelm China's cross-border e-commerce, but B2C has been gaining certain progress and expanding its share, on both export and import side. By 2020, China's gross e-retail deals (B2C furthermore C2C) are projected to exceed CNY 10 trillion, bookkeeping for 20.7% of total retail deals of consumer goods. Cross-border e-commerce retail turnover will exceed CNY 3.6 trillion, which 1.5 trillion CNY in imports and 2.1 trillion CNY in exports. From a technical point of view, the combination of e-payment and smartphones has greatly encouraged online shopping. Smartphones get to have accounted for more than half of retail websites visit around the world and around one-third of e-retail revenue. Companies specialized in cross-border e-commerce have experienced quick advancement in the mobile business. For example, within the case of DHgate.com, site visits from mobile devices accounted for 42% of the platform's total visits in June 2014. The number of orders sent from mobile terminals has expanded over two times annually. Another company, Lightinthebox.com, also saw mobile business as a main driving force behind its revenue growth. Over 30% of the orders in 2014 came from mobile devices (AliResearch, 2016; Chen, 2017).

## **Income from Mobile Payment Market**

The overall yearly income of the worldwide mobile payment market was evaluated to reach US\$450 billion in 2015. The market is anticipated to grow by US\$150 billion–170 billion per year. Concurring to the projection, the measure will break the mark of US\$1 trillion by 2019. Mobile and PC stages tend to be associated in advance with each other. It has been popular for mobile businesses to embrace multi-app techniques. Within the following 5 years, an expanding share of private consumption increases will come from worldwide e-commerce development. Sustained growth of online customers gives a strong base of e-commerce consumption. By June 2016, the scale of online customers in China has come to 448 million and the online shopping usage rate has come to 63% (CNNIC, 2016). Singapore (60%), Malaysia (52%), and Thailand (51%) are among the world's top markets with the highest online shopping penetration rate as well (Chen, 2017).

## **Performance of World E-Commerce Market**

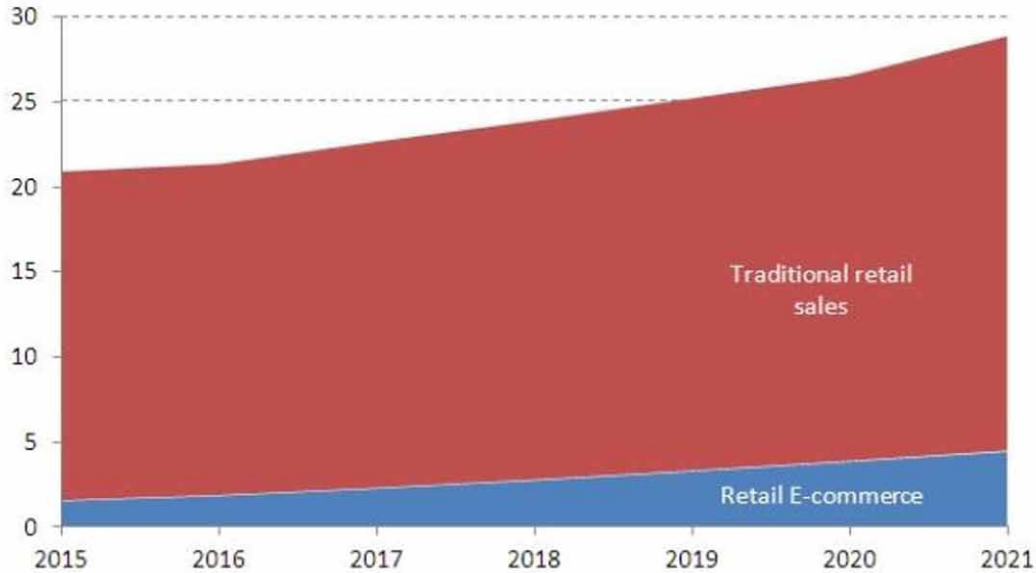
The scale of the worldwide e-commerce market keeps booming. The normal yearly growth rate of retail e-commerce sales will reach 20% or indeed more. This can be much higher than the growth rate of conventional retail sales of 4% per year. The proportion of online and offline retail deals is anticipated to be 1:4 by 2021 (Chen, 2017).

E-commerce in most CIA markets will see double-digit development within the following 5 to 10 years. According to Statista (2016), the top three fastest-growing retail e-commerce markets within the world will be Malaysia, India, and Indonesia – all develop at a rate of over 20% per year. By 2021, the estimate of the e-commerce market in India will be bigger than that of ASEAN. But e-commerce in China will keep high-speed development as well, with a yearly development rate of around 17% (Chen, 2017).

From 2015 to 2021, regional total market revenue will increase from around US\$320 billion to over US\$900 billion. The Chinese market will contribute over 90% of the growth. Accordingly, China's share in the world e-commerce market will increase from approximately 30% in 2015 to about 40% in 2021. India and ASEAN will increase their combined weight in the global market from 2.5% to 4% (Figure 7) (Chen, 2017).

Figure 5. Retail E-commerce Sales Worldwide, 2014-2021 (unit: US\$ billion)

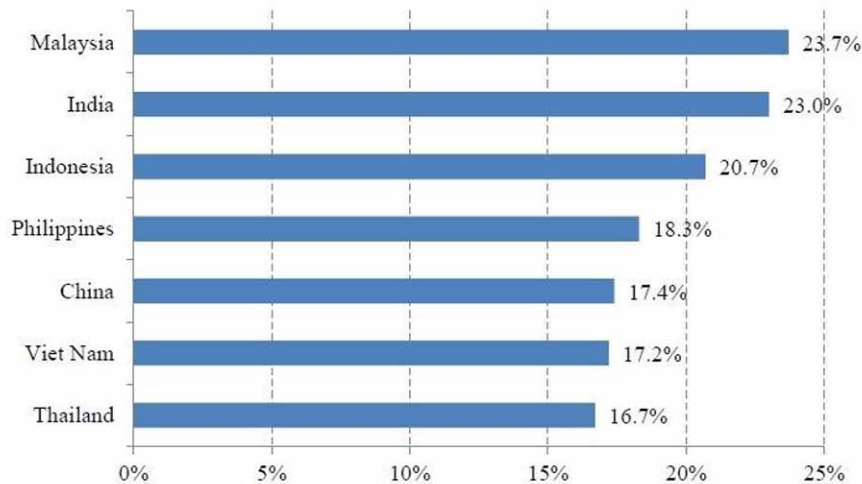
Source: The author. Raw data from Statista (www.Statista.com) (2016).



E-commerce is getting to be more and more demanding in terms of both innovative business models and consumers' expectations. The deliberate needs of this market are changed due to developing differences of items (e.g. books, clothes, customer gadgets, domestic appliances, building materials)(Kawa & Zdrenka, 2015).

Figure 6. Compound Annual Growth Rate, 2015-2021

Source: The author. Raw data from Statista (www.Statista.com) (2016).

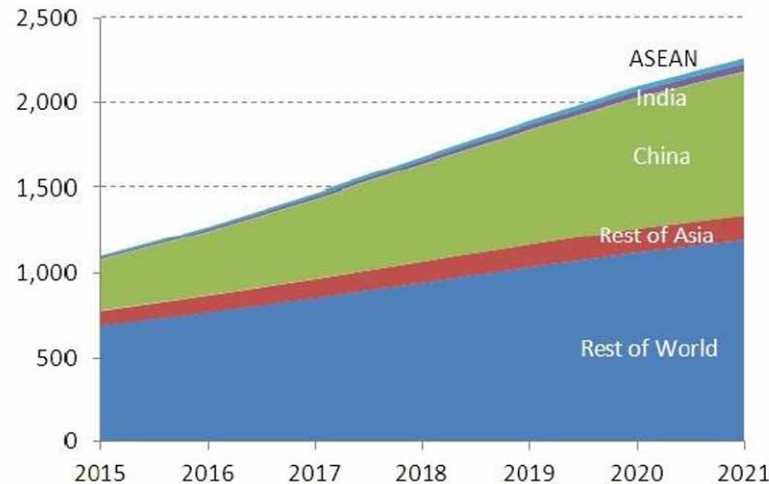




## Cross-Border E-Commerce Payments

Figure 7. E-commerce market revenue, 2015-2021 (unit: US\$ billion)

Source: The author. Raw data from Statista (www.Statista.com) (2016).



## CONCLUSION

E-commerce isn't a new industry but it is making a new financial model. Most people agree that e-commerce will positively impact economic society within the future but in its early stages, its impacts are difficult to estimate (Chen, 2017). Controls on e-commerce will cover traditional trade issues (i.e. taxes and non-tariff measures, exchange help, IPR security, etc.) as well as modern issues (i.e. cross-border data flow, privacy assurance, information localization, source codes disclosure, etc.). Although numerous nations have concurred on issues approximately trade help such as the acceptance of electronic verification in commercial transactions and the use of customized electronic designs in paperless trade, reaching an agreement on a few core issues about e-commerce is never an easy task. Rule setting in international information flow could be a direct illustration. Information is the blood of e-commerce. It has extensive effects on the economy, society, and indeed national security (Chen, 2017).

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# Chapter 5

## Cross–Border E–Commerce Security Issues and Protections

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### ABSTRACT

*E-commerce enables brands to reach their customers globally anytime they want to shop and provide convenience to the busy and demanding customer. These days, cross-border e-commerce is accelerating faster compared to domestic e-commerce. Cross-border e-commerce is considered to be a separate body which has its own budget and resource allocation. It focuses on new opportunities that help in gaining market share and sales. This can result in lower marketing costs in the long-term. India contributes 0.8% of a \$600 billion global cross-border e-commerce market. Thus, this is an enormous target segment that exporters can focus to expand their international business. There are numerous advantages of cross-border e-commerce, which will be discussed in detail in this chapter. This chapter discusses the meaning of GDPR, the subjects of GDPR, and the effects of GDPR on individuals and organizations. This chapter also states the impact of GDPR on different fields and technologies. In addition, the major cross-border e-commerce security issues are analyzed, and optimal solutions are discussed.*

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## **1. INTRODUCTION**

International Online Trade is generally regarded as cross border E-commerce. As per World Trade Organization (WTO), in fourth quarter of 2019, the world has witnessed 4784 billion dollars exports trade and 4842 billion dollars imports trade. As per Mc Kinsey reports ecommerce constitutes around 12% of this global trade. India Contributes 0.8% of a \$600 Billion Global Cross Border e-commerce Market. Thus, this is an enormous target segment that exporters can focus to expand their international business portfolio. However there are major challenges such as uncertainty in foreign trade policies, lack of proper infrastructure, lack of global ecommerce policies that are hindering the growth of the field. Considering the current scenario, online retailers should be able to adopt the fluctuations and changes in the currency market, and they should even be able to fulfill the payment preferences of the users. Even though lots of users and shoppers are using credit cards, PayPal and many other online payment modes, there are some people who still prefer cash on delivery. In some countries, people still prefer payments through demand drafts. When it comes to cross-border sales, shipping and logistics are the two biggest hurdles faced by the retailers. Except for digital downloads, strong logistic process should be developed. Not only for online retailers but also for offline retailers, effective logistics is always considered to be a great boon.

The products in cross-border e-commerce will require long distance transport. The logistics related issues should be taken into consideration and there is a need to address them. There is a need to overcome the increasing prominent factors like long transport time, high shipping costs and bad return services. Hence, there is a need to maintain international cooperation between all involved parties like governments, merchants and service providers. Some small business organizations and retailers feel it difficult to offer reverse logistics due to expenditure related costs, custom duties and many more related factors. Furthermore, these retailers need to opt for a logistics partner which will be able to facilitate international access and capable of providing that level of customer trust. This factor is also quite prominent when it comes to payment and fraud prevention. The partner should provide support for paperwork related to cross-border sales and payments. Also to smooth the path of cross-border e-commerce multiple parties have to work alongside simultaneously. The problem arises from the fact that each of the parties will have a different motivation level, understanding and sense of urgency.

Expansion of cross-border e-commerce internationally demands an understanding of the fraud profiles of the countries in which merchants find to offer services as well as appreciation of buying behavior and consumer payment preferences in those countries. The way of implementation of fraud prevention measures will depend on the specific nature of the data security and consumer protection legislation in each country. With the introduction of new sales channels and payment methods, these are targeted by the fraudsters. So, well suited fraud prevention strategies are required. The mobile fraud rates are above the average level. As the mobile commerce grows rapidly around the world, more fraudsters can be expected to target this channel. There is a need to tailor the fraud strategies and rules carefully and precisely which helps to address both specific authentication challenges that are presented by the mobile commerce and particular behaviors of the mobile consumers in the different parts of the world. In spite of the risks and complexity, the mobile commerce and the international e-commerce provides a clear and compelling opportunity for online merchants.

This chapter will discuss the legal challenges faced by a non-EEA e-commerce business in complying with the cross-border data transfer restriction under the GDPR (Geko and Tjao, 2018), with respect to its processing of customer's personal data. Also will discuss in detail about GDPR and cross border

data flows, recommendations for non-EEA e-commerce businesses and a system namely APEC which focuses exclusively on the cross border privacy rules.

The chapter is summarized as follows: Section 2 discusses security vs. privacy in cross border e-commerce. Section 3 deals with security threats in cross border e-commerce. Various security technologies and solutions for cross border e-commerce is highlighted in section 4. Privacy threats in cross border e-commerce is discussed in section 5. Solutions to overcome privacy issues are discussed in section 6. GDPR law is introduced in section 7. Issues before GDPR and key stakeholders of GDPR are discussed in section 8 and 9 respectively. Section 10 and 11 discusses in detail about impact of GDPR and technological impact. Future of GDPR is summarized in section 12. Section 13 and 14 discusses the two payment standards namely PSD2 and PCI SSC. Finally, section 15 concludes the chapter.

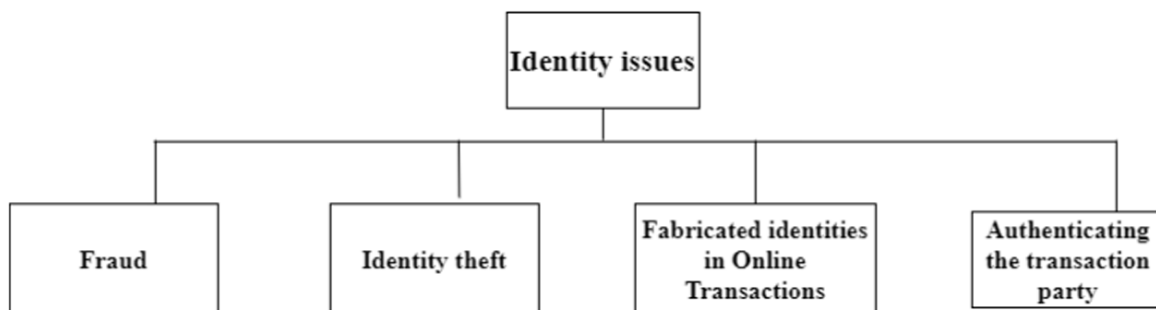
## **2. SECURITY vs. PRIVACY**

There are two important terminologies with regard to cross border e-commerce. E-commerce security is very crucial as transactions have to be securely completed across borders. There can be many frauds in cross-border payment due to lack of standardized and consistent procedures. However, digital identity is also critical to ensure privacy in cross border e-commerce. Complex online transactions can be made by the user if the digital identity is reliable. However, there are few identity issues which are specified in figure 1. These are few of the real life issues concerning privacy of the users. The chance of a trust based decision increases if there is availability and reliability of the accurate information about the identity of the remote party. It is very important to verify the identity of remote users such as identifying

- who is accessing an online sensitive database
- who is performing an online transfer of funds from an account
- who digitally signed an electronic contract
- who authorized remotely a shipment of product
- who sent the email.

The issue of mistaken identity (Kono et al., 2002) such as incorrect identification, faulty authentication and misuse of personal data in e-commerce transactions creates other necessities in online transactions like

*Figure 1. Identity Issues in Cross Border E-Commerce*



## ***Cross-Border E-Commerce Security Issues and Protections***

- A basic requirement for implementing identity management is electronic signatures, electronic transferable records and single window for mobile payments etc.
- The identity provider's liability for any harm suffered by the relying on party may well be subject to which legal theories and law of jurisdiction apply.

### **3. SECURITY THREATS IN CROSS BORDER E-COMMERCE**

Businesses are in a hurry to go online and fail to notice the hidden serious legal consequences. E-commerce is developing and courts do not follow the same procedure for online issues and also confuse businesses and consumers due to different elucidations of diverse courts.

Cross border security (Lawrence and Tar, 2010) is established in certain categories of transaction. For instance, in procurement of finance transactions, a collection company in one jurisdiction may be required to provide security over its possessions and/or an English company in the collection may own assets in other jurisdictions. Security documents have to be drafted by the local advice for the investors and checked by the investors' main counsel. Further, a review will be conducted by the native and main counsel for the sponsor/group. Any transaction that involves security issued under local law, lawyers' legal view is required from every relevant jurisdiction which will provide comfort to the investors that the security interests have been created.

Security issues are a border for adoption of e-commerce. The numbers of frauds in ecommerce are rising swiftly and it is projecting in cross-border purchasing. According to a survey by LexisNexis [22], fraud in international networks is 2.5 times higher than domestic networks. False declines can distance customers and are costly to suppliers. There are many security issues associated with Cross Border E-commerce. They may be either due to the human negligence or due to the unauthorized access to the system (Skendzic et al.2018). Credit card fraud and data leakage errors are most likely to occur.

#### **3.1 Credit Card Fraud**

Credit card fraud occurs when the hacker gains access to user's personal data and payment information. The hacker will penetrate the database and will steal the personal and payment information after gaining unauthorized access. This data can be misused or it may be sold on black markets. This fraud is executed through internet services such as chat-rooms, e-mails, message boards or software. It is discovered that 12% of internet users across the EU have been susceptible to online fraud and 8% have experienced identity theft. The users in countries like Hungary, Malta and UK also experienced 16% online fraud (Robol et al.2017). Poland records with the highest rate of 18%.

#### **3.2 Fraudulent Websites**

Fraudulent websites sell electronic products or used accessories for cheap prices which are not delivered to end users. These websites display the products with low prices and some also offer discounts on products like smart phones, laptops and cameras etc. Customers are attracted since they offer significant discount. These fake sites gather advance payments as many as possible, and disappear from the web thereby deceiving the customer with neither money nor the product. These online vendors usually

requests payments through a money wiring company which will leave the customer with no recourse when the product fails to arrive.

### **3.3 Sale of Counterfeit Products**

Sale of counterfeit or fake products is also a serious issue encountered by people on e-commerce websites. Some fraudulent websites take great steps to appear like the official distributor of the brand. The products will be displayed for less process. The customer will order the products and the payment will be mostly in the form of money transfer. Due to this consumers may lose their money and will be asked to pay the compensation by the trademark office. There will be certain life threatening counterfeit products like medicines hence these type of products should be determined and serious actions should be conceded on them.

### **3.4 Phishing Scams**

E-commerce websites are prone to phishing scams by hackers. This may be in the form of emails or any other form. They aim in targeting the user data like credit card and other login credentials. Some may even misuse the data by selling it to other organization which is a serious issue. The hackers may use social engineering to attract the online shoppers who can reveal their personal information.

### **3.5 Malware**

Malicious software which gains access to the user's data in a malicious manner such as SQL injection. The hackers can easily inject the malware into the database and will gather the user's credit card or any other personal details. Many attacks like DDoS, Man-in-the-middle attack and bad bots will also hack the websites and collect the user's data.

## **4. SECURITY TECHNOLOGIES AND SOLUTION**

Implementing a solution for cross border fraud is complicated. Suppliers will risk losing business if consumers fear to purchase. Many fraud protection solutions are devised such as increase in manual mode of review. The purchasing process is added with many layers of protection namely decreased conversion rates and increase in cart relinquishment. Few solutions are as follows:

- Biometric authentication of fingerprint or iris scan is one solution to minimize frauds and can also analyze purchase's characteristics. Suppliers will invest in such solutions and customers will be safe.
- New payment protocols are implemented to minimize card fraud problem across in-store, online and mobile payments.
- EMV cards are implemented with microchip for increasing security. Dynamic cryptograms are generated whenever the card is inserted in to the terminal for payment. With every purchase, the cryptograms change and thus it is very tough for the attackers to create forged cards that can be used for in-store transactions.



## ***Cross-Border E-Commerce Security Issues and Protections***

- Encryption of payment data is widely implemented to minimize the attempts of fraudsters in utilizing the payment data for future transactions.
- Sensitive data related to payment is encrypted from the point of capture at the payment terminal till the gateway. Thus, attackers find it difficult to retrieve the data and deploy it in online transaction.
- Schemes like tokenization assign a random value to the data and attackers cannot retrieve the sensitive information from the token. Tokens are used multiple times which means suppliers need not force users to enter their payment details. An emerging approach of tokenization is deployed in Apple Pay.
- 3D secure increases the level of authentication by adding one more layer of information from the user namely pass code or biometric data apart from the payment data to finish the online transaction.

## **5. PRIVACY THREATS IN CROSS BORDER E-COMMERCE**

Secure e-commerce systems are facing certain challenges given below due to the critical importance of identity management systems.

- Cyber Security
- Regulatory Uncertainty
- Lack of user's control
- Lack of interoperability and standardization

These challenges can be addressed as follows:

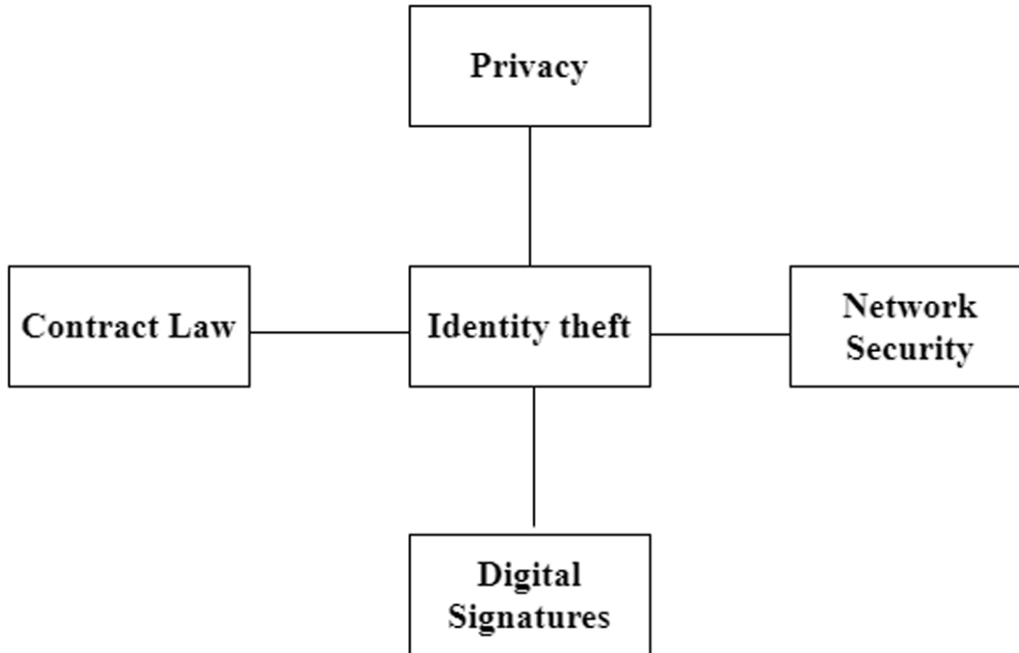
- Legal status of identity management must be clarified
- Identifying legal obstacles in cross border identity management systems
- Adequate legal tools for mutual recognition
- Enabling environment for identity management

## **6. TECHNOLOGIES AND SOLUTIONS FOR PRIVACY**

Emerging technologies like biometrics, block chain and artificial intelligence can help to build secure identity services, in particular by governments and financial institutions. Solutions developed should meet the objectives of improving user experience and ensuring secure identity. Multiple language options and many currencies for purchase used in the application create a more localized experience for customers. The global e-commerce should enable shoppers to quickly and easily complete transactions from many countries and territories involved without leaving the merchant's site. International customers can store their preferred billing and shipping address, payment options and shipping options for future purchase which can prevent the data leakage of payment transactions.

A Cross-Border Privacy Rules System is a solution available in APEC which is assisted up by an APEC Cross-Border Privacy Enforcement where controllers can share information about cross-border

*Figure 2. Privacy Issues and Solutions*



privacy issues and direct consumer grievances to the appropriate jurisdiction. For example, a customer in Australia can file a complaint to an Accountability agent if they are any issues with how a company is managing their personal information. The regulator in the jurisdiction can address the complaint where the company is located. APEC Data Privacy Sub Group works to address data management issues in a flexible way.

## **7. GENERAL DATA PROTECTION AND REGULATION**

GDPR (General Data Protection and Regulation) is a framework about Personal data protection and privacy policy of the individuals of the European Union and European Economic Area. From 25th May 2018, GDPR is directly applicable in all EU member states. With the increase in the amount of personal data the need for protecting such data also increases. It is a fundamental right to protect the personal data. Since it is a fundamental right, it also increases amount of risk in protecting such data. The data of the individuals which is used to personally identify them is called Personal data. This personal data should not be processed without the permission of that particular data subject. GDPR contains a set of rules which states how and when it can be processed. GDPR will allow the individual to have control over their personal data. That means whenever a person wants to demand his personal data, the company should give his data and if the person wants to delete the data the organization should do it.

This framework includes a set of rules which will define how the data of the individuals will be controlled, collected, stored, deleted and transferred. The data of the individuals include Personally Identifiable Information (PII) like name, email, passwords, profile photos and bank details etc (Skendzic

et al.2018). This also includes the posts on the social media and sometimes the IP addresses and cookies. Before the GDPR there is no guarantee for the protection of our data. Data Protection Officer (DPO) (Skendzic et al.2018) was not mandatory for the organization. Some organizations may send the data to others without our concern. Some may misuse the data and try to send spam emails and messages. This may lead to data breach.

The business organizations should inform the data subjects in case of any harmful data breaches or attacks without any delay. Before the GDPR, the users cannot take their data and move it to the another competing social media platform. It was difficult or sometimes it was not possible for the user to access their data. The users were unable to access the copy of their own data what business organizations keep about them. It was a difficult task for the users to delete their data. Before the GDPR the data protection authorities had limited powers and means to cooperate, provide guidance, interpret and adopt binding decisions. If the company violates the data protection rules the authorities had a limited or sometimes no fine. But after the GDPR, if the organization violates the rules, it should be supposed to pay an amount of up to 20 million EUR or 4% of the organization's[7] worldwide turnover.

Confidential data like passwords may be protected but some of the details like name, email etc. will be misused without the user's concern. This is done without bringing to their notice. After the GDPR, they have control on their data. If they want to delete the data the organization has to do it for sure. In some cases the data can be used without their concern. That is like medical purposes or some forensic organizations. Even to do this there should be a specific reason and it should be a valid one. The DPO who has a certification in GDPR is mandatory should take care of the data and its privacy.

## **8. ISSUES RAISED BEFORE GDPR**

Before the GDPR the data protection authorities had limited powers and means to cooperate, provide guidance, interpret and adopt binding decisions. If the company violates the data protection rules the authorities had a limited or sometimes no fine.

- **Lack of consumer confidence.**

The customer confidence lacked before GDPR. Data Protection Officer (DPO) was not mandatory before GDPR. Only certain companies hired DPOs whereas others did not. Personally identifiable information was not safe. There was no access management and anyone can misuse the data. The organization may not disclose in case of any security breaches.

- **Data maintenance cost was more**

The privacy policies of the businesses were very lengthy before GDPR. There were complicated terms which cannot be clear to all the users. The businesses also assumed that users silence is the consent to the data processing. Data management was also a issue before GDPR which means if the organization have GDPR compliance, then the data has to be audited. The redundant data has to be cleared and will be organized in a proper manner for data reduction.

- **Lack of better decision-making**

The organizations used to make automated decisions on personal data as the manual decision-making was difficult to understand the underlying value. However, due to the automated decision-making, chances of errors were high.

- **Lack of data security**

The data was not secure before GDPR. As the data access was not limited to few users, there were many chances for security breaches as any user could misuse the data. There was a significant increase in cyber-attacks and no specific framework for protecting the attacks.

## **9. KEY STAKEHOLDERS IN GDPR**

The Key stakeholders in GDPR are:

### **1. Data Subjects**

Data subjects [2] are the data holders whose personal data will be collected and processed for various reasons. The personal data may comprise of name, home address or even social media posts, email or any other personal information like. Here the personal data means the data with which a person can be directly or indirectly identified. These data subjects may disclose some personal data during flight booking, job applications, credit cards or browsing the internet etc. Since it is a personal data it shouldn't be disclosed without the consent of that particular data subject. The EU GDPR proposes a fixed set of regulations which can be supposed to help the people and enforce their rights in opposition to abusive non-public data processing. GDPR states that before processing the personal data of any data subject, the is consent of that particular data subject is must.

### **2. Data Controllers**

The data controller is the person who is responsible for protecting the rights of the data subject. Data controller controls the overall purpose like why the data should be used and how the data should be used. In some cases the data controller may not process the data by their own in that case they will outsource some other organization or company. Though they are outsourcing, the control is not given to that outsourced organization or company, still the control is within the data controller. He will control by instructing the purpose and ends to that outsourced company in which way they can process the data.

### **3. Joint Controllers**

The Joint Controllers (Regulation, 2016) are two or more controllers jointly determine the purposes of processing the data. The involvement of the controllers or organization may be or may not be equally shared. There are different forms of joint controls but their legal consequences will be varied. These joint controllers should have agreements to determine their respective responsibilities. Whatever the responsibility may be all the joint controllers are equally responsible for the protection of the personal data.

There is certain level of flexibility in sharing and allocating the responsibilities among the controllers, but as a general rule they will be responsible for the compliance with the data subject.

#### **4. Data Processors**

The data processors (Poulet, Y., & Gutwirth, S. (2008)) are the organizations or companies that are outsourced by the data controllers for processing the data. They process the data on behalf of the data controllers. These processors will act only according to the data controllers. The data controllers will give the instructions to the data processors who are working on behalf of the controllers. The data controllers will give instructions to the processors the way how the data should be processed and where the data should be processed. Though the data is processed by these outsourced processor the complete control lies within the data controllers. The data processors act as specialized

#### **5. Data Sub processors**

Data Sub processors (Dumas,2018) are the third party individual or business which performs data processing for other companies. The sub processors are those who work with other processors to help them perform their functions.

#### **6. Supervisory Authorities**

Supervisory Authorities are one or more independent public authorities who are responsible for monitoring the application of the GDPR. They help the organizations in becoming compliance with the new regulations and will punish those who fail to comply. They help the people and the organizations by educating them about their right. They will also resolve the disputed between the organizations and the individuals. Each state may have one or more supervisory authorities who will monitor the application of GDPR and protect the freedom of natural persons in processing the data within the union. These supervisory authorities can cooperate with other supervisory authorities. Any state or union with more than one supervisory authority can represent those authorities and can set the mechanism, ensuring compliance by the other authorities with the rules relating to the consistency mechanism.

## **10. IMPACT OF GDPR**

### **10.1 Impact on Business and Technology Corporations**

GDPR impacts every company, but the hardest hit might be those that hold and procedure massive quantities of consumer information: technology corporations, entrepreneurs, and the data brokers who join them. Even complying with the basic necessities for data access and deletion offers a large burden for a few organizations, which may not formerly have had gear for collating all of the records they keep on an individual.

However the biggest effect might be on firms who e commerce enterprise models depend upon obtaining and exploiting customer statistics at scale.

If agencies depend upon consent to procedure records, that consent now must be specific and knowledgeable—and renewed if the use modifications.

## **10.2 The Changes Made by Tech Giants due to GDPR**

The sector's largest groups have updated their sites to comply with GDPR.

1. FB launched a number of tools to “placed human beings in greater manipulate over their non-public regulations”, through unifying its privacy options and building an “access your information” tool to allow users discover, down load and delete unique statistics on the internet site on line. The agency also pressured everyone to comply with new phrases of carrier.
2. Apple determined out a private dashboard of its non-public – no matter the fact that the employer proudly mentioned that, in contrast to its opposition, it does not accumulate heaps personal information within the first vicinity and did no longer need to exchange an awful lot to comply.
3. Google took a unique track, quietly updating products and privacy guidelines without drawing interest to the changes.

## **10.3 Influence of GDPR on Business Models**

Companions will immediately face fines for breaches of the GDPR, even as in the past they might face best claims from their counter-events. This can put even more pressure on partners to be compliant and could create a blocker for start-united states of America and small agencies that might not be able to come up with the money for the cost of compliance.

Businesses counting on offerings events will be seeking a certification of compliance from their partners. Given the size of the potential fines, even a bank guarantee or legal responsibility waiver may not be sufficient.

## **10.4 Influence of GDPR on Organizations**

1. Expanded Jurisdiction and Scope
2. Stricter Requirements for Consent
3. More Practical and User-Friendly Privacy Policies
4. Restrictions on Direct Marketing and Profiling
5. Removal of Notification Requirement, Imposition of Documentation and Accountability
6. The Principle of “Privacy by Design”
7. Increased Data Security
8. Appointment of a Data Protection Officer

Organizations will need to update regulations and approaches in order to reflect GDPR necessities, which include how organizations obtain and use consent and also how they keep facts. Data Protection Impact Assessments (DPIA) will need to be conducted, to design data privacy into any new systems and processes. Those tests are in particular critical for any new technologies that use large-scale processing of special statistics categories, or any profiling that can affect individuals.

## 10.5 Influence of GDPR on Individuals

1. The principle GDPR-related rights for citizens to preserve in mind are Breach Notification, proper to access, right to be forgotten, records Portability and privacy by design (Gerl and Pohl,2018). It is able to be argued that the right to get admission to and the right to be forgotten are the strongest modifications.
2. If individuals start to take gain of GDPR in huge numbers, by means of withholding consent for positive uses of records, soliciting to get entry to their non public statistics from records agents, or deleting their information from web sites altogether, it may have a seismic affect at the enterprise records.

One of the big drawbacks of GDPR compliance is of path the price to attain it. So one can grow to be compliant, it's now not enough for groups to update their internal rules. Relying on the amount of European residents' records that they process, they ought to hire a records safety Officer and make certain that their products all take a privacy first method of their very design.

This itself implies extra cyber safety functions that need to be protected in software program architecture, that means greater paintings for developers. software that gives statistics Loss Prevention or data class functions should be implemented device-wide for a better perception and manipulate of who is processing records in which. All of this, of route, comes at a value.

some other most important concern are the massive fines which groups located to be non-compliant with the center concepts of the GDPR can incur. Corporations can be fined up to €20 million or 4% of world annual turnover for the previous financial 12 months, whichever is greater, in case of non-compliance.

- The GDPR is supposed to defend people within the EU while their non-public statistics is controlled with the aid of firms outdoor the EU, however it could no longer. Weaknesses in the wording of the regulation give the threat for organizations to accumulate records and ignore the GDPR. Once statistics escapes from the GDPR, it may be handed directly to others without criminal protection.
- Even if data is amassed and processed legally below the GDPR, it could be transferred to others after which escape the protection of the law.
- If organizations reap statistics indirectly, in maximum cases it should nonetheless be situation to the GDPR. But, the application of the regulation in these cases may be simplest theoretical, in particular in the case of statistics chains.
- Non-public records or any records related to a dwelling man or woman. The GDPR offers responsibilities to processors of the records and it offers rights to people. But, even if the statistics remains personal, customers might also lose some of rights. Companies can take gain of this.
  - It is able to seem reasonable that businesses must be able to method non-public data in the event that they have an excellent cause to achieve this, after thinking about the interests of the people involved. However, the way this will work in practice means that many organizations could see it as a loophole in the law.

## 10.6 Similar Laws in Other Countries and Comparison

The law is applicable to:

1. An organization or entity which processes personal data of one of its branches established in the EU, as part of its activity, regardless of where the data is being processed;
2. An organization which is established outside of the EU offering goods and services either paid or for free, or if it is monitoring the individual's behavior in EU.

If the organization is a small and medium-sized enterprise (SME) which processes the personal data as describes above one should have to comply with the GDPR. Anyhow, if the processing of personal data is not the main objective of the business, and the activity won't involve any type of risk and won't create risk to individuals, then some of the obligations of the GDPR won't apply to them. (For example while appointing a Data Protection Officer(DPO)). Note that core activities means they should include activities where the processing of data forms an inseparable part of the controller's or processor's activities.

## **11. TECHNOLOGICAL IMPACT OF GDPR**

### **11.1 Impact of GDPR on IOT**

The GDPR applies to each non-public records and personal touchy facts, and it's far therefore critical that the ones involved within the internet of things (IOT) subject be aware of the implications that the new information guidelines can have upon IOT gadgets, systems and packages. It is worth noting of route that personal information doesn't contact all IOT packages, especially in regards to the IOT (Internet of things), and so GDPR is not a challenge for all.

IOT devices and structures which keep non-public information ought to include a patron tool, which include a smart watch, or an organization utility, which includes linked clinical system. Any security breach of such need is to be said right now. A security breach is classified as such whilst the breach is in all likelihood to bring about a chance to the rights and freedoms of people, as an instance the records has been assessed by an unauthorized source. Safety breaches (Bourgeois et al., 2018) need to be stated and it is applicable as well as they have to undergo the supervision in the time limit of seventy-two hours or else the enterprise could face GDPR fines.

Taking impact in May additionally 2018, GDPR will set new standards for internet of things statistics collection and processing inside the European Union, and will introduce a unified set of policies for corporations coping with person records. This puts sure duties on tool producers and software program companies, as they may need to tailor their strategies for that reason in order to comply with the brand-new policies.

### **11.2 Technological Impact of IOT on GDPR**

With the upward thrust in IOT as well as the associated other technologies which include Artificial Intelligence, robotics and other large facts along with that the frameworks which were deployed where the data is considered as gold. Along with this the various factors on the Internet that desires specific and unique importance of the GDPR and the e-Privacy regulation.

The EU preferred to protect the information through GDPR. There were some distance reaching effects in this regulation. There are very excessive chances of fines in the GDPR which involves any kind of record breach. The GDPR focuses all about the protection and the privacy of the information,



## ***Cross-Border E-Commerce Security Issues and Protections***

and it is very important that web factor related records also considered. As a part, this law also worries the corporate which handles, as well as procedures the data of the citizens of Europe irrespective of any organizations. This is applicable additionally for the businesses outside the Europe.

### **11.2.1 Privacy Regulation**

Almost all the digital communications were concerned in this privacy regulation. The textual content has been accepted by the European Parliament and this is the time to take positions of member states. Many human beings speak approximately the privacy law from the angle of the Internet, email and other form of digital media which is known already. The privacy law additionally accounts the electronic channel medium as well. All these regulations encompass on the spot social media apps which handles the personal data of the people such as Snap Chat, Face Book etc. But this is very strictly applicable for the IOT. As mentioned previously, the percepts of confidentiality have to observe to cutting edge and future method of communication.

### **11.2.2 Artificial Intelligence (AI)**

GDPR will surely have an impact at the improvement and use of AI technology (Mehri et al., 2018). Corporations challenge to the European regulation will want to get explicit permission from users when they are seeking for to acquire, method, shop, transfer, or in any other case use their records — and statistics is what AI wishes to study.

Plenty of AI structures run into the “black container” problem, in that they’re not very obvious about how their system mastering algorithms attain choices. For clients, this means you don’t always understand why AI might also suggest what it recommends or take the actions it takes.

There’s absolute confidence the black container trouble becomes troublesome the greater AI is followed in advertising and marketing and other industries. At some point, marketers will want a few concepts of the way systems make selections, specifically as these structures propose more state-of-the-art advertising and marketing moves.

And the more information available for device getting to know, there might be higher a device’s prediction. As artificial intelligence is constructed on droves and droves of records, groups that make use of AI could have brought barrier to deploying this technology. With recognize to processing that has direct prison outcomes on the patron, together with credit score packages, e-recruiting or workplace tracking, the GDPR will restrict the usefulness of AI for these purposes

## **11.3 Influence of GDPR on Health Care Centers Will Fall Under This Category**

Health care centers should have GDPR compliance because the health data of an individual should be confidential (Lopes and Oliveira, 2018). The health data may contain personal information like

- Genetic information or information related to mental health. This data is used in the identification a person. Those genetic characters may reveal the person’s unique identity. So there is a need for protecting such data.
- Physiological data which is related to the physical health will disclose the identity of a person.

- Biometric data contains the facial features and iris and fingerprints (Sanchez et al., 2019) of a person.
- Apart from the patient's health information, financial records like medical bills and payments will also be maintained by the health care centers.
- The information related to person's health insurance policies will also be maintained by the health care centers.

There is a need in protecting this data because they may reveal the identity and the personal information of a specific individual.

The protection of such data also requires some obligations and duties.

- According to "right to be forgotten" the health care centers should create a system which will accept and reject all the requests and the individuals can exercise all their rights.
- The health care centers should take care of installing new software and introducing new policies.
- The processing should be done for the equipments used for medical purposes as they contain personal information about the person.
- Connected hospitals should have supply chain compromise and consent to reveal patient's data.

#### **11.4 Impact of GDPR on Supply Chain Management**

In supply chain management, each company will be working with a new supplier. In this case the data should be secured as it will be transferred between the suppliers and the vendors. There is also a need to know what data should be transferred and how long should it be kept transparent.

GDPR permeates all levels of an organization and its supply chain (Pantlin et al., 2018), and it brings into play personal data management within supply chains very quickly. GDPR impacts specific measures such as data encryption within purchased services to ensure security, confidentiality, integrity, morality and resilience of data. The experts define that there are important key factors which has to be noticed seriously includes, structuring and auditing the data as well as to understand where the data was located. Along with that they need to consider the requests, right to be forgotten. To compensate this there exist so many platforms and tools for reducing risks in the companies, and GDPR compliance in their framework. They are focusing on the smaller companies and their suppliers. As a result of this, the data privacy should be incorporated by the companies as one of the corporate culture.

## **12. FUTURE OF GDPR**

On May additionally 25, 2018, the door to the brand new regulatory era opened, and we had gone through the general statistics safety regulation (GDPR) threshold. According to the revised legal guidelines to defend and empower European citizens' facts privacy, clients can take possession and manipulate of ways their personal facts is used and shared.

Until now, GDPR discussions have largely targeted on compliance requirements. But for the ones within the coverage enterprise who're visionary and strategic, that is a lot (extra) than a regulatory nuisance; it will open the door to modern new business fashions for the destiny. Forward questioning

## **Cross-Border E-Commerce Security Issues and Protections**

firms ought to look to take advantage of the new law to provide purchasers better offerings and studies, without jeopardizing data safety and privacy.

For people who choose to no longer appearance beforehand and content themselves with absolutely complying with GDPR, the risks of being left in the back of are very real. it's far probable they will be sidelined with the aid of bold contenders – incumbents and new entrants alike - which can be willing enough to include alternate and are geared up to build exactly the kind business they need. The GDPR door is commencing, and for the ambitious, the rewards are there for the taking.

### **13. PAYMENT SERVICE DIRECTIVE 2 (PSD2)**

With the continuous growth of e-commerce market in 2007, the European Commission and European Banking Authority decided to offer secure payment services to the consumers. With regard to secured payment services, two regulatory bodies encouraged the digital market which includes faster payment options, and also concerned about the protection and transaction transparency of the consumer. Thus Payment Service Directive (PSD) was introduced. In 2015, the EC decided to review the PSD and adjust with the necessary improvements to ensure customer security [3]. As a result on January 13<sup>th</sup>, 2018 PSD2 came into implementation with minor changes and enhancements to the payment industry. PSD2 states that security is ensured to the EU shoppers through a mandatory Strong Consumer Authentication (SCA) (Pouillet, Y., & Gutwirth, S. (2008)). Access to an account (XS2A) allows bank customers to give access to third-party providers to retrieve data and initiate payments directly from bank accounts.

#### **13.1 Requirements of PSD2:**

There are few requirements for PSD2 based on three pillars.

PSD2 (Romanova et al., 2018) is implemented in two stages; pillar 1 is effective from 13<sup>th</sup> January 2018 whereas pillar 2 and pillar 3 are effective from 14<sup>th</sup> September 2019.

- **Pillar 1:**

This pillar is applied to those transactions where at least one party is in the European Economic Area (EEA). This will address transparency in terms of pricing, extended customer rights and also stricter reporting standards for banks.

- **Pillar 2:**

This pillar identifies the impact to all those parties involved in the ecommerce flow. It is concerned about the security, including all the requirements for Strong Customer Authentication (SCA).

- **Pillar 3:**

This pillar provides the technological requirements for banks which must allow payment institutes to use their infrastructure to access account data and initiate payments on behalf of the costumers.

## **13.2 Strong Customer Authentication (SCA)**

There is a need to apply SCA to protect the confidentiality of consumer's data to prevent the fraud involved with payments. SCA helps to increase the security of the customer transaction. Thus, the trust of the consumer bank increases and will authorize and complete the consumers purchase as they trust the transaction. Payments Service Providers (PSPs) like 2Checkout should apply extra security measures to implement SCA to protect the consumer's data.

### **Implementation of SCA**

SCA is based on three layer authentication method in which the implementation of two layers is mandatory. There are three important terms in SCA; they are

- Ø **Knowledge:** Represents the confidential data of the customer like password or pin etc.
- Ø **Possession:** Represents how the customer has completed the payment using mobile, application, etc.
- Ø **Inherence:** Represents the customers unique identification like finger prints or face recognition etc.

## **13.3 3D Secure Version 2**

The security of the card based transactions was improved in 2001 by implementing 3D secure online card transactions. However, to meet the requirements of PSD2 SCA requirements there is a need to employ new version 3D secure version 2. In comparison to 3D secure version 1, this version offers more innovative authentication experiences to banks through their mobile banking applications. This 3D secure version 2 is the technical solution which helps to comply with SCA regulations and seen mainly in EU based merchants and clients. This implementation is not widely used and seen outside EU. Any online store which accepts online payments using the largest card networks like visa, master card etc. has to implement 3D secure version 2 for their store. The messages of 3D Secure flow between the cardholder, the 3DS Server, Directory Server and the issuing bank (Dumas,2018). If the transaction is of low value and involves low risk, then the card issuer will not send any authentication request to the card holder. For low risk payments, the 3D secure version 2 protocols itself will allow the payment providers like 2Checkout to request exemptions from SCA and also skip the authentication. But for all other customer initiated transactions the card holder will be required to authenticate the transaction with an SMS or APP or any other means like biometric.

There are certain transactions where SCA is mandatory and for certain transactions it is not mandatory.

### **Transactions for which SCA is required**

- SCA is mainly required for all the transactions within Europe such as the payment options and bank transfers performed with SCA.
- All the Customer Initiated Online Transactions (CIT) within the Europe will require SCA.
- All the online transactions where both the business and the cardholder's banks are located within the European Economic Area (EEA) will require SCA.

### **Transactions for which SCA is exempted**

- The transactions which are initiated by the merchants (Merchant Initiated Transactions MIT) will not require SCA, but it has certain exceptions.

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- The transactions involving low risk also do not require SCA.
- The low-value transactions say < € 30 are excused of SCA.
- The transactions outside the EEA which means if any one subject in the transaction is outside the EEA then SCA is not required.

### **14. PAYMENT CARD INDUSTRY DATA SECURITY STANDARD (PCI DSS):**

The Payment Card Industry Data Security Standard is a standard which is developed by Payment Card Industry Security Standards Council (PCISSC). It was first released on 15<sup>th</sup> December 2004 (De Hert et al., 2016). It helps in maintaining security and integrity of the payments. The main aim of this standard is to provide more control over cardholder data thereby reducing the credit card fraud.

#### **14.1 Requirements of PCI DSS**

There are few requirements (Altorbaq et al., 2017) for PCI DSS

- To protect the data of the cardholder there is a need to build and maintain a secure network by installing firewall configuration.
- The vendor supplied defaults for the system passwords should not be used.
- The cardholder data should be encrypted across the public networks.
- The anti-virus programs or software must be regularly updated to maintain the vulnerability management program.
- Secure systems and applications are required to maintain vulnerability.
- Strong access control measures are essential to restrict the access to cardholder and there is a need to limit physical access to cardholder data.
- Each person has to be assigned with a unique ID and also with computer access.
- Track the network resources and also monitor the cardholder's data.
- An information security policy is vital that addresses information security for employees and contractors.

#### **14.2 Implementation of PCI DSS**

The compliance of PCI DSS involves three steps:

##### **Step 1: Assess**

The main aim of this step is to identify all technology and process all the vulnerabilities which are posing risk to the security of the cardholder data that is processed or stored by any business. Awareness about the standards is mandatory for a specific business (Lopes and Oliveira, 2018). The personal and all the process involved in the data transmission to locate the secure system are identified. In addition, the data flow of the cardholder from beginning to end of the data transmission process is also determined. The versions of PIN entry terminals and software used for accessing the payment are also verified.

## Step 2: Remediate

This is the process of fixing vulnerabilities. It involves identifying the technical flaws and also unsafe practices. The software is scanned to spot the vulnerabilities and review is done through in-site assessment or through self-assessment questionnaire practice. The vulnerabilities are then classified and ranked for remediation according to decreasing priority from most serious to least serious. Fix the patches by applying all the changes. The remediation process is finally verified.

## Step 3: Report

All the merchants and processors must submit a quarterly scan report which must be completed by a PCI and also approved by ASV. However, the businesses with larger flow must undergo on-site assessment completed by PCI and should be approved by QSA. In addition, the findings must be submitted to each acquirer. Businesses with smaller transaction flows must submit an annual attestation with Self Assessment Questionnaire.

## 15. CONCLUSION

Cross borders ecommerce trade is increasing as number of users doing online shopping from different countries is increasing. This will also increase disputes. The growth of international e-commerce can be achieved only if businesses comprehend consumers and rely on the consumer protection laws and clear reparation mechanisms that will be required for the implementation of effective assurance. Consumers are conscious of their legal rights and how to impose their rights by accessing in different approaches. Conversely, entrusting responsibility and providing access for reparation is a challenge for consumers in the online transaction or electronic market.

The current issue is that there is no baseline established for the jurisdiction in cross border issue. Consumer trust has to be retained in the e-commerce environment by providing a reparation mechanism. The current reparation approaches pose only limited benefits to the consumers. In this chapter, the major cross border e-commerce security and privacy issues are addressed and feasible solutions are provided. In detail, GDPR and its impact on cross border ecommerce trade is discussed. Other laws namely PSD2 and PCI SSC are also discussed in detail.

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## **APPENDIX: ABBREVIATIONS**

GDPR: General Data Protection and Regulation

EEA: European Economic Area

EU: European Union

PSD: Payment Service Directive

PSP: Payment Service Providers

SCA: Strong Consumer Authentication

# Chapter 6

## Marketing and Advertisement in Cross–Border E–Commerce

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### **ABSTRACT**

*Recently, cross-border e-commerce has been growing rapidly among the developed and developing countries. Marketing managers design marketing and advertising strategies targeted to local and across the country. Companies need to develop separate marketing programs for different country and diverse cultural context. In this chapter, the authors discuss cross-border e-commerce, its development, the advertisement and marketing strategies, policies, and programs that are applicable to the arena of cross-border e-commerce. However, advances in communication technologies, transportation, and other technological advances have made the world a much smaller place. To survive in the competitive business environment today, companies need to make their products and services available online as well as offline. Major technological advances including the explosion of the internet have had a major impact on buyers and the marketers who serve them. To thrive in this new digital age—even to survive—marketers must rethink their strategies and adapt them to today's new environment.*

### **INTRODUCTION**

The unprecedented growth of the digital revolution has led to dramatic changes in the marketing environment forcing marketers to rethink almost everything they do. Cross-border e-Commerce is the key to exponential growth for online trade and commerce across the globe. However, the importing and exporting of goods or services across the border is nothing new concept, but the speed with which products are crossing borders is a huge development from the last couple of years. Globally, cross-border ecommerce is becoming an essential element to growing and scaling an e-Commerce. At present, it can be a tricky but highly lucrative business pursuit if it is executed properly. However, the amount of trade and commerce conducted electronically has grown extraordinarily with widespread usage of the Internet. The e-Commerce usage is conducted in this way, spurring and drawing on innovations in electronic funds transfer, supply chain management, internet marketing, online transaction processing, Electronic Data

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## ***Marketing and Advertisement in Cross-Border E-Commerce***

Interchange (EDI), Inventory management systems and automated data collection systems. Thus, companies need to make major decision regarding marketing and advertisement in cross border e-Commerce strategies. Companies operating in one or more foreign markets must decide how much, if at all, to adapt their marketing mixes to local conditions. As the same message in the advertisement are perceived differently by the people of different culture. International marketers encounter challenges in designing marketing and advertising strategies. Under these circumstances, marketing and advertising strategies should be emphasized separately in cross-border eCommerce aspect. Therefore, this chapter addresses the marketing strategies and advertisement in cross-border e-Commerce which is a new platform of international trade and commerce in the 21st century.

## **CROSS-BORDER E-COMMERCE**

Cross-border e-commerce is one type of international e-commerce similar to cross-border e-retailing. Supported by technological advancement, growing demand and advantageous policy, globally cross-border e-commerce is booming for the last couple of years. Cross-border e-commerce marks the beginning of a new era in the history of international trade and commerce where production, marketing, distribution, and delivery of some goods and services can all take place in online networks. The scope of cross-border online trade is the fastest growing to include the provision of all kinds of services in areas such as health and consulting services, banking, finance, accounting, insurance, tax processing as well as telecommunications services, etc. Here are a few of the reasons behind the rapid expansion of foreign markets such as: (1) The access to and demand for internet-enabled devices is immense (2) The middle class is expanding and incomes are rising and (3) Many foreign governments are encouraging globalization, digitalization and international trade etc.

Moreover, it is based on selling goods or services to customers who are located in other countries. It is connected to several problems, such as a high cost and long-term delivery, language barriers, different legal and tax conditionings etc. Broadly, cross-border e-Commerce refers to the new types of means of trade and commerce by which companies and individuals use e-Commerce to integrate the upstream, downstream and related resources of the industry chain, and electronically display, negotiate and deal in traditional import and export activities. Moreover, Cross-border eCommerce is growing as advancing technologies help reduce problems associated with global payments, long shipping times, language as well as cultural barriers – making it possible for customers all over the globe to shop online at their convenient.

Simply put, Cross-border e-Commerce refers to the capability of online stores selling their products and services to customers in another country. Broadly, cross border eCommerce is the buying and selling of products overseas through e-Commerce platforms. Any user involved in the e-Commerce industry recognizes these potentials. With the growth of disposable incomes and greater knowledge of foreign products and its quality, the cross-border e-Commerce market is expected to grow significantly across the world.

However, according to the Cambridge dictionary, cross-border is defined as something happening between different countries or involving people or businesses from different countries. When it comes to cross-border e-Commerce, the term generally defines international trade and commerce online. It entails the sale or purchase of products via online shops across national borders. Buyer and seller are not located in the same country and are often not ruled by the same jurisdiction, use different currencies

as well as speak different languages. For example; Online trade within the EU, with its single market and common currency in many member states, is even referred to as cross-border e-Commerce as for example selling from Germany to China.

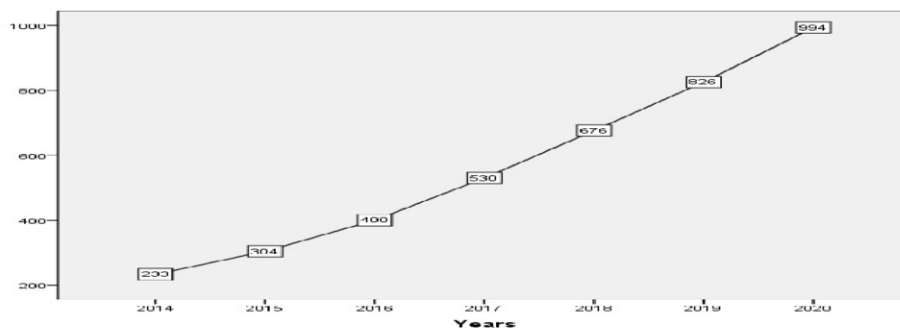
Cross-border e-Commerce is one of the fastest growth opportunities particularly in retailing services. These platforms allow international consumers to purchase products easily and cheaply, as if they are shopping from an in-country online store. Mainly cross-border e-Commerce is growing in popularity in China. The growth rate of China's cross-border e-Commerce has been higher than the total amount of imports and exports in spite of the slowdown of global trade and commerce, which means that the penetration rate of cross-border e-commerce in import and export trade has been very high. For instances, the top three leading e-Commerce websites i.e. Amazon, eBay and Alibaba used by cross-border consumers in almost all countries, accounted for 65% of the most recent cross-border purchases.

More recently, improved accessibility for shopping cross-border has been emerged. With the proliferation of high-speed Internet, advanced Web and e-Commerce technology and more mobile-connected consumers across the world, shoppers frequently cross borders to buy goods or services online. When they do, they often accept hefty import duties, long delivery times and complicated return processes. But, cross-border e-Commerce has empowered consumers to shop overseas from the comfort of home and office, and the advantages often outweigh the complications. Therefore, the nature of cross-border e-Commerce is to benefit people's livelihood, promote consumption, forcing the transition and then to eliminate price discrimination as well as boost consumption patterns.

Globally, the cross-border e-Commerce market is booming with great opportunities for retailers' international expansions. Since, China is the leading the way in digitalization and cross-border ecommerce, knowing the Chinese market would be like knowing the future of cross-border e-Commerce. According to Forrester, 82% of global consumers have made an online purchase from a retailer outside their home country. In fact, Internet Retailer estimated cross-border e-Commerce sales are set to reach USD 627 billion by 2022, with the fastest growth area. China, as the world cross-border e-Commerce trade leader, recorded 49.3% YoY growth in 2018 (USD 19.59 billion, both import and export). Moreover, Worldwide e-commerce sales has been increasing exponentially year over year as shown in figure 1.

*Figure 1. The Global Cross-Border B2C Volume (In \$ Billions)*

[Sources: AliResearch – Accenture, Global Cross Border e-Commerce Market 2020, Jun. 2015]



[Sources: AliResearch – Accenture, Global Cross Border e-Commerce Market 2020, Jun. 2015]

## Marketing and Advertisement in Cross-Border E-Commerce

From the above figure 1, it has been indicated that the continued growth of eCommerce from the year of 2014 to 2020. Estimates forecast that they'll be equal to \$4.479 trillion by 2021, with Asian companies currently at the forefront –China was responsible for 67.1% of all e-Commerce sales worldwide in 2017. However, a total of 23% of e-Commerce in Europe is cross-border. The European cross-border market represented a turnover of 95 billion Euros in 2018. In Europe, the UK (EUR178 billion), France (EUR 93.2 billion), and Germany (EUR 93 billion) represent the three biggest e-commerce markets in Europe, accounting for over two-thirds of the total European turnover. Today's global consumers have an enormous appetite for buying across borders, with \$115.47 billion in cross border e-Commerce sales in China alone, and want access to brands they see on social media and other outlets. However, the following table 1 represents the eCommerce percentage in the world economy.

*Table 1. E-Commerce Percentage in World Economy*

Metric	Asia	World
Population	4486,151,520	7444,443,881
GDP (USD)	\$22,551,209.12 Million	\$74,292,303.73 Million
GDP Per Capita (USD)	\$5664.48	\$10112.33
Consumption Per Capita (USD)	\$908	\$1042
eCommerce as share of total retail market	9.1%	6.9%

Sources: World Bank, 2017

In relation to the supplier perspective, most of the attention goes to the biggest players worldwide, for example, Amazon and Alibaba, which are not only leading e-Commerce in their own countries and abroad, but transforming and influencing entire industries, businesses and technologies such as retail, logistics and transportation, cloud computing, manufacturing, entertainment, digital advertising, social media, search engine business, Internet of Things (IoT), automation, robotics, artificial intelligence, payments, video streaming and physical shops etc. Much brand building advertising now takes place via social media. Alongside global channels like Facebook, Twitter, or Instagram, plenty of local social media networks allow easy access to consumers abroad. Technological advancements have played a huge role for the growth of eCommerce. Recent advancements in technology have streamlined logistics; made payments more secure; created payment method alternatives (i.e. PayPal, Stripe, Sofort and iDeal); speed up the checkout process (one-click payment); provided the tools or techniques to quickly adapt product offerings and marketing communications to customers by region. But, while the online cross-border figures remain promising, there are several obstacles that businesses must overcome in order to conquer new marketplace. These challenges include both internal and external issues such as currencies, logistics, legal regulations as well as consumer habits etc. On the other hand, the internal challenges include; constantly changing contents/ product listing, specialized industry contents, adapting to every market, strategic issues as well as constraints of the budget etc. In the case of Marketing and Advertisement, marketers face challenges while developing marketing and advertising strategy. In some EU countries, online advertising must follow the legislation of the region where the product is being sold in; the legislation of the country of the origin must also be taken into account. Moreover, there are several areas that serve as barriers for the development of international e-Commerce. Therefore, they

range from the legal framework of cross-border e-Commerce, such as labeling requirements and national VAT norms, all the way to the obstacles of international parcel delivery.

## **THE TRENDS OF CROSS-BORDER E-COMMERCE DEVELOPMENT**

As a result of technological innovativeness and rapid globalization, dramatically, the consumer buyer behavior has been changed across the Globe. However, over the last couple of years, it has been observed that the following trends were addressed as the trends of Cross-Border e-Commerce development.

### **Service Competition**

In the twenty first century, the World Economy has been shifted from industrial based and agricultural based economy to service based economy. Today, the world is becoming service based economy due to technological advancement. Most of the developed countries are becoming service based economy where the major portion of the World GDP comes from the services sector. Those capable to provide convenient and fast services will reach competitive advantages and consumers' loyalty. In the early days of cross-border e-Commerce, merchants are primarily competing in goods or services. With the advancement of internet technology and optimization of supply chain management, this competition is turning to services level (Analysis, 2015).

### **One-Stop Service**

A one-stop service is the combination of all services where you can buy everything you desire for a certain purpose. Brand manufacturers with larger online volumes often have their own fulfillment facilities. However, for small and medium enterprises (SMEs), there is a high demand for integrated solutions, such as global online marketplace (Forrester, 2014). Some vendors provide a full range of one-stop services: payment processing, customer services, shipping, clearance, return processing and delivery i.e. Amazon.com, eBay.com and Alibaba.com (UNCTAD, 2015).

### **Omni-Channel**

In an Omnichannel marketing strategy, the message changes and adapts to how the customer has interacted with other channels. Besides pure online retailers, traditional retailers and even producers are also showing interest in developing international online channels. However, mobile commerce continues to grow, Smartphone and tablet are becoming another channel for cross-border shopping (McDermott, 2015). Therefore, the ultimate evolution of multi-channel and cross-channel retail is "Omni-channel" retail whereas consumers are able to access the retailers from any other platform (DHL, 2015).

### **Internet Penetration**

The internet penetration rate has been expanding day by day across the globe. According to Internet World Stats (2020), 50.30% of the world internet users are from Asian countries. 2300 million internet users are from Asian countries (Internet World Stats, 2020). The people in developed countries are more

## **Marketing and Advertisement in Cross-Border E-Commerce**

satisfied with the products they purchase than the people in developing countries. Because the people in developed countries have seen every product or what comes closest to it whereas in developing countries the hunger to use and see new products is more with people not set in their shopping ways. This is the reason big brands have so many loyal customers in developed countries.

### **Make the Most of Mobile Experiences**

The number of Smartphone users worldwide today surpasses three billion and is forecasted to further grow by several hundred million in the next few years (Statista, 2020). China, India and the United States are the countries with the highest number of Smartphone users, with each country easily surpassing the 100 million user mark. Smartphone users are rapidly growing in developing countries like Bangladesh, India and in the Smartphone world it is very important to have a mobile friendly. The mobile first mindset is a psychological phenomenon which most online business are set to benefit from soon as ordering products online will be a mobile phone thing just like data recharge. Games, books, movies and more were not always thought of with the mobile first mindset, it is something that Google Play store and Apple Apps Store worked hard to achieve. Currently, Wal-Mart uses a tool which helps it to catch the prices of other websites and then offer an e-gift card with their product that adjust the differences between the same product offered by another company so that people shop from Walmart. Features such as screen adjuster which adjust the company website to the size of the screen are popular among companies as they aim to maximize the interaction of the users. The major part of appeal for mobile is its convenience and how it provides information at the fingertips which corporate cannot afford to miss.

### **Scalability**

Scalability is one of the key drivers for companies as they are continuously looking to grow and expand. For companies to stay in operation they need to be able to take care of both orders and returns which need to be happened at a fast pace as slowing down means loss of trade and commerce. Businesses need to facilitate fast checkouts and maximize the amount of orders which can be placed along with timely return collection so that customers know that you are to remain in the fast lane.

## **BUILDING BLOCKS FOR FACILITATING CROSS-BORDER E-COMMERCE**

There are some important blocks for facilitating cross-border e-Commerce. Improvement programs for creating a more conducive legal environment for automation; improvement for automation and inter-connectivity between agencies; implementation of simplified procedures to trade and commerce; and implementing fully the WTO's Trade Facilitation Agreement (TFA) are some of those issues that affect trade facilitation generally but are also vital for e-commerce and serve as block for building. At a minimum level, these blocks would improve countries' abilities to participate and benefit from e-commerce point of view.

## **(1) Legal Environment for Automation**

For developing countries, setting up the enabling legal and regulatory framework also requires investment in new institutional mechanisms, including those that enable electronic record management and archiving, provide legal certainty and basis for electronic messages, create and empower entities that can emit electronic signatures, put in place systems for data protection, and work with the banking sector to enable electronic receipts and notices of the payments.

## **(2) Data Protection and Privacy**

Data protection is a critical enabler for constructing a safer environment for using an online service, buying a product online, registering for email, making payments or providing personal information online. Traders and consumers can have confidence in using online services only through strong rules and regulations of the data privacy that avoid government abuse and company surveillance of consumer habits.

## **(3) Legal Validity for Electronic Transactions**

Providing legal validity for electronic transactions is a precondition for enabling e-commerce. Laws of e-Transaction provide transactions with the same legal equivalence as paper-based transactions. Several international organizations have been involved in the development of international legal standards for enabling e-Commerce. Without the adoption of such standards, traders lack legal certainty and legal validity for e-Commerce transactions. Therefore, countries must adopt a robust e-Transactions law that will enable the electronic aspects of the transactions.

## **(4) Use of Electronic Signatures, Certification Authorities and Mutual Recognition**

Digital signatures provide legal certainty on the validity of a contract, which is critical for e-Commerce. Thus, developing standards to ensure the security and reliability of digital signatures is essential for cross-border e-Commerce.

## **(5) Data Retention and Electronic Archiving**

Storage of electronic database is critical for e-Commerce because it allows legal documents to be archived in an electronic environment that can be accessed by multi-parties for legal purposes even if they are in diverse countries.

## **(6) Access to and Sharing of Data**

Laws and regulations providing for the access to and sharing of trade data and information among government agencies and between government and traders should be taken into account. Moreover, many businesses encounter restrictive laws and regulations while attempting to store and transfer data across country borders.



## **(7) Simplifying Trade-Related Regulations and Procedures in eCommerce**

The movement of goods and services across borders is aligned to support big businesses, and customs regimes provide facilitation measures that are more tailored to big business. Often countries find dealing with small consignments challenging for multiple reasons, including the amount of resources required, particularly where the automation is not fully deployed.

## **(8) Simplified Regimes**

Traders could be provided different types of simplified procedures that make the declaration process less complex and easier to prepare and present to officials of the border agency. One mechanism used frequently by customs agencies is the streamlined customs clearance procedure enabling traders to adopt a simpler customs declaration document.

## **(9) Simplifying Compliance for the Rules of Origin**

Rules of origin certification can also be burdensome for companies, particularly SMEs engaged in cross-border e-commerce. Because cross border e-traders typically engage in small consignments to many countries, providing certificates of origin becomes more expensive for them than for the traditional traders dealing with fewer countries and larger consignments.

## **(10) Automation to Interconnectivity in a Digital Age**

Although, border management practices are being well-equipped and modernized, often emphasizing automation, adaptation to e-Commerce for customs and border agencies has been slow. Since the 1960s, governments have invested in automation to lower trade transaction costs, reduce time to process paperwork and improve the efficiency of transactions to facilitate trade and commerce across the globe.

## **(11) Publishing Information Online**

With automation and digital transformation, traders expect greater transparency of information, predictability of procedures and traceability of the transactions. In this context, government agencies have begun providing traders with easier access to trade-related regulations, rules, practices as well as policies.

## **(12) Providing Advance Information Online**

Governments have placed an increased regulatory burden on international trade and commerce in order to address heightened security measures and protect international supply chains against terrorist threats. Advance information is a practice that should generally be encouraged and, where it exists, continued. It supports improved customs and border management outcomes by facilitating improved access to transactional data that allows enhanced profiling and targeting of all transactional risks in a streamlined and non-duplicative manner.

### **(13) Private Sector Participation in Clearance Data Submission Process**

As eCommerce gains traction, a new modality of public and private sector cooperation has been emerging. In this modality, the private sector collects information that is critical for customs, such as the types of product, price, destination, transportation cost, payment information, modes of delivery, package-tracking information and associated duties that would allow for speedier risk management and clearance.

### **(14) Electronic Invoicing**

e-Invoicing has increasingly picked up traction in the past decade with the growth of e-Commerce platforms, and many vendors have been creating and supporting robust, reliable e-Invoicing systems for some time. However, cost savings from e-Invoicing include less printing, storing and mailing; faster invoicing; lower error rates; better traceability and tax compliance. The benefits of accuracy and completeness must be weighed against the potential for fraud and system security in e-Invoicing systems, though online systems are generally more secured if robustly designed and controlled.

### **(15) Electronic Mode of Payment**

From an eCommerce perspective, e-Payment is a crucial building block that enables cross-border movement of goods and services with minimal friction. However, in most developing countries, e-Payment for border agency fees and charges is still in infancy stage. Although, most customs agencies have begun accepting e-Payment because of the reform and modernization efforts adopted by them and the support they received from the World Bank Group and other organizations to adopt EDI to automate the payment process, use electronic receipts and receive electronic notices of payment, other border agencies still mainly use manual procedures.

### **(16) Electronic Single Window**

The term single window refers to different business environments or facilities where multiple tasks leading to a single outcome may be carried out by different parties based on common information being supplied once. Countries have been eager to adopt electronic single windows for trading to digitize and automate all paper transactions that border-related agencies require for transaction.

### **(17) The WTO's Trade Facilitation Agreement (TFA)**

The TFA contains specific provisions to allow for the expedited release of those goods entered through air cargo facilities, including reduced documentary requirements for clearance and implementation of a de minimis threshold or single information submission from traders.

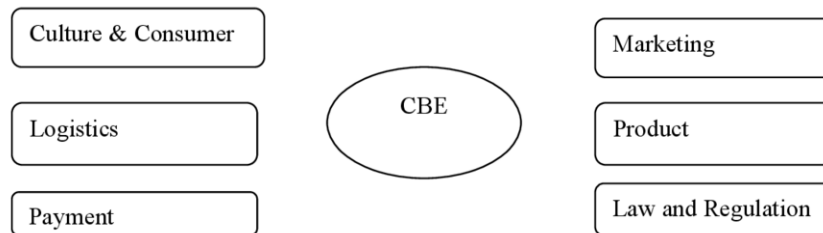
## **THE PITFALLS OF CROSS-BORDER ECOMMERCE**

As a result of advanced innovativeness in technology, growing demand and advantageous policy, globally, cross-border e-commerce is however booming. Moreover, culture and consumer behavior, laws and

## Marketing and Advertisement in Cross-Border E-Commerce

regulations, product and marketing issues, payment conditions and logistics limitations were identified as the major obstacles to its successful implementation. But, just like many other sales, marketing and distribution strategies, there are initial problems you'll need to overcome before taking business globally, including;

Figure 2. The main barriers for cross-border e-commerce



## Logistics

Logistics is one of the strongest barriers in the context of cross-border e-Commerce. Compared to domestic logistics, it is much more complicated in cross-border e-Commerce. It is one of the best marketing tools in today's competitive business environment. Arguably, one of the most important things to consider while planning world domination is the logistics. It's how your products reach a customer, after all;

- How will you deliver the products or services to international customers?
- Will you be able to decrease the costs of delivering and shipping them to your customers outside the border?
- What's your strategy when dealing with non-English speaking clients if they have concerns about your site or their orders?

## Taxes

Tax and tariffs are the major barriers while conducting cross border e-Commerce and trade. International shipping options are often complicated by VAT and customs charges, and shoppers cannot determine the final landed cost of an item, even after buying by clicking. However, this uncertainty discourages purchasing from online. So, when you're doing cross-country business, you'll need to educate yourself on the tax laws of the country in which you want to operate. Failing to meet the requirements for each could lead you into hot water. Income tax, fees of import and export could all play a vital role in profitability of the companies too.

## Local Rules and Regulations for Foreign Businesses

As an international marketer, you must consider the local rules and regulations for foreign businesses. Complicated rules and regulations of selling in a foreign country only add to the headache during your transition to cross-border eCommerce. Regulations for running a business in a foreign country can change

quickly. But, having a member of your staff taking responsibility to keep up-to-speed with international laws can help your business to stay on the right side of the law.

## **Payment Gateways**

In the context of international trade and commerce, payment gateway and currency exchange rate are another pitfalls. While, processing payments isn't usually an issue for customers in your country, be warned that you might see a surge of abandoned carts and unfinished transactions if you don't offer a variety of payment gateways. For example, credit cards sound like the fix to payment gateways, since most shoppers own a credit card and it's easy to use it to accept payments for their orders. However, some buyers are picky with how they pay for their online shopping, and the additional 3D security problems that come with accepting credit card payments could cause issues for customers who are purchasing from a country that doesn't support 3D security. There's also a good chance that international customers will want to pay using cash in their local currency, without their credit card. However, offering this payment option requires technical knowledge—not to mention the added costs and fluctuating exchange rates that come up with it.

## **Trust and Security Measures**

Trust and Security measures are important pitfalls in the context of international trade and commerce. The people you're targeting elsewhere might not have the same trust and relationship with your brand as native customers do. Unless you've launched marketing campaigns to make your business known by global audiences before your global launch, expect an uphill battle of getting people to buy from your store.

## **Culture and Consumer**

Consumer behavior is the cause of culture as well as culture is the cause of human want and behavior. In the cross-border context, the creation of relationship service implies adaptation or differentiation. Relationship services are provided as a part of making the website more culturally sensitive and specific to the target audiences. In a more empirical vein, a number of studies show that culture does influence in designing the websites of the firms. Virtually, websites are instantly available for anybody to see. In order to communicate appropriately and engage with desired target customers, however, it becomes critical to develop culturally varied international websites. Hence, it is vital to adhere to the international target audiences with their expectations, develop culturally congruent designs and country specific websites.

## **Marketing**

Commonly, e-Commerce businesses struggle to find adequate information about foreign market operation. For brands that are relatively unknown in target markets, the cost of building brand awareness turns to be high, such as advertising through multi-channel. Additionally, global marketplace businesses have been continuously extending their operations overseas, posing a threat to domestic e-Commerce enterprises.

## **Product**

Lack of consumer trust towards cross-border sellers is frequently cited as one of the challenges due to fake and counterfeit goods or services, which are most commonly observed in emerging markets. Additionally, due to the high standardization, popularity and profitability, some commodities such as computer, communication and consumer electronic products are very suitable for cross-border e-commerce, resulting in a serious homogenization of competition. For cross-border eCommerce development, there is no such thing as “one-size-fits-all” solution. The reason is simple: your target customer differs from country to country. You need to know the market you are targeting in and out before entering into the market.

## **Connectivity**

Connectivity is the cornerstone of e-Commerce development. It consists of (i) the smooth exchange of data and information (information flow), (ii) the delivery of goods and services (logistics), (iii) the payment (cash flow), and (iv) the seamless linkage between the virtual and physical part of e-Commerce network. In general, emerging Asian economies face challenges from development gaps existing across different parts of the region, especially between metropolitans and remotely rural areas.

## **STRATEGIES TO TAKE eCOMMERCE BUSINESS ACROSS THE BORDERS SUCCESSFULLY**

Economies of scale, patient shareholders and well identified core investments, are some of the major ingredients to become an undisputed leader of eCommerce. Although it seems difficult to compete against the giants, what is happening in China could be an example for Western economies to be followed. To challenge Alibaba’s dominance, its core competitors, JD.com and Tencent have joined forces (The Economist, 2017). However, there is five-step process to be followed to start the cross border eCommerce;

### **1. Prepare for Your Transition by Starting Small**

Since, it is a new environment, due to overcome the risk in the international trade, companies should start their business globally on a small scale. While, the movement to selling internationally can provide a huge windfall, there exists an element of risk. Therefore, companies have to start global domination on a small scale in doing business. However, you’ll experience these problems first-hand, and resolve growing pains before committing to international trade and commerce.

### **2. Determine Which Regions You Want to Enter**

While expanding to the global market operation, analyzing the international market is essential. You can’t just choose regions and countries out of the blue just because you had your best vacation there. There needs to be a good explanation behind your plan on setting up shop in any new country or location. Let’s take China as an example. Selecting them as one of your primary destinations for cross-border eCommerce seems like an easy decision. Its eCommerce economy stands at almost \$60 billion—the biggest in the entire globe: Chinese consumers themselves take advantages of cross-border eCommerce

to bypass the rules and regulations of purchasing items internationally. As a result, China is planning to establish stringent rules that will make the life for eCommerce site owners operating in China much more difficult. While choosing a location to expand to, some factors need to be considered;

- **Language:** Are they an English-speaking country? If not, are you at least fluent with their own language? Or do you need to hire more people who can ease the transition for you?
- **Payment Methods:** Is it worth adding their preferred payment gateway in your system to accommodate their purchases?
- **Cultural Norms:** Do the customers exercise norms and customs that don't reflect your company's views, values and missions? What are the regular purchasing habits for someone in that country?

However, the idea is to find countries with the least path to resistance that will help grow your bottom line, and the answers to these questions determine whether the country you're exploring will be a good fit for your cross-border eCommerce. Although, it's a tough job to crack a high-risk foreign market, there are cases when the potential earnings are great—and that the risk of language barriers and difficulties in payment methods will be worth it. Therefore, practice due diligence and be exhaustive in your market research so you can find the best match for your businesses.

### **3. Localize Your e-Commerce Website**

To make easy for the local end-users, companies also need to localize their website. Found the perfect route to global expansion? To make sales, you'll need to accommodate the people from the region you built your online shop on. Your existing site, which may only be geared to your original customers, won't be enough. You need to develop and publish a local version of your site to your new audience. The first thing you'll need to consider when building a local version of your eCommerce store is the local language of your target customers.

### **4. Expand Your Payment Gateways**

Whatever payment gateway you're using to process online payments, you'll need to expand as you go cross-border. You can't stick to only a payment gateway you're comfortable with—you need to cater to your potential new customers. You have to accept other payment gateways. If they can't buy from your international site using their preferred payment method, they'll head to another site that does. Setting up different payment gateways allows you to be flexible and helps increase your international conversion rate, while also reducing cart abandonments. Payment gateways like Stripe, PayPal, Western Union and Payza can handle cross-border transactions, but always remember to double-check the one you select works in the region you're expanding to.

### **5. Store Inventories in Warehouse**

If you're selling products online, local distribution will be one of your biggest concerns when setting up shop at a different location. You'll need to determine how to transfer your products from your company's head quarter (HQ) to another country. When working through this, you've got two aims: to decrease the time and costs of shipping, and delivering the best products to local buyers. If the products stay at your

## ***Marketing and Advertisement in Cross-Border E-Commerce***

company's headquarters for too long, the friction between calling in the orders to the local store will be much more costly. You can resolve this problem by renting a warehouse in the region you've set up shop in, so you can hold all of your stock locally. But, before doing this and committing to a 10-years agreement, you need to;

- Operate in a country with low risk.
- Read the T&Cs of your rent contract carefully.
- Understand the most purchased products so you can stock your inventory—and not run out of stock for your key items.

## **MARKETING STRATEGY IN THE NEW DIGITAL AGE**

### **e-Commerce**

e-Commerce is a part of e-business. It includes all electronics- based information exchanges within or between companies and customers. It involves buying and selling processes supported by electronics platforms. Sellers use e-markets to offer their products and services online. Electronic commerce, commonly known as e-commerce consists of buying and selling of products or service over electronic system such as the Internet and their computer networks. The amount of trade conducted electronically has grown extraordinarily with widespread Internet usage. The usage of commerce is conducted in this way, spurring and drawing on innovations in electronic funds transfer, supply chain management, Internet marketing, online transaction processing, Electronic data interchange (EDI), Inventory management systems and automated data collection systems.

### **Forms of e-Commerce**

Contemporary eCommerce involves everything from ordering “digital” contents for immediate online consumption, to ordering conventional goods and services, to meal services facilitated other types of e-Commerce. On the consumer level, e-Commerce is mostly conducted on the World Wide Web (www). An individual can go online to purchase anything from books or groceries, to expensive items like car, real estate. Another example would be online banking, i.e. online bill payments, buying stocks, transferring funds from one account to another and initiating wire payment another country. All of these activities can be done with a few strokes of the keyboard. On the institutional level, big corporations and financial institutions use the internet to exchange financial data to facilitate domestic and international business. Data integrity and security are very hot and pressing issues for eCommerce.

## E-COMMERCE INCLUDES E-MARKETING AND E-PURCHASING

### e-Marketing

It is the marketing side of e-commerce. It consists of company efforts to communicate about, promote and sell products and services over the electronic platform. It consists of companies purchasing goods, services as well as information from online suppliers.

### Customer Databases

A customer database is an organized collection of comprehensive data about individual customers or prospects including geographic, demographic, psychographic and behavioral data. E-business: Uses electronic means and platforms to carry out all activities of business.

E-commerce: Facilitates the sale of products and services by electronic means.

E-marketing: Includes efforts that inform, communicate, promote and sell products or services over the Internet. However, e-Commerce benefits both buyers and sellers.

## E-MARKETING DOMAINS

E-commerce types represent a range of various schemes of transactions which are distinguished according to their participants. The following table 2 represents the domains of e-Commerce.

Table 2 Domains of e-Commerce

<i>Business to Business (B2B)</i> <i>Business to Consumers (B2C)</i> <i>Business to Employees (B2E)</i> <i>Business to Government (B2G)</i> <i>Business to Machines (B2M)</i> <i>Business to Manager (B2M)</i>	<i>Government to Government (G2G)</i> <i>Consumer to Business (C2B)</i> <i>Consumer to Consumers (C2C)</i> <i>Consumer (citizen) to Government</i> <i>Government to Business (G2B)</i> <i>Government to Citizen (G2B)</i> <i>Government to Employee (G2E)</i>
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### B2B (Business to Business)

Companies doing businesses with each other such as manufacturers selling to distributors and wholesalers selling to retailers. Pricing is based on quantity of order and is often negotiable. Using B2B trading networks, auction sites, spot exchanges, online product catalogs, barter sites and other online resources to reach new customers, serve current customers more effectively and obtain buying efficiencies and better prices. Most major B2B marketers now offer product information, customer purchasing and customer support services online.



## **B2C (Business to Consumer)**

The online selling of goods and services to final buyers. Businesses selling to the general public typically through utilizing shopping cart software.

## **C2B (Consumer to Business)**

The online exchanges in which consumers search out sellers, learn about their offers and initiate purchases, sometimes even driving transaction terms. Most companies now invite prospects and customers to send in suggestions and questions via company Web sites. A consumer posts his project with a set budget online and within hours companies review the consumer's requirements and bid on the project. The consumer reviews the bids and selects the company that will complete the project.

## **C2C (Consumer to Consumer)**

The online exchanges of goods and information between the final consumers. There are many sites offering free classifieds, auctions and forums where individuals can buy and sell thanks to online payment systems like PayPal where people can send and receive money online with less efforts. Since 1995, eBay's auction service is a great example of where person to person transactions take place every day. G2G, G2E, G2B, B2G, G2C, C2G are other forms of eCommerce that involve transactions with the government-from procurement to filing taxes to business registrations to renewing licenses. There are other categories of eCommerce out here, but they tend to be superfluous.

## **WHAT IS CROSS-BORDER MARKETING?**

Cross Border Marketing is required as the reflection of Cross Border trading and commerce. This is where the seller in one country is selling to buyers residing in a different country and the seller needs to reach, market and communicate with the potential customers. You can say that Cross Border Marketing is a prelude to exporting- at a lower risk and cost. In order to be ready for Cross Border trading, there are a number of critical foundation pillars required in addition to the product or service as well as distribution. Regardless of whether you are targeting China, United States, Australia or Malaysia, Marketing Minds outsourced services can help. However, Cross Border marketing services include:

### **Branding**

Ensuring your brand positioning, name, look and feel are relevant to your target country and audiences. This might include a version of the brand name in the local language and how the brand positioning needs to evolve in order to penetrate a new market.

## **Strategy**

Develop a market entry strategy that takes into account the right brand messages, call to actions, and channel selection. This also needs to be evaluated against the current core strategy of the brand and cross cultural differences that exist.

## **Pricing**

Setting the price is the most crucial marketing activities in cross-border ecommerce. Evaluate an international pricing structure that is sustainable and minimizes the cannibalization from country to country.

## **Marketing Material**

Ensure your brand has the necessary marketing materials whether it is a webpage, packaging modification or brochures that have been accurately translated to retain the key brand messages for the target customers.

## **Platforms**

With various e-commerce platforms, social media channels and search engines, it is vital to ensure that your brand has a presence in the most impactful and effective channels only. These can be like WeChat, Weibo and Xiahongshu etc.

## **Payment Systems**

Preferred methods of payment can also vary with different countries. Such as with China, their preferred payment methods are WeChat Pay and AliPay. But in other countries, these methods are not accepted. We can help to sort this out for you.

## **Marketing Engagement and Communication**

Marketing Minds will assist you with a communications plan, messages and even implementation of your marketing and advertising. Once a brand is ready to have physical presence in the overseas market (from financial, branding and distribution aspects) that is when actual exporting begins. Working with Marketing Minds team of marketing consultants will ensure that you are well prepared for this leap.

## **DECIDING ON THE GLOBAL MARKETING PROGRAM IN CROSS BORDER E-COMMERCE**

Companies operating in one or more foreign markets must decide how much, if at all, to adapt their marketing mixes to local conditions. Due to rapid globalization and advanced technologies, buying and selling goods from one country to another has become easy. For example, Amazon, Alibaba, eBay and other eCommerce giants purposely target new digital developing regions, overwhelmingly controlling the market. Selling online goods is not just about uploading its image, features, name and price. Marketers

## **Marketing and Advertisement in Cross-Border E-Commerce**

need to follow some marketing fundamentals if they want to make the most out of it. Look at the following 4Ps marketing model formula which refers to each steps for a good cross-border product launch.

1. What is your Product?
2. At what Price will you sell it?
3. In what Place will you sell your product?
4. What is your Promotional plan?

Though, this is a classic model in marketing that's still referenced today as the basis for traditional strategy, it's important to understand how it will translate digitally. At one extreme are global companies that use a;

- **Standardized Marketing Mix**  
Same basic product, advertising, distribution and other elements of the marketing mix are used in all international markets. For example, BMW designs one version for all across the World. Usually they develop the same marketing program for customer segment and they treat the World as one market.
- **Adapted Marketing Mix**  
Under this strategy, companies customize their marketing program according to needs, wants and demand of individual country. They develop the separate program for each country. The elements of the marketing mix are adjusted for each international target market and they create new products or services for foreign markets.
- Global Promotion Strategies

Global marketing communications expenditures have been grown as well over the past several decades. In the context of marketing, communications include all devices of promotion, such as advertising, sales promotion, personal selling, public relation and publicity. Environmental differences between nations create special problems for global marketer in global advertising and sales promotion. These differences are relating to culture, language, customs and traditions, and government attitudes towards advertising. There are legal and social restrictions in many countries on advertising messages. For example, in Germany superlatives are prohibited in making comparisons. We cannot use 'best' or 'better' or 'excellent' superlatives in advertising message. In Middle Eastern countries advertising cannot use openly fair sex pictures. Sexy advertising is prohibited in many less-developed countries. Each sales promotion must be checked against local regulations. Sales promotion also needs full co-operation of local retailers. Global exhibitions are very good for publicity of your products in foreign countries. Participation in trade fairs and exhibitions should be an integral part of overall global marketing plan.

### **Standardized Global Communication**

Advertising themes are standardized from country to country with slight modifications. Same advertising messages are sent to all customers across the World. However, they usually follow the same language, sign, symbol and logos for communicating the messages to all customers in the marketplace.

## **Communication Adaptation**

Advertising messages are fully adapted to local markets. They particularly develop separate marketing communication program for each country. They use local media to communicate with the customer segments and use separate theme and language for better communication with the customer segment. Furthermore, another tool to help localize your ads is multi-language, multi-country dynamic ads. This solution is a natural fit for businesses that have product catalogues, such as online retailers and travel agencies. This tool will take your catalogue and show product information in a person's preferred language. Today, many businesses who go cross-border either use a single product catalogue created in English, or create separate product catalogues for each language and currency. This can be inefficient and lead to a poor quality experience.

## **HERE ARE THE FOUR MAIN STRATEGIES WHILE MARKETING IN CROSS BORDER**

### **Express Yourself in The Target Language**

This may be one of the most sensitive aspects to be considered while operating in a cross-cultural environment. In fact, if not properly managed, language can be a huge source of misunderstanding: a word which is completely neutral in a certain language can be offensive or even obscene in another one. It is indeed important to consider the fact that the language, of course, doesn't have to be literally translated: if in a foreign language a message is more effective if expressed in a different way, don't hesitate to change the meaning of the message. If a message is more effective when expressed in a different way, don't hesitate to change the mean. Also within the same language, there may be different dialects with different nuances that have to be taken into account; so, if you need a text to be translated, always get the help of a professional translator, and always have someone review the translation. Another aspect to be considered is related to the communication style: for instance, the more the culture is a low-context one, the more the language will have to be direct and explicit. It is indeed necessary to understand whether specific customers prefer to be addressed through emotional or more rational channels, and which is the best way to have them involved.

### **Be Aware of Social Norms, Customs and Values**

In all cultures and sub-cultures, people are offended if they see that their own social norms are not being respected. In order to avoid this, it is first of all important to investigate all the taboos pertaining to a certain culture: people from certain religions, for instance, don't accept jokes related to their belief. At the same time, references to politics and other social aspects in advertisements can be appreciated by some groups, tolerated by others and rejected by others. Before preparing message for the advertisement, it is also useful to check if the society is more inclined to individualism or collectivism, which are the predominant ideologies, habits and so on.

## **Pay Attention to The Visual Factor**

Obviously, imagery is a significant part of advertisement. Also, in this case, the crucial idea is always the same: never take anything for granted. An example is useful to clarify this: in countries characterized by a Western culture, black is the color that represents the death, whereas in some Eastern cultures this concept is related to the white. Of course, it's not just a matter of colours: any kind of image or scenario may be interpreted in a diverse way by different people, according to their cultural perception of life. Sometimes even small details, like a number appearing in advertising, can influence the consumer: people from the USA are negatively influenced, for example, by seeing the number 13 displayed as unlucky sign. Never forget the different roles played by gender, age and personal conditions within different countries, cultures and religions etc. Therefore, marketers must understand the symbolic meaning of image while appearing in advertisement.

## **Choose The Media Carefully**

Last but not least, we have to consider that each culture has a different behavior relating to the media usage. The media planner must now choose the best media vehicles-specific media within each general media type. The media planner has to know the reach, frequency and impact of each of the major media types. In order to produce an efficient cross-cultural advertising, it is important to know each culture's habits concerning the media and to be sure to target the right one. You will find people from some cultures spending a lot of time watching television, others surfing the net all day long and others reading often traditional newspapers. Selecting the right media is one of the best ways to obtain excellent results without throwing money away.

## **ADVERTISEMENT**

The global marketplace consists of a complex set of competitors for customers in a rapidly changing environment. New companies are formed on a daily basis. Small businesses, Internet-based operations and global conglomerates that have expanded through takeovers and mergers are all part of a worldwide marketing environment. A wide variety of media beckon the leaders of these companies to spend advertising and marketing dollars. Marketing methods range from approaches as simple as stand-alone billboard advertisements to complex multilingual global Web sites. The number of ways to reach potential customers continually increases. Technology allows instant communication among business executives, employees and others around the world. It has also created new opportunities for marketing communications.

Advertising is one of the largest tools of promotional activities of any organization. Advertising is defined as any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor. It is defined as any paid form of non-personal communication about an organization, product, service or idea by an identified sponsor. Presently, the numerous communication platforms of the advertising exist such as are audiovisual material, brochures and booklets, Billboards, print and broadcast ads etc. Advertising can be used to create brand images and symbolic appeals for a company or brand, a very important capability for companies selling products and services that are difficult to differentiate on functional attributes.

However, advertising is an integral part of our social and economic systems. Intense competition for world markets and the increasing sophistication of foreign consumers have led to a need for more sophisticated advertising strategies. In the competitive and complex social environment, advertising has been evolved into a vital communications system for both consumers and businesses. Companies ranging from large multinational corporations to small retailers increasingly rely on advertising and promotion to help them market products and services. Advertising and promotion are important parts of the marketing program of firms competing in the global marketplace. Differences in diverse culture, market and economic development; consumer needs and usage patterns; media availabilities; and legal restrictions make it extremely difficult to develop an effective universal approach to marketing and advertising. Advertising may be particularly difficult to standardize because of cultural differences in circumstances, language, traditions, values, beliefs, lifestyle, music and so on. Consumer usage patterns and perceptions of a product may vary from country to country, so advertisers must adjust their marketing and advertising approaches to different problems they may face in different market space. One of the first decisions, a company must make when it decides to market its products to other countries is how to organize the international advertising campaign. However, marketers will also have to develop new marketing strategies and practices better suited to today's competitive environment. In the digital era, the science and art of advertising is going through a fundamental transformation. As more and more people find their way onto the Web, the online population is becoming more mainstream and diverse. While, the usage of the Internet around the globe continues to grow, there exists still tremendous variation in consumer usage as well as the level of marketing activity occurring online. Therefore, as advertisers embrace digital channels, there exist a need for a robust, comprehensive framework that integrates advertising across channels.

## **CLASSIFICATION OF ADVERTISING**

Advertising can be classified on the basis for which advertisement is given;

### **Advertising to Consumer Markets**

#### **National Advertising**

Advertising done by large companies on a nationwide basis or in most regions of the country. Most of the ads for well-known companies and brands that are seen on prime-time TV or in other major national or regional media are examples of national advertising. The goals of national advertisers are to inform or remind consumers of the company or brand and its features, benefits, advantages, or uses and to create or reinforce its image so that consumers will be predisposed to purchase it.

#### **Retail/Local Advertising**

Advertising done by retailers or local merchants to encourage consumers to shop at a specific store, use a local service, or patronize a particular establishment. Retail or local advertising tends to emphasize specific patronage motives such as price, hours of operation, service, atmosphere, image, or merchandise

assortment. Retailers are concerned with building store traffic, so their promotions often take the form of direct-action advertising designed to produce immediate store traffic and sales.

### **Primary vs Selective-Demand Advertising**

Primary-demand advertising is designed to stimulate demand for the general product class or entire industry. Selective-demand advertising focuses on creating demand for a specific company's brands. Most advertising for products and services is concerned with stimulating selective demand and emphasizes reasons for purchasing a particular brand. An advertiser might concentrate on stimulating primary demand when, for example, its brand dominates a market and will benefit the most from overall market growth. Primary-demand advertising is often used as part of a promotional strategy to help a new product gain market acceptance, since the challenge is to sell customers on the product concept as much as to sell a particular brand. Industry trade associations also try to stimulate primary demand for their members' products, among them cotton, milk, orange juice and beef etc.

## **ADVERTISING TO CONSUMER MARKETS**

### **Business-to-Business Advertising**

Advertising targeted at individuals who buy or influence the purchase of industrial goods or services for their companies. Industrial goods are products that either become a physical part of another product i.e. raw material or component parts, are used in manufacturing other goods like machinery, or are used to help a company conduct its business like office supplies and computers. Business services such as insurance, travel services, and healthcare are also included in this category.

### **Professional Advertising**

Advertising targeted to professionals such as doctors, lawyers, dentists, engineers, or professors to encourage them to use a company's product in their business operations. It might also be used to encourage professionals to recommend or specify the use of a company's product by end-users.

### **Trade Advertising**

Advertising targeted to marketing channel members such as wholesalers, distributors and retailers. The goal is to encourage channel members to stock, promote, and resell the manufacturer's branded products to their customers.

### **Advertising Functions**

Advertising as a part of communication plays diverse functions to promote the companies' products or services. Advertising are performing a variety of critical communications functions for the business firms and other organizations;

- i) Informing
- ii) Persuading
- iii) Reminding
- iv) Adding value
- v) Assisting Other Company Efforts

## **Informing**

Advertising used to inform consumers about a new product or feature and to build primary demand. Advertising makes consumers aware of new brand, educates them about the brand features and benefits and facilitates the creation of positive brand images. It facilitates the introduction of new brands and increases demand for existing brands, largely by increasing consumers' top of mind awareness for established brands in mature product categories. It suggests the new uses for a product. It also informs the market of a price change. It also explains how the product works.

## **Persuading**

Advertising used to build selective demand for a brand by persuading consumers that it offers the best quality for their money. Effective advertising persuades customers to try advertised product and services. It also encourage to switch to the advertised brands, it also persuade customer purchase now and to receive a sales call.

## **Reminding**

Advertising used to keep consumers thinking about a product. Advertising keeps a company's fresh in the consumer's memory. It also helps to keep the product in customer's mind during off seasons and maintain top of mind product awareness.

## **Adding Value**

Advertising adds value to brands by influencing consumers' perceptions. Effective advertising causes brands to be viewed as more elegant, more stylish, more prestigious and perhaps superior to competitive offerings. Effective advertising can lead to increase market share and profitability.

## **Assisting Other Company Efforts**

Advertising may be used as vehicle for delivering sales promotion

Another crucial role of advertising is to assist sales representatives.

Advertising also enhances the results of other marketing communications.

Advertising also can augment the effectiveness of price deal.



## **WHAT MAKES ADVERTISING EFFECTIVENESS?**

Advertising is effective if it accomplishes the advertiser's objectives. Although it is impractical to provide a singular, all purpose definition of what constitutes effective advertising, it is possible to talk about general characteristics. At a minimum, good advertising satisfies the following considerations:

- 1) It must extend from sound marketing strategy. Advertising can be effective only if it is compatible with other elements of an integrated and well-orchestrated marketing communication strategy
- 2) Effective advertising must take the consumer's view: Consumers buy product benefits not attributes. Therefore, advertising must be stated in a way that relates to the consumer's rather than the marketer's needs wants and values.
- 3) Effective advertising is persuasive. Persuasion usually occurs when there is a benefit for the consumer in addition to the marketer.
- 4) Advertising must find a unique way to break through the clutter. Advertisers continuously compete with competitors for the consumer's attention. This is no small task considering the massive number of print advertisements, broadcast commercials and other sources of information available daily to consumers.
- 5) Good advertising should never promise more than it can deliver.
- 6) Good advertising presents the creative idea from overwhelming the strategy. The purpose of advertising is to persuade and influence: the purpose is not to be cute for cute's sake or humorous for humors' sake. The ineffective use of humor results in people remembering the humor but forgetting the selling message.

## **REQUIREMENTS FOR SETTING GOOD ADVERTISING OBJECTIVES**

Advertising objective is a specific statement about a planned advertising execution in terms of what that particular advertisement is intended to accomplish. Now we will discuss some criteria that good advertising must follow;

- Objectives must include a precise statement of who, what and when.
- Objectives must be quantitative and measurable
- Objectives must specify the amount of change
- Objectives must be realistic
- Objectives must be internally consistent
- Objectives must be clear and in writing

## **WHAT DOES CROSS-CULTURAL ADVERTISING MEAN?**

Cross-cultural advertising simply consists of advertising a service or a product in order to reach many different cultural context simultaneously. Sometimes, it may be confused with other categories of advertising. For instances, cross-cultural advertising is different from multicultural advertising: in fact, the latter consists in creating advertisements with the clear purpose of targeting only a particular ethnic

segment, for example, people belonging to a specific country, a specific geographic area and so on. This advertising style is quite common in the United States, where the most represented targets are usually African-American, Hispanic and Asian ethnic groups. But cross-cultural advertising may be considered the opposite: its aim is to send a message that everyone can understand and appreciate.

This objective is very complex, and it sometimes may be very risky, too: the advertising world is full of examples of firms, even very well-known firms, which have made terrible gaffe through advertisements without being informed before about the target culture. It's obvious that an advertisement which has performed very well in one country may not have the same success in a different country. It can sometimes be a real disaster, triggering the risk of damaging the image of the firm. The danger may concern many aspects: often it can originate from using improper language, sometimes it can be just caused by the usage of a certain specific number or colour. In fact, sometimes it is necessary to make some small changes to the original version of the advertisement in order to adapt it to a certain target and to avoid unpleasant results. The most important thing to do when putting in place effective cross-cultural advertising is to get informed: don't ever hesitate to consult local experts or speak to native people, in order to reach a broad knowledge of all cultural aspects.

## **HOW DOES ADVERTISING WORK IN CROSS-BORDER E-COMMERCE**

International communications may fail for a variety of reasons. A message may not get through because of media inadequacy, the message may be received by the intended audience but not be understood because of different cultural interpretations, or the message may reach the intended audience and be understood but have no effect because the marketer did not correctly assess the needs and wants or even the thinking processes of the target market segment. If a marketer plans to advertise in different countries, how will you accommodate different languages and culture?

Dynamic language optimization is a tool that lets the marketer show an advertisement in multiple languages. This means there's no need to create various advertising sets for each language and apply separate language targeting. Today, many businesses who go cross-border either use a single product catalogue created in English, or create separate product catalogues for each language and currency. This can be inefficient and lead to a poor quality experience.

Of all the components of the marketing mix, decisions involving advertising among country markets. Consumers respond in terms of their culture, its style, feelings, value systems, attitudes, beliefs and perceptions. Because the function of advertising is to interpret or translate the qualities of products and services in terms of consumer needs, wants, desires and aspirations, the emotional appeals, symbols, persuasive approaches and other characteristics of an advertisement must coincide with cultural norms and customs if the ad is to be effective.

With multi-language, multi-country dynamic ads, all marketers need is a single product catalogue in multiple languages to deliver localized dynamic ads. This means ads will automatically show the relevant information based on people's preferences and perceptions.

## **BARRIERS OF ADVERTISEMENT IN CROSS-BORDER E-COMMERCE**

The creative task of advertisement is made more daunting by different kinds of barriers to effective communications, such as are;

### **Legal Constraints**

Laws that control comparative advertising vary from country to country in Europe. A variety of restrictions on advertising of specific products exists around the world. For instance, advertising of pharmaceuticals is restricted in many countries of the World. What must be done in order not to break the law?

1. All sales platforms have to clearly describe the rules of purchase, sales and returns. In terms and conditions, available on the website, all company details including full address and tax information must be included.
2. The vendor is obliged to provide information about the full price of products including shipping and taxes. All additionally paid services should be discharged and optional.
3. The customer has to accept and confirm the purchase and obligation of payment by clicking on a button.

### **Linguistic Limitations**

Language is one of the major barriers to effective communication through advertising in cross-border e-Commerce. The problem involves different languages of different countries, different languages or dialects within one country, and the subtler problems of linguistic nuance and vernacular. Incautious handling of language has created problems in all countries. So language raises innumerable barriers that impede effective, idiomatic translation and thereby hamper communication.

### **Cultural Diversity**

The problems associated with communication to people in diverse cultures present one of the great creative challenges in advertising. Communication is more difficult because cultural factors largely determine the way various phenomena are perceived differently. If the perceptual framework is different, perception of the message itself differs.

### **Limitations of the Media**

Media limitations may diminish the role of advertising in the promotional program and may force marketers to emphasize other elements of the promotional mix. Due to limitations of the internet usage in many developing countries, e-Commerce providers encounter these challenges while promoting their products or services.

## **Limitations of Production and Cost**

Production and cost are also barriers for advertising in cross-border e-commerce campaign. The advertising costs vary from one country to another country.

## **DEVELOPMENT BOTTLENECK OF CROSS-BORDER E-COMMERCE**

The problems facing during exports and imports is a single window, and it is still hard to realize information exchange, mutual recognition of the regulatory body, law enforcement mutual aid. Talent of cross-border e-Commerce is shortage, and the tax contribution is small. Problems faced by cross-border e-Commerce exporters are mainly about price competition and shrinking profit margin. Otherwise, it is hard to parcel tax rebates, overseas warehouse construction costs are high and stocking financial pressure. Financing is very difficult to cross-border e-commerce enterprises. Marketing expenditure is the highest for independent website overseas. The markets are disturbed by speculative mentality, fake, sub-standard, not the integrity of the transactions. Problems faced by cross-border e-Commerce imports are mainly about the impact of existing sources of tax revenue and circulation systems, it is more controversial. The contradiction among bonded stocking, aging as well as security. Electronic fence needs highly information technology for businesses and regulatory departments.

As a policy implication, it has been argued that during the transition period e-Commerce creates specific challenges as well as new opportunities for businesses and economies around the world. To facilitate the growth of cross-border e-Commerce, nations need to adopt new arrangements at the national and international levels. At the national level, governments should provide support and encourage competition and innovativeness. Governments should also cooperate at the international level through institutions such as WTO, UNCTAD and EU to enhance information security and promote fair and transparent business operations over the Internet.

## **CHAPTER SUMMARY**

In this chapter, we have discussed the barriers of cross-border eCommerce and how to overcome the these barriers, the marketing and advertising in the context of cross-border e-Commerce which is the result of customization, customerization, explosion of internet, digitalization and dis-intermediation. Much of today's business is carried out their business on internet, extranet and intranet etc. e-Commerce provides opportunities for both buyers and sellers or for the society as a whole. So, as a company, it has to make the product available on line. Company has to create web-site and design the website effectively to attract the visitors. In order to achieve "the right product at the right place at the right time across the border", there are a number of approaches and systems which have been designed and implemented to improve logistics operations. However, an effective global e-logistics system is still required more in-depth study and investigation. Therefore, this offers an opportunity to improve the efficiency of e-logistics system in cross-border relations in future endeavor.

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# Chapter 7

## Global Brand and Global Consumers

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### ABSTRACT

*In this era of digitalization, the world is now at the palm of the consumers due to high connectivity through the Internet. Consumers across the borders are simply a click away from a wide variety of global brands. However, the differences in cultural, political, technological, and environmental forces in the foreign country put the global marketers into a greater challenge to successfully operate their businesses. Hence, the marketers across the borders must be concerned about recent trends and tailored their marketing initiatives to adjust with the changing pattern. To ensure the success of the global brands, marketers should always be careful about several brand relates issues, such as satisfaction, trust, romance, love, and loyalty of the brands. Moreover, given the world as a melting pot of culture, global marketers have no choice but to follow hybridization, creolization, and glocalization strategies. Finally, today's global marketers must be careful enough regarding the digital generations (Gen Y and Z) as they offer themselves as a lucrative but challenging market.*

### INTRODUCTION

Globalization has been widely considered as a phenomenon which opens the opportunities for global companies to penetrate in any market. Due to the globalization effect, consumers in many countries have access to a large number of brands. The competitions among global and local brands have been increasing mainly in developed and industrialized countries. Lee, Knight, and Kim (2008) suggested that global brands need to comprehend the patterns of the consumers from different countries on i)

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how consumers select the products from different brands ii) how do consumers differentiate the brand values, and iii) how consumers exhibit the brand behaviour differently. Understanding the consumers' behaviour while choosing brands is beneficial for global and local companies to establish and utilize suitable marketing strategies for target consumers. In this rapid changing digital world, customers have become borderless. The power of web exerts conspicuous changes in the behavior of consumers across the borders. Consumers are more comfortable with online buying rather than visiting brick and mortar stores. Due to this shift in the behavior of consumers, a new phenomenon has become crucial for the marketers – online review and reputation (Gulati, 2019). Since consumers can purchase products through online across the borders, the issues of quality, trust, and review feedback have become crucial for the marketers to grasp the market opportunity as well as to ensure their sustainable development. Hence, branding their offers is undeniable in this cross-border digital market. This book chapter emphasizes on demonstrating an overview of global brands and global consumers. The chapter initially conceptualized the thoughts on global brands, and then it discusses the barriers to global branding. It also provided strategies to overcome the challenges that happen while globalizing the brands. The chapter then discusses the mechanism of developing and managing a global brand and its implications on this digital era across the borders. The researchers also focused on important brand-related constructs which are brand satisfaction, brand trust, brand romance, brand love, and brand loyalty. Then, the chapter highlights the concept of marketing segmentation, fragmentation, hybridization, creolization, and glocalization of the global brands. Several ethical issues regarding global branding are discussed then. The chapter ends by scrutinizing on three distinct dispositional attitudes of global consumers and two promising but challenging cross-border consumer segments.

## **CONCEPTUALIZATION OF GLOBAL BRANDS**

Despite its enormous importance and the availability of a vast volume of research, the conception of a global brand is still volatile (Steenkamp, 2019). The concrete conceptualization of the term “global brand” with a unique consensus among the scholars is yet to achieve. In line with this point, López-Lomelí, Alarcón-del-Amo, and Llonch-Andreu (2019) stated that based on the existing literature, the global brand could be defined from three distinct standpoints. The first approach of defining global brands is grounded on the philosophy of standardization of the company's marketing strategies. According to this viewpoint, brands are going to be considered global if their names, marketing strategies and operations are similar across the globe where they are being offered (Levitt, 1983).

Similarly, Cateora, Gilly, and Graham (2015) defined global brand “as the worldwide use of a name, term, sign, symbol (visual and/or auditory), design, or a combination thereof intended to identify goods or services of one seller and to differentiate them from those of competitors” (p. 382). The second approach to defining global brands is based on the volume of sales generated from the international market. Under this approach, a brand is said to be global, given that its greater portion of the revenue is basically sourced from overseas operations. The third approach of the definition of a global brand is anchored on the perception of the consumers. Brands are to be considered global only when the consumers have the perception of global orientation or standard (Strizhakova, Coulter, & Price, 2008). Recently, the more elaborate definition of a global brand came from Steenkamp (2019) as “a brand that uses the same name and logo, is recognized, available, and accepted in multiple regions of the world, shares the same principles, values, strategic positioning, and marketing throughout the world, and its management

is internationally coordinated, although the marketing mix can vary” (p. 553). Table 1 illustrates the information regarding ten leading global brands in the year 2019.

Based on the different viewpoints in defining the global brands, two schools of thought are prevalent in the branding literature (Samiee, 2019). One school of thought conceptualizes the global brand by engrossing key managerial concerns such as features of the brands, market targeting and positioning strategies, distribution efficiency, and the totality of the brand. Another school of thought theorizes the globalness of a brand grounded on the extent of consumers’ perception.

*Table 1. Top 10 Global Brands (2019)*

Rank 2019	Rank 2018	Brand	Category	Country of Origin	Brand Value 2019 (\$ bln)	Brand Value 2018 (\$ bln)
1	3	Amazon	Retail	USA	315.505	207.594
2	2	Apple	Technology	USA	309.527	300.595
3	1	Google	Technology	USA	309.000	302.063
4	4	Microsoft	Technology	USA	251.244	200.987
5	7	Visa	Payments	USA	177.918	145.611
6	6	Facebook	Technology	USA	158.968	162.106
7	9	Alibaba	Retail	China	131.246	113.401
8	5	Tencent	Technology	China	130.862	178.990
9	8	McDonald’s	Fast Food	USA	130.368	126.044
10	10	AT&T	Telecom Providers	USA	108.375	106.698

Source: Financial Times (2020)

In this digital era of 21<sup>st</sup> century, numerous digital brands are dominating the cross-border markets. In different products and service sectors, both globally and locally, these brands are playing an important role. For example, the Dell Computer has established itself as one of the successful digital brands across the borders. Particularly, the Apps based digital brands such as Uber (transportation), Food Panda (food delivery services), bKash (financial services) are growing exponentially and offering themselves as a major threat to the traditional brands worldwide. It is evident that the world recognized global brands such as BMW, McDonald’s, Volvo, Pizza Hut, and Levis, have tried to be connected more with their customers through branded apps (Li & Fang, 2019). Besides, some other global brands have successfully developed and utilized their own apps to render better services and engage with their customers such as Shell (global oil and gas giant), Starbucks (the most prevalent coffee chain), Domino’s Pizza (the first online pizza supplier), UPS (one of the world’s leading courier companies), and Nike (the sports footwear giant) (Khan, 2014).

## **DIFFERENCE BETWEEN GLOBAL AND LOCAL BRANDS**

Based on certain issues, the distinction between global and local brand is apparent. Table 2 illustrates the difference between these two types of brands with respect to several issues.



## Global Brand and Global Consumers

Table 2. The Distinction between Global and Local Brands

Issue	Global Brands	Local Brands
Definition	“Global brands are those which are found in many countries around the world, under the same name for the same product, and typically operating under the same (or similar) positioning strategy” (Winit, Gregory, Cleveland, & Verlegh, 2014, p. 104)	“Local brands those that exist in one country, in a limited geographical area or are developed for and tailor-made to the unique needs and desires of local markets” (Özsomer, 2012).
Scope of the Operation	The operational performance of a global brand is exposed to every region of the globe and the greater percentage of its revenue basically comes from host countries (Lopez-Lomeli, Llonch-Andreu, & Rialp-Criado, 2019).	In contrast, the production and availability of a local brand is confined to a domestic or a particular national market (Batra, Ahuvia, & Bagozzi, 2012).
Perceived Quality	Consumers’ perception regarding the quality of the global brands is typically high, particularly in the developed and developing countries (Bhardwaj, Kumar, & Kim, 2010).	The perceived quality of a local brand in compare to global brand is relatively low.
Price	Due to high end of quality, global brands follow premium pricing strategy (Keller, 2003).	Typically, local brands are offered at a relatively lower price.
Product development approach	Usually, global brands follow standardization approach in the product features development process across the borders.	Local brands try to follow the local taste and culture in the product features development process.
Distribution	The scope of the distribution of a global brand is wide spread across the borders (Winit et al., 2014).	The scope of the distribution of a local brand is limited to a specific local or geographical area or a nation (Winit et al., 2014).
Ownership	Global brands are basically foreign owned (Winit et al., 2014).	Whereas, local brands are produced under the local ownership.
Brand Prestige/Image	In most of the cases, global brands have the esteem brand prestige or image across the borders (Steenkamp, Batra, & Alden, 2003).	But the image perception of a local brand exhibits the mixed results (Winit et al., 2014).
Brand Preference	Global brands are preferred most for personal care and beauty as well as baby cares (Carufel, 2016).	Whereas, Local brands are preferred most for food and beverage categories (Carufel, 2016).
Uncontrollable Environmental Forces	Global brands have to face two sets of uncontrollable environmental forces – one in home country and another in host country.	Local brands only face uncontrollable environmental forces of their own country.

## OBSTACLES OF BRANDING ACROSS THE BORDERS

According to Cateora et al. (2015), in managing the global brands, marketers do face obstacles from two broad aspects – A) Home country barriers, and B) Host country barriers.

(A) **Home Country Barriers:** There are three possible uncontrollable issues that the marketers have to face in their home country while offering the brands globally. These are – political/legal issue, economic condition, and competitive structure.

- (1) *Political/Legal Issues:* If the government of the home country has any conflict or foreign policy against a country where the brand is expected to offer may be face difficulty. For example, the imposed trade restrictions with South Africa by the USA government to support against apartheid. During this restriction, the global brands of USA like IBM were restricted to do the operation in the South African market. In contrary, due to change in the foreign policy of the home country might have a positive effect on the expansion of the brand operation globally. For example, after granting the “permanently normalized trade relations (PNTR)” to China,

the global brands of USA have got the opportunity to explore the Chinese market. Even the premium brand “Apple” outsourced its production in China.

- (2) *The Economic Climate*: The second obstacle that global marketers might face in their home country is the existing economic situation of the country. It is quite natural that if the economic situation of the home country is vulnerable, then the government will restrict to invest the money outside the border even though the company itself is enough solvent for overseas investment. Hence, the operation of the global brand will be hampered.
  - (3) *The Competitive Structure*: The intensity of the competition in the home country also hampers global branding strategies. For example, once upon a time, in the photo film industry, there was a global competition between Kodak of USA and Fuji of Japan. By facing the competition due to lower price from the Fuji in the USA market (the domestic market for Kodak) and afterwards, due to innovation of digital camera by Canon from Japan, The Kodak forced to back its money to the USA (domestic) market to manage the situation. Therefore, the international operation of the Kodak brand was significantly impeded.
- (B) **Host Country Barriers**: From a macro-level perspective, global brand marketers face several factors that might hinder their overseas operations. The global marketers should be concern about several obstacles that are uncontrollable. Moreover, the set of barriers are distinct in each foreign country. These are:
- (1) *The Political/Legal Forces*: Most of the time, global brands are treated with “alien status” in the host country. The political whims or local activists might create a bar in the operation of global marketers. When the global brand “Coca-Cola” tried to start its business in India for the first time, it was asked by the Indian government either to reveal the secret or to leave the country (Cateora et al., 2015). At that time, the company chose to exit the market. Even when the company entered the second time in India after several years, it was not a happy story for the brand. Moreover, the legal system in the globe is not unique. In some foreign countries, it is quite unnatural to get an equal judgment for both local and foreign brands. There are separate legitimate rules prevail in the foreign market for the operation of global brands. Besides, several political risks, such as confiscation, expropriation, and domestication of the foreign brand, might be taking place.
  - (2) *The Geographical Structure*: A foreign country’s climatic situation concerning humidity, temperature, and altitude is also very crucial for the success of a global brand. With the same features, a product cannot be branded globally due to topographical differences. One shipment of a Taiwanese company for drinking glasses has appeared wrongly in the Middle East. The buyer received the glasses in the shard, and it was due to the packaging materials used to protect the glasses. Considering the given humidity and temperature in Taiwan, the seller used hay to confirm that the glasses will not be broken. But during the shipment, the inside hay became dry significantly due to high temperature and less humidity in the Middle East. Hence, the climatic difference creates a big challenge for global brands to be operated homogenously.
  - (3) *The Culture*: The most challenging and pervasive uncontrollable force of the host country that the global markets might face is its inherent cultural dynamism. The obstacles might be stemmed from different elements of culture, such as values, beliefs, rituals, symbols, and thought process. The embedded superstitions in the culture also create marketing activities more challenging, and ignoring them will be a costly mistake for the marketers. For example,

in China, the number digit “8” is considered as the sign of success and prosperity. In Japan, the word “four” is translated into the Japanese language as “death”. The world-famous hotel chain “Four Season” failed to get the market in Japan due to this linguistic issue. The Japanese belief system regarding this issue is so strong that in the multistoried building, particularly in the hospital, the authorities assign level 5 after 3 and ignore placing level 4. Another difficult aspect of the culture is that it is dynamic and changing over time. Thus, getting access of a global brand in the foreign market, which is designed following the home culture, is more challenging.

- (4) *The Level of Technology*: The technologically innovative product might be useless in the foreign market where technological development is sparse. There is a clear distinction between the technological infrastructure of the developed and underdeveloped countries. Due to the lack of technical know-how and skills to operate digital equipment might hinder the success of a brand in the foreign market. For example, the true benefit of 5G in the cellular phone is not enjoyable in Bangladesh due to lack of technological infrastructure. Hence, the global smartphone brands like Apple, Samsung, and Huawei will not be able to reveal their true features in this market.
- (5) *The Distribution Structure*: Sometimes, the physical distribution structure of a foreign market acts as a barrier to the success of the global brand. For instance, the highly structured Japanese distribution system makes it difficult for foreign brands to access the end-users easily. The small retailers are protected by Japanese law, and marketers have to follow the multilayer distribution process that ultimately raises the final price of the product. In this digital era, digital space is more important than the brick and mortar store for retailing. Due to the quick spread of online marketing and direct selling, the importance of physical distribution infrastructure has gradually been declined. However, a new challenge that is encountered by global marketers is regarding the payment internationally. In many countries, international money exchange through a legal platform is yet to establish.

## HOW TO OVERCOME THE CHALLENGES?

Though by definition, the global brands are expected to be homogenous, there is an ongoing debate regarding their practical operations. In the 1970 decade, the debate regarding segmentation was termed as “standardization versus adaptation”, in the decade of 1980, it was “globalization versus localization”, whereas, in the 1990s, the issue was “global integration versus local responsiveness”. The main task of international marketers is “adaptation”. Considering the unique culture, political stand, climatic difference, distinct legal structure, and unpredictable economic situation, the international marketers have no choice rather adjust their marketing strategies and marketing mix to gain the share and heart of the consumers in the foreign market. Global marketers should be active learners of the foreign culture. The every tiniest part of the physical brand and marketing initiative is sensitive to the foreign culture. For this reason, the most recognized global brand “Coca-Cola” has been offered with variants in taste adjustable to the local culture. Even the company runs its business in India by managing two cola brands – Coca-Cola (the global) and Thums-Up (the local). By acknowledging and accepting the cultural differences in the foreign market, global marketers must be careful in designing their products and framing marketing communications.

## DEVELOPMENT AND MANAGEMENT OF GLOBAL BRANDS IN THE DIGITAL ERA ACROSS THE BORDERS

Recently, Steenkamp (2020) argued in his prescient paper that the development and management of global brands are notably affected by technological innovations and different digital platforms. But the underlying trends are not changing at the same pace. Marketers should be concerned about five digital trends at the time of building and managing global brands. These are:

- 1) Increase in the digitalization of the global sales channels
- 2) Co-creation of global brand strategy
- 3) Increasing transparency of global brand activities
- 4) Digital connectivity among global consumers
- 5) High acceptance of the Internet of Things (IoT).

(1) *Digitalization of the Global Sales Channels*: Digital (dis) intermediation is the growing trend in the arena of product distribution both nationally and globally. This avenue has created an enormous opportunity for international marketers to approach their brands directly to anywhere in the world where potential consumers are connected through the Internet. In the razor blades and personal grooming category, Harry's and Dollar Shave Club are the pioneer in exploiting the digital sales channels (DSC) (Steenkamp, 2020) and they have seized 13.7% of the razor market in the USA within a decade or less (Passport, 2019). There are three alternatives available to the global brand for its DSC, and to some extent, these are overlapping (Gielens & Steenkamp, 2019). *Firstly*, the company can develop its brand website. Apple.com of Apple, dell.com of Dell, and pgeveryday.com of Procter & Gamble are a few examples of this kind. *Secondly*, the company can sell its branded products via e-retailers. The mechanism of selling through e-retailers is very close to the procedure that the brands usually follow for the traditional brick-and-mortar retailers. Table 3 shows information regarding the world's top 5 e-retailers. *Thirdly*, the company can open its own online store on a particular market space (marketplace platform). Under this approach, the ownership of the brand is not going to transfer to the marketplace platform; rather, the brand manufacturers can approach the buyers directly for their brands. Tmall (Alibaba), Amazon, eBay are a few examples of such online marketplace platform.

The raise in DSC will facilitate the marketers to reach the niche segments throughout the world with more profitably. But global marketers should be more cautious regarding the counterfeiting of their

Table 3. Top 5 e-Retailers in the globe (2019)

SL	e-Retailer	Country	Type of Merchant	Net Revenue 2019 (\$ bln)
1	Amazon.com	USA	Only Web	86.12
2	JD.com	China	Only Web	71.26
3	Suning.com	China	Retail Chain	26.19
4	Apple	USA	Consumer Brand Producer	23.10
5	Walmart	USA	Retail Chain	19.61

Source: ecommercedb.com

brands. Due to this trend, the pricing challenges must be overcome following the local trends and through arbitrage (Steenkamp, 2020). Marketers can execute more focused and relevant digital advertisements with the proper blending of offline ads. As long as the distribution is concerned under this trend, the e-Retailers will dominate the market, and the global brand manufacturers will sell their products directly to the customers without any involvement of middlemen.

(2) *Co-creation of Global Brand Strategy*: utilizing consumers' advice or knowledge to improve the operational performance of the global organization has become a new trend. It is evident from a survey that the majority of the executives (61%) told that in generating new ideas, they deployed open innovation (PwC, 2017). Hence, "crowdsourcing", a new phenomenon of co-creation, has been emerged to gather information or new ideas from myriad sources through the Internet. Due to this trend of co-creation, information from consumers can be elicited not only from the home country but also from the host country for the global brands. Thus, the practice of global crowdsourcing will expedite the enhancement of geocentric branding strategies (such as geocentric new product development) and lessen the costs of R&D (Steenkamp, 2020). Due to scarcity of creative advertising throughout the globe, crowdsourcing has become a successful co-creation option among the global firms and "Mini Oreos" of Kraft (which is different from other traditional Oreo cookies) is a good example of such practice. Myriad global companies such as P&G, Hyundai, and Unilever have started to utilize the global crowdsourcing approach to grasp the creative contents for their ads (Steenkamp, 2017).

(3) *Increasing Transparency of Global Brand Activities*: Before the era of digitalization, managers of global brands could make an unethical profit either by reducing the quality or by charging the higher prices due to the lack of information flow across the borders. This information asymmetry has been minimized in this digital era and thereafter facilitates global consumers to make their purchase decisions easily (Steenkamp, 2020). In the global arena, there is a typical practice among the firms, which is known as "geoblocking" – treating consumers differently according to their nationality or geographical location. As pointed out by Steenkamp (2020), the practice of geoblocking might be appeared in multiple forms, for example, neglected sale, delivery restriction, refused access to the company's websites, dissimilarity in prices, or even different sales conditions. A good example of geoblocking is the offered prices of Disneyland packages within Europe – 15% price difference between German and France based Disney. However, transparency is relatively easier for the new companies to achieve and to some extent, difficult for the established and government-owned companies due to their long root of heritage for administrative secrecy. The practice of global brand transparency is more pertinent to the marketing crises, such as deceitful advertising, greedy and anti-competitive pricing, scandals regarding the negative aspects of the brand, lower graded ingredients used in the brand, and unethical practices regarding physical distributions (Dinner, Kushwaha, & Steenkamp, 2019).

(4) *Digital Connectivity among the Global Consumers*: Due to the fast-growing social networking sites (SNSs), such as Facebook, Instagram, Twitter, WeChat, etc., consumers are more connected globally than ever before. Consumers around the globe can easily communicate their information regarding the brands in these SNS platforms, which is frequently termed as electronic word-of-mouth (eWOM) (Liu, Steenkamp, & Zhang, 2018). Since the power has been shifted from producer to consumer and consumers can dominate the success of the brands through their opinions, existing global marketers should be more careful regarding their strategic model formulation. Thus, based on the so-called "sharing economy", newcomers have the opportunity more to be accepted in the world market quickly through eWOM. Due to this digital trend (eWOM), commercialization of a new global brand can be expedited successfully

by hunting and utilizing digital opinion leaders (Viral Marketing). Thus, SNSs will become a holy-grail for global brands for their successful advertisements.

(5) *The Internet of Things (IoT)*: Physical aspect of a brand can easily be imitated than associated intangible services. In this connection, Zeithaml and Brown (2014) opined that marketers could enhance the value proposition of their global brands to their target customers by extending the physical offer with intangible services. Usually, IoTs are smart devices which configure with software and sensors accompanied by digital connectivity that provides the platform to share information in a more interactive way (Hoffman & Novak, 2018). It is argued that those brands will dominate the market in future who will effectively adopt the IoT to ensure the better value for consumers (Steenkamp, 2020). LG from South Korea and Oral-B of P&G have already adopted this approach by launching smart refrigerators and digital toothbrush (the first-ever connected electric toothbrush in the world) respectively. The world's leading automobile companies such as BMW and Ford, technology-oriented companies such as Google, ride-sharing operators such as Uber, are also heading towards the same. Global brands will enjoy the escalation in their customers' loyalty and the higher price due to embedded greater value derived from the IoT.

## **FIVE CRUCIAL BRAND CONSTRUCTS TO BE CONSIDERED BY THE GLOBAL MARKETERS FOR SUCCESS**

### **(1) Brand Satisfaction**

Brand satisfaction has been conceptualized in various ways. According to Hunt (1977), brand satisfaction is conceptualized as evaluation rendered that using particular brand experiences was great as it should be. Brand satisfaction is also known as an individual's summary judgment process concerning the perceived difference between prior expectations towards a brand and actual brand consumption experience (Oliver, 1999; Tse & Wilton, 1988). Besides, Westbrook and Reilly (1983) defined satisfaction towards a brand/product/service as a customers' overall emotional response to the brand/product/service responses. Further, Oliver (1999) stated that brand satisfaction is the synopsis of psychological consequential when the prior expectation is met with consumption experience. All these definitions are reflecting customers' overall positive effect and a customer's overall or cumulative contentment with their exchange partner (brand). The overall brand satisfaction is defined as cumulative valuation on the total purchase and the customer experience of using a brand over time (Anderson, Fornell, & Lehmann, 1994). Also, overall brand satisfaction is often characterized as an overall evaluation between expectations and actual performance of a particular brand product or service (Johnson, Anderson, & Fornell, 1995).

On the other hand, transaction-specific is an evaluative judgment by the customer instantly after the recent post-consumption experience (Oliver, 1999). According to Santouridis, Trivellas, and Reklitis (2009), transaction-specific explains brand satisfaction after specific, and each purchase of a brand via assessment made after purchase by comparing expectation and actual consumption experienced, most is a factor of quality, cost being incurred and price. Therefore, satisfaction towards a brand can be either transactional-based measures concentrating on evaluation of cost and benefits of the latest post utilization experience or overall brand satisfaction resulting from the series of transactions (Garbarino & Johnson, 1999). According to Czepiel, Rosenberg, and Akerele (1974), overall brand satisfaction appear to be more important in applied market research. Furthermore, in the mobile phone context, mobile phones are being used continuously instead of one-off usage. Thus, cumulative brand satisfaction is more ap-

appropriate in the context of mobile phone, indicating of past, current and future performances (Anderson et al., 1994). In line with this, prior studies in mobile phone context (Ha & Park, 2013; Lam & Shankar, 2014) have conceptualized brand satisfaction as overall brand satisfaction. Therefore, in this study, the definition of overall brand satisfaction was used. In line with Westbrook and Reilly (1983), satisfaction towards a brand is determined by a cognitive valuation process. In this process, an individual perception related to a particular brand product or service is compared to the individual values. Oliver (1999) further stated that the tenet of Oliver's four-stage loyalty model is the individual's belief about the value that they gained from using a particular brand product or service (cognition) is the predictor of brand satisfaction (affective). Therefore, in this study, customer brand satisfaction is directly influenced by the practical value and hedonic value. The following section discusses the effects of practical value and hedonic value with brand satisfaction in various research settings.

## **(2) Brand Trust**

The past decade has seen the rapid development of trust in the areas of marketing and management as well as economics, psychology, and sociology. The interest of researchers from several disciplines has contributed fully to the construct, yet has additionally made it hard to coordinate the different point of views on trust. However, a critical review of the literature discovered that the crucial constituents of a definition of trust are confident expectations and risk. Therefore, experts' defined trust as the confidence of an individual that he/she looks for the desired or expected from others rather than he/she does not want or feared about it (Deutsch, 1973) as cited in (Delgado-Ballester & Munuera-Alemán, 2005). Accordingly, the meaning of trusting a brand is that customers expect more regarding positive outcomes of the brand. Brand trust as anticipation is the customer's conviction that the brand has particular qualities which make it consistent, responsible, honest, competent and so on (Doney & Cannon, 1997). Delgado-Ballester and Munuera-Alemán (2005) indicated that trust is built upon dispositional attributions made to the partner about their qualities, intention and behaviours. In line with past research on trust, Delgado-Ballester and Munuera-Alemán (2005) pointed out that particular attributions of the brand should be technical and intentional. Therefore, the researcher indicated that brand trust has two dimensions, namely reliability and intentions. The reliability dimension is the specialized or skill part of brand trust regarding the brand's willingness and ability to keep promises. Oliver's four-stage loyalty model (1999) indicated that cognition (customer perceived value) causes affective (customer brand satisfaction and emotional attachment) and sequentially influences conation (brand trust) and finally action (brand loyalty). Therefore, following the tenet of Oliver's four-stage loyalty model (1999), brand trust is predicted by brand satisfaction and emotional attachment.

## **(3) Brand Romance**

The term "Brand Romance" is defined as "a state of emotional attachment (evoked in response to the brand as a stimulus) that is characterized by strong positive affect toward the brand, high arousal caused by the brand, and a tendency of the brand to dominate the consumer's cognition" (Patwardhan & Balasubramanian, 2011). Brand romance is a relative matter, meaning that with the same brand, diverse consumers might have diverse stages of romance (Patwardhan & Balasubramanian, 2011). As stated by Patwardhan and Balasubramanian (2011), the conceptualization of brand romance is clustered with three dimensions, such as "Brand Pleasure", "Brand Arousal", and "Brand Dominance".

*Brand Pleasure* is the start-up and basic dimension of the brand romance which encompasses the emotional aspects, for example, love, enthusiasm, fascination, and respect attached to a particular brand (Beig & Khan, 2020; Patwardhan & Balasubramanian, 2011).

*Brand Arousal* is the next dimension that followed by brand pleasure (emotions). This aspect of the brand romance comprehends the extent of a consumer's level of stimulation towards a brand (Menon & Kahn, 2002), which can be expressed as feelings in terms of attitude, liking, preference, and engagement (Beig & Khan, 2020).

*Brand Dominance* is the result or ends part of brand dominance, which dictates the psychological process of the consumers and become noticeable in the pattern of consumers' consciousness and lifestyle (Beig & Khan, 2020). A brand is said to dominate the consumers' mind if it will become anchored in the psychological state of the consumers as an inseparable object (Oliver, 1999).

#### **(4) Brand Love**

Though brand love sounds similar to brand romance, these two constructs are distinct to each other. Brand love is much more skin deep construct and stronger than brand romance construct in terms of pragmatic standpoint. In this connection, Beig and Khan (2020) opined that brand romance is capable of grasping consumers' high end of fascination, but not the reflection of love towards the brand. The notion of "Brand Love" has become familiar in the branding literature after the introduction of the book "Lovemarks" written by Roberts (2005), a great practitioner and Chief-Executive-Officer of Saatchi & Saatchi. Eventually, the practitioners started to utilize this concept to reap the possible highest benefits of their brands (Gumparthy & Patra, 2020). The application of such a love concept has appeared in the tag line of the world-famous global brand McDonald as "I'm Loving It!".

Brand love is conceptualized as "a consumer's love relationship to a brand that can be characterized by the interplay of intimacy, passion, and commitment to that brand" (Bauer, Heinrich, & Albrecht, 2009). This emerging construct is very powerful in the branding literature and considered as the consequence of the consumers' high end of satisfaction (Nikhashemi, Jebarajakirthy, & Nusair, 2019). Consumers with love to a particular brand are treating that brand as something that is not replaceable and having the feeling of "something is missing" while the brand is absent in their search (Zhou, Mou, Su, & Wu, 2020). One of the most salient benefits of having consumers' love for the brand is the confirmation of their loyalty towards the brand (Mody & Hanks, 2020). Thus, in the literature, brand loyalty is treated as a consequence of brand love.

Upon facing intense battle, global marketers should concentrate more in formulating proper marketing strategies to shape the consumers' behavior with a hope to grab more love for their brands in both off-line and online platforms, which will facilitate them to enhance their business operation more profitably.

#### **(5) Brand Loyalty**

Loyalty is the ultimate destination for any product or brand that is expected to be achieved. Despite extensively studied construct in the marketing and consumer behavior literature, the unique consensus regarding the conceptualization of loyalty construct among the scholars is still scant. Oliver (1999) conceptualized loyalty as "a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior"



(p. 34). But this conception has largely been carped and not widely been acknowledged because of its behavioral focus in terms of true action or purchase frequency of the consumers (Carrel & Li, 2019). By challenging the behavioral conception of loyalty, Day (1969) and later on, Jacoby (1971) introduced the attitudinal aspect of loyalty, which encompasses the true commitment of the consumers towards a brand. Thus, in the wide stream of loyalty literature, these two parallel conceptualizations of loyalty had been carried out since the work of Dick and Basu (1994), where they opined that the integration of both attitudinal and behavioral aspects of loyalty conceptualization is inevitable to grab the real phenomenon of loyalty. Since loyal consumers provide several beneficial aspects for the organizations concerning increased positive referrals (Liu et al., 2018), enhanced sales (Gwinner, Gremler, & Bitner, 1998), and thereby become a vibrant asset for any company (Shankar & Jebarajakirthy, 2019), global marketers have no choice rather building a loyal base of customers for their brands.

## **FRAGMENTING THE MARKET AGAINST SEGMENTATION – A CROSS-BORDER ISSUE**

Market segmentation refers to the disintegration of the big chunk of consumers into different identical groups concerning several variables which are expected to have the similar kind of needs and can be served with identical products (Lee & Jan, 2019). In the marketing literature, Smith (1956) brought the concept of “market segmentation” for the first time. Since then, as one of the vital tools of market targeting strategies, the notion of market segmentation has long been recognized and utilized by the marketers both locally and globally. This strategic tool is more viable in the push economy where shortage situation (demand exceeds supply) prevails (Robert, 1992). Black T model of Ford automobile is a good example of this approach.

But the applicability and success of this concept have eventually been challenged by the marketers, particularly who are doing businesses globally and dealing with global brands (Robert, 1992). Upon facing such problem, global brand manufacturers have started to follow a new phenomenon in grouping the customers, namely “market fragmentation” (Steenkamp, 2019). The underlying notion of market fragmentation is to identify the dissimilarities of needs prevail in individual customers and accordingly approach them with tailor-made products/services (Robert, 1992). This strategy is more feasible in the pull economy where surplus situation (supply exceeds demand) exists. Considering the given reality, the marketers around the globe have no choice rather following market fragmentation strategy, particularly with the invention of digital networked technologies (DNTs) (Steenkamp, 2019). In this connection, Steenkamp (2019) argued that “DNT will fragment markets within a country and unify microsegments across countries into a global (micro?) segments” (p. 554). Due to digitalization of the world with growing connectivity, the consumers are now simply a click away from the globe. Thus in the global arena, the practical implication of this conception is huge as an increase in 1 per cent in the global segment does matter (Gielens & Steenkamp, 2019). As opined by Steenkamp (2019), the market segmentation issue is still vibrant in the global marketing arena due to the following concerns:

- (a) Market segmentation, as well as market targeting, are still considered as the vital tools of an organization’s marketing strategy.
- (b) Compare to twenty years back, and the world market is now concentrated and more integrated globally.

- (c) The generated revenues of the organizations are more subject to foreign sales.
- (d) DNT provides a suitable platform for approaching consumers globally.

## **HYBRIDIZATION, CREOLIZATION, AND GLOCALIZATION OF THE GLOBAL BRANDS**

Due to the cross penetration of localization and globalization, new phenomena have taken place in the branding arena, namely hybridization, creolization or glocalization (Steenkamp, 2019). Though these three terms have been used interchangeably in the existing literature, Alden, Chen, and Zhao (2017) argued that there is a distinction in these conceptions concerning approaches used. The “Hybridization” of global brands is regarded as the “top-down” approach where marketing mix elements are altered or adjusted to cope up with the local taste (Alden, Steenkamp, & Batra, 2006). Thus, under this approach, standard global brands are being adapted to make them more locally relevant. On the other hand, the “Creolization” of global brands is based on the “bottom-up” approach. Being a circumstantial subset of creolization, “Brand Creolization” occurs when a national/local culture accepts material embedded in a foreign culture (such as global brands) and thereafter amends the relevant “imported” meanings to ensure the harmonious with the local culture (Hung, Li, & Belk, 2007). In essence, today’s global marketers have no choice rather following the “Glocal” strategy – the underlying phenomena of “Think Globally, but Act Locally”. Below are some examples of practising hybridization, creolization, or glocalization of the global brands.

**Example 1:** As stated by Belk (2019), the case of Gillette (P&G) razors is one of the examples of hybridization in India. Despite its 80 per cent market share in the razor category for men in the USA, the Gillette razor failed to get access in the Indian market even with its flagship brand “Fusion Pro Glide”. This market failure is simply due to the cultural difference prevails in the Indian market, particularly in terms of economic and lifestyle issues. Consequently, they altered their product in India to make it affordable (both the razor and cartridges) and offered it with a large comb targeting the rural poor people. Within the tenure of six months, this adjustment brought 60 per cent market share to the company (Govindarajan, 2012).

**Example 2:** Though the cheap smartphones penetration rate is remarkably high in the rural area of India, most of the users cannot operate them due to lack of their literacy. Hence, they rely on retailers to have the music, movies, and ring tones downloaded from Internet periodically on a payment basis (Tenhunen, 2018). This innovative instance in India is familiar as “Jugaad” which is the reflection of creolization where global brands are accepted with modified use in line with local conditions and tastes (Belk, 2019).

**Example 3:** Starbucks in China is another example of hybridized brand (Steenkamp, 2019). Despite a well-recognized brand in China, Starbucks has been struggling more to adjust its operation with the local culture. The given reality is that in China, it is hard to expand retail operations without two Ds – Digitally Savvy and Delivery Friendly (Steenkamp, 2019). Facing the Chinese tradition of faster delivery, Starbucks introduced the food delivery app in 2018 with the collaboration of Alibaba’s Ele.me.

## **ETHICAL ISSUES IN BRANDING GLOBALLY**

Over the period of time, the issue of ethics has come play a vital role in developing marketing and branding strategies. As a subset of ethical marketing, ethical branding associates with specific moral guiding principles that make a distinction between right and wrong in executing numerous branding decisions. The judgment of ethics is a relative matter and subjective. Fan (2005) stated that “a brand needs to be evaluated not just by the economic or financial criteria but also by the moral ones. An ethical brand should not harm public good; instead it should contribute to or help promote public good” (342). Marketers across the borders need to be realized the vitality of the practices of ethical branding for the sake of their sustainable business development (Lee & Jin, 2019). There is a high chance that a brand is going to be exposed negatively to wider community across the borders grounded on the issue of ethical practices. The world famous sports footwear brand “Nike” was accused of using the child labor in their production process which destroyed peoples’ trust regarding its standard ethical claims (Egan-Wyer, Louise Muhr, Pfeiffer, & Svensson, 2014). The unethical practices of a global brand may appear in several forms such as:

- ❖ Non-existence or reduced content in the offered product compare to the claim;
- ❖ Sacrificing quality or existing of safety defects;
- ❖ Unhealthy price competition like dumping or excessive discrimination;
- ❖ False and illusory advertising;
- ❖ Stolen of trade secrets;
- ❖ Targeting the vulnerable group of people (children aged under 5) to achieve the profit target;
- ❖ Create barriers for other brand to enter the market;
- ❖ Offering fabricated warranty;
- ❖ Imprecise labeling;
- ❖ Counterfeiting the products;
- ❖ Exclusive dealing
- ❖ Offering bribery, etc.

Marketers around the globe try to minimize the ethical issues to build trust and confidence among the consumers regarding their brands. There are some strategic stands that a global marketer can follow to gain the positive perception of the customers across the borders such as corporate social responsibility, cause marketing, cause-related marketing, social marketing, etc. More than 300 global brands such as Ford, BMW, Revlon, etc. have attached themselves with breast cancer as a cause (Kotler, Keller, Ang, Tan, & Leong, 2018). McDonald’s launched “home away from home” program to support the families who are in need during their child stay at hospital by providing 7,200 rooms per night in more than 30 countries around the globe. Taking care of environmental issue is another effective strategy to follow. For example, automobile brands (like Mercedes, Honda, and BMW) and refrigerator and air-condition brands (like Samsung and LG) already developed eco-friendly products which are less harmful for the environment due to less carbon emission. However, failing to manage the ethical issues positively might create serious negative consequences like “ethical consumerism”.

## **THREE DISTINCT DISPOSITIONAL ATTITUDES OF GLOBAL CONSUMERS**

As pointed out by López-Lomelí et al. (2019), consumers have three distinguished dispositional attitudes towards the global brands, namely (1) cosmopolitanism, (2) ethnocentrism, and (3) materialism. These three distinct attitudes play a vital role in deciding the purchase behavior of the consumers. Global marketers must be conscious enough regarding these dispositional attitudes of consumers, particularly at the time of segmenting the global market (López-Lomelí et al., 2019). The following section encompasses in brief regarding this issue:

- 1) **Cosmopolitanism:** Consumers with cosmopolitanism attitude are considering them as a citizen of the globe. Inherently, their movement around the globe is frequent, and they are ready to accept the cultural differences. Therefore, they are considered to be a member of the global consumer culture (López-Lomelí et al., 2019). Consumers with such attitude will become an asset for global marketers because they do react more positively towards the global positioning strategies (Alden, Steenkamp, & Batra, 1999). Hence, the extent of cosmopolitanism is more sensational to global marketers as their brands are more appealing to this cluster (Frank & Watchravesringkan, 2016).
- 2) **Ethnocentrism:** It is a negative attitude of a consumer towards a global brand whereas positive attitude towards a local or national brand (Cleveland, Laroche, & Takahashi, 2015). Thus, this attitude of consumers acts against the acceptance of global brands. This attitudinal viewpoint has become a big challenge for marketers who approach their brands globally. As stated by Alsughayir (2013), there are four possible sources of ethnocentric attitude, such as socio-psychological issues like patriotism, a demographic issue like education and social class, economic issue of the country, and political issue like the propaganda of the government. Ethnocentric consumers have a strong stand against foreign brands. In this connection, global marketers should be more careful in detecting such a negative attitude and accordingly take necessary steps.
- 3) **Materialism:** Consumers with a materialistic attitude are more concentrated on to have the ownership of material goods (Richins, 2004). They are very much status-oriented consumers, and in this connection, they prefer those brands that can enrich their social status (Chan, To, & Chu, 2015). In fact, in the materialistic attitude, both cosmopolitan and ethnocentrism are being reflected (López-Lomelí et al., 2019), meaning that consumers with materialistic attitude are both global and local minded. Hence, international marketers should develop glocal brands to capture the attitude and intention of the consumers based on the materialism cluster.

## **TWO PROMISING BUT CHALLENGING CROSS-BORDER CONSUMER SEGMENTS**

### **1) Generation Y (Gen Y) Consumers**

Generation Y (also recognize as Gen Y, Net Generation, or Millennials) epitomizes the cohort just next to Generation X (Aliman, Ariffin, & Hashim, 2017) and encompasses the offspring of the Baby Boomers (Ordun, 2015). Though still there is a lack of consensus among the researchers regarding the age tenure of starting and ending point of this cohort (Rahman, Albaity, & Maruf, 2017; Soares, Zhang, Proença, & Kandampully, 2017; Zhang, Omran, & Cobanoglu, 2017), most recent scholars argued that

## **Global Brand and Global Consumers**

the consumers are said to be the members of Gen Y if they were born between the year of 1977 and 1994 (Alam & Noor, 2020; Chen & Chou, 2019; Husnain, Rehman, Syed, & Akhtar, 2019). This cohort has a substantial influence over the market (Tang & Lam, 2017). Since, this generation has appeared in the digital era where everything is driven by technology (Duh, 2016), they are habituated to adopt new technology (Aliman et al., 2017). Thus, this cohort is essentially tech-savvy (Alam, 2018; Soh, Rezaei, & Gu, 2017) and widely exposed to social media (Soares et al., 2017). Hence, the members of this cohort are much influential in spreading eWOM (Tang & Lam, 2017).

Gen Y consumers view consumption as a status symbol, and they do give weight to the name and fame of the products while they are shopping (Tangsupwattana & Liu, 2018). As they have been grown up in an environment where everything they use is branded, their response towards the branded products/ services is somehow different. They do feel comfortable with them, especially compared to previous generations (Bilgihan, 2016). They are less sensitive to the product's price if really, they have the desire to purchase it (Fyall, Leask, Barron, & Ladkin, 2017; Parment, 2013). With big size (2 billion in the world - (Tangsupwattana & Liu, 2018) and high existing and potential spending capacity (\$200 billion annually - (Bilgihan, 2016), this cohort will become a lucrative market segment in the coming years (Dinh & Mai, 2016). Despite the high level of brand awareness among the consumers of Gen Y, they are surprisingly less loyal to the products and brands (Quintal, Phau, Sims, & Cheah, 2016; Springer, 2018). Due to their unique features – high spending capacity with less commitment to brands, it is inevitable for the marketers to address this cohort as a separate market segment and devote attention on formulating strategies to approach their needs and expectations (Fyall et al., 2017).

More importantly, this is the ever first generational cohort that grown up with cultural diversity (Licsandru & Cui, 2019). Having their cosmopolitan profile, inherently, Gen Yers have a greater fascination to global brands, global marketing activities like advertising, and global consumer lifestyles. Given this reality, Gen Y consumers perhaps offer them as a beneficial market segment for the global brands, especially in the cross-cultural settings (Licsandru & Cui, 2019).

Thus, it is a big opportunity and at the same time, a notable challenge for the global marketers to reap the advantage from this young cohort. Separate marketing strategies are expected to develop and implement to deal with this lucrative but challenging segment. Moreover, since the consumers of this cohort are young, they are in an advantageous position in terms of customer lifetime value (CLV) for a brand. The global automobile brand BMW has utilized the CLV opportunity of this cohort by targeting them and positioning with the right brand mantra “the ultimate driving machine” – covering both luxury and performance aspects. As they are fickle-minded and have strong power of eWOM, global marketers must be cautious enough to tackle them successfully.

## **2) Generation Z (Gen Z) Consumers**

People born in the year 1995 and onward up to the year 2009 are categorized as the members of Gen Z cohort (Debb, Schaffer, & Colson, 2020; Fister-Gale, 2015; Goh & Lee, 2018). They are also recognized as the Children of the Internet and Digital Generation (Levickaite, 2010). The Gen Z members have the characteristics of being reliable, independent and addicted to technology (Bassiouni & Hackley, 2014; Duffett, 2020). Wood (2013) has identified four characteristics of Gen Z consumers such as, 1) these consumers have greater interest on new technological aspects, 2) they are more focused on ease of use of any product, 3) having the desire to feel safe, 4) having the desire to escape from realities temporarily. Gen Z people are the first generation born in the era of advanced technology, the digital world, and they

used to engage and integrate virtually with their brand preferences (Bernstein, 2015). Gen Z people tend to experience more occasions in their brief lifetimes, such as political encounters, and the changes related to political, social, technological and economics. The consumers in this generation are not so loyal to the retailers. Due to that, retailers in this era feel pressurized in managing, serving, and retaining generation Z consumers. The expectations are very high among generation Z consumers and do not bother about demonstrating loyalty to any companies (Schlossberg, 2016). This cohort is reluctant to give attention to marketing communications (Duffett, 2020). However, they do exhibit admiration towards fashion-oriented foreign brands (Desfiandi, 2020). Thus, they reveal the opportunity for global marketers and at the same time, represent themselves as a challenging cohort to be managed. Since they are the true future customers and connected to the whole world digitally, global brand managers should figure out the behavioral aspect of this cohort more deeply.

## **CONCLUSION**

The objective of this chapter is to highlight and discuss the important contemporary aspects of global brands and global customers. As an effect of globalization, companies are enjoying the opportunities of penetrating on new markets locally and globally. At the same time, due to the advancement of technology and availability of information, consumers' expectations have become paramount and been increasing day by day. This tendency puts the global brand marketers to rethink their marketing strategies. This chapter will help the scholars, practitioners, and policy makers to look at the prospects on global markets and customers more deeply.

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# Chapter 8

## Digital Marketing

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### ABSTRACT

*The current innovation of marketing embraces digital platforms. Digital marketing has become the successor to the economic development of many countries. This chapter intends to depict how to harness the power of digital marketing strategies as a driver of marketing activities. This chapter will navigate and provide an overview on search engine optimization (SEO), search engine marketing (SEM), web analytics, social media marketing platforms (Facebook, Instagram, YouTube, WeChat, Line, Twitter, Snapchat, etc.), e-mail marketing, mobile marketing, and display advertising and discuss the consequences of different digital marketing platforms. This chapter will navigate and thrive on how the fast-growing world of marketing develops strategy and content for communication.*

### INTRODUCTION

Marketers and manufacturers require to rethink about their marketing strategies as the consumer behavior have been changed due to the advancement of web-based platforms (Tiago & Veríssimo, 2014; Järvinen & Karjaluo, 2015). It has been well established that internet has changed the structure of marketing channels, especially in reaching towards the end consumers (Mols, 2007). However, from small medium enterprise to large multinationals can't think of their marketing strategies without the help of digital marketing platforms (Shuen, 2018). Digital marketing is not the way to boost traditional marketing platforms, rather it's a new approach in the digital world (Taiminen & Karjaluo, 2015). It was estimated that in 2020, 2 billion consumers around the world will be carrying out 13.5% of transaction online (www.roobykon.com). From the report of Statista, total transactions through the digital payments will reach US\$4,769,370m in 2020 that shows a YoY increase of over 15%, due to the global outbreak of Covid-19, the transaction ratio is increased than before (Patel, 2020). Information technology and

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marketing department needs to work together to reach international customer group. As digital marketing platforms help marketer to reach internationally, a cross-department collaboration is necessary for cross-border e-commerce marketing.

This chapter will vividly explain how to execute a successful Search Engine Optimization (SEO) strategy and how it works, and other important aspects of digital marketing are strategies, planning and managing a Search Engine marketing (SE) campaign. After the SE marketing campaign, understanding web site analytics and other data sources are crucial for digital marketing where marketers can easily identify site visitor's behavior and characteristics (Bucklin & Sismeiro, 2009). Throughout the world, people are prone to social media. Different types of social media like- Facebook, Instagram, YouTube, WeChat, Line, Twitter, and Snapchat have already become the major source product and service experience. Each platform of social media requires a distinct marketing approach. This chapter will explain how content matches a specific platform social media platform for the right customer. Another integral part of digital marketing is optimizing visibility in search engine results. Learning how Google AdWords organized, and the planning of AdWords is fundamental for digital marketers. This chapter elaborates on how to write a compelling search text ad, and how to reach the target audience through AdWords. Then the chapter will give an idea how to build a strong client list and maintain a continuous relationship by contacting the clients with appropriate subject lines, pre-headers calls to action, and effective email. Last but not least, mobile marketing platform will be discussed. What is the necessary SMS strategy, advertising, process of mobile apps, proximity marketing will be analyzed in this chapter?

## DIGITAL MARKETING DEFINITIONS AND CONCEPTS

**Digital Marketing** refers to the practical and comprehensive use of internet, digital media platforms, and marketing tools to achieve the utmost success in business in a form of omnichannel marketing (Chaffey & Ellis-Chadwick, 2019; Morris, 2009).

As a result of technological advancement and the development of communication technologies, real-world relationships have been transferred to the virtual periphery. Due to the blessings of internet, people around the world became an online community, and it has established a cross-border relationship across the globe (Tiago & Veríssimo, 2014). This successive movement of free-world relationship through the internet paves the way for the marketers to reach their ultimate consumers.

### Characteristics of Digital Marketing for Cross-Border E-Commerce

There are some key traits of digital marketing

- 1) Usage of digital platforms: Digital platforms like Facebook, Instagram, YouTube, WeChat, Line, Twitter, and Snapchat, LinkedIn, Quora, *etc.* make it easier for cross-border firms to make their transactions convenient through reducing cost.
- 2) Usage of internet: In international market the extensive use of service, product, and marketing tactics is mainly dependent on the internet. It is a data-driven process to bridge between sellers and customers throughout the world.
- 3) Usage of digital devices: Digital devices (laptops, tablets, smartphones, wristwatch) enables instant access to the latest information, statistics and discoveries for the cross-border marketers.

- 4) Usage of digital technologies: Digital marketers who adapt new technologies can personalize, engage, and connect with their cross-border customers in a meaningful way. Digital marketing technologies allow marketers with a 24/7 customer engagement and service.
- 5) Visibility: Digital marketing enables a continuous online presence, public recognition and reputation to any specific brand or service. Digital marketers in cross-border e-commerce can easily establish such platform through Google and other webpages through key word strategies.
- 6) Ease of use: Through digital marketing in cross-border e-commerce, marketers can easily establish user friendly interface which is convenient for all the users throughout the world.
- 7) Digital by default: Cross-border digital marketing firms needs to transform themselves with digital technologies. The process itself called digitization.

### Difference Between Digital Marketing and Traditional Marketing

Several scholars have identified the difference between digital marketing and traditional digital marketing (Todor, 2016; Salehi et al., 2012; Wymbs, 2011). The major differences have been mentioned followings:

Table 1. Difference between digital marketing and traditional marketing

	Digital marketing	Traditional marketing
<b>Cost efficiency</b>	Digital marketing has lower cost, and in many cases, it can generate free traffic	Traditional marketing is very expensive
<b>Customer target</b>	It is easy to find the specific target customer through digital marketing	It is hard to get the appropriate set of customers.
<b>Reach</b>	Only customers enabled with internet	Provides wide reach without customers
<b>Message hits</b>	Web analytical data ensures that messages have been reached and hits to the target audience	There is no way to check whether the message appropriately reached to the target audience
<b>Interactivity</b>	Online users can choose time to initiate the contact and the duration of the contact.	In traditional marketing neither could be possible.
<b>Duration</b>	Online information can be kept permanently, unless content developer withdraws the posts	It costly to keep any content for long-time.
<b>Ad placement</b>	Ad placement can be revised, and contents can be changed, as new analytics can be available	Ad placement is unchangeable
<b>Measuring performance</b>	Immediate web analytics are available to measure the performance	To measure the impact, firms need to wait for long-term unless achieving the goal.
<b>Platforms</b>	Websites, social media tools, content marketing, banners, email marketing, video advertising, mobile marketing etc.	Print media, broadcast media, direct mail, telemarketing

Source: Adapted from Todor (2016)

### Advantages of Digital Marketing

- 1) **One to one approach:** Through digital marketing companies can directly approach to their customers in an interactive way. Direct marketing extended the traditional marketing platforms and include all the medias in virtual platforms (Stone & Woodcock, 2014).



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- 2) **Cater to specific interest:** Jain et al. (2012) mentioned that digital marketing platforms enables several value specific websites that make it easier for the customers to find specific products and services based on their interest.
- 3) **Different content by choice:** Digital marketing compromises with personalized infinite content and also the opportunity to update the content based on the market offerings (Todor, 2016).
- 4) **Geo-marketing:** Through the digital marketing platforms buyers and sellers can overcome the geographical limitations. Geo-marketing is a type of digitally enabled marketing which can play a vital role in real-estate business, functions and tools (Omidipoor et al., 2019; Ernst, 2014).
- 5) **Global business:** The most significant achievement of digital marketing is in creating 'cyber-consumers', 'cyber business-business' network, changing the world into a single platform, and reaching to the global customers (Wind & Mahajan, 2002).
- 6) **Measuring statistics:** Digital marketing platforms allow easy to measure the outcomes than the traditional forms of marketing.
- 7) **Adaptability:** Todor (2016) specified that it is easy to change the content based on the customer demand. Based on the contingency approach, a firm can easily access the innovativeness through digital platforms (Rajala & Möller, 2003).
- 8) **Personalization:** Personalization is widely accolading in digital platforms. Digital marketing is able to create market offerings and programs that can be easily customized based on the personalization (Kaptein & Parvinen, 2015; Todor, 2016).

## Limitations of Digital Marketing

Digital marketing has several disadvantages. Most significant limitations have been described below:

- 1) **Copyright infringement:** Competitors can easily copy the marketing content from other competitors. Digital marketing contents and media technologies can be easily decoded and pirated (Andrews, 2005).
- 2) **Lack of physical evidence:** Customers can't generate their experience by physically touching the products (Leeflang et al., 2014). Nowadays Amazon.com provides free-trial options for some specific items (Magris et al., 2007).
- 3) **Online payment and internet fraud:** Many users don't trust on online payment system. Different ways of internet fraud like malware, spam, hacking, denial of service attack, phishing, click fraud, invasion of privacy, violation of digital property right, click fraud etc., made the customers less interested in purchasing from digital platforms (Kim et al., 2011).
- 4) **Technological dependency:** Digital marketing is highly dependent on technological devices and internet. Any kind of interruption in internet might hamper activities in digital marketing platforms.
- 5) **Cash on Delivery (COD) payment:** Countries where people have low access and preference to credit card usually prefer to take the advantage of COD payment (Raghunath & Panga, 2013). On the other hand, in most of the cases it doesn't guarantee the products delivery due to the false identity customer request, and fear of hijacking the items from the delivery man (Todor, 2016)

## Trends in Digital Marketing

Digital marketing trends have got the highest priority for most of the business owners in recent years. In the age of innovation, there are several digital marketing trends have been observed that gives a new shape to the present business world. Some digital marketing trends have been discussed below:

- 1) **Artificial Intelligence (AI):** Artificial intelligence or machine intelligence is a form of human and machine interaction which helps in predicting the future needs and demands of the customer for future. Artificial intelligence is the biggest platform of e-commerce marketers and it will help in achieving target GDP in near future.
- 2) **Chatbots:** Chatbot is an integral part of digital marketing. This is an AI-based chatting technology which enables marketers to ensure automatic chat or real-chat, day or night with the customers.
- 3) **Internet of Things (IoT):** Cross-border digital marketers are now actively connected with Internet of Things (IoT). The IoT is an inter-related computing where it is possible to make the interaction in between human to human or human to animals, human to things, human to technologies. It is basically connecting the device through internet.
- 4) **Blockchain Technology:** Blockchain is a decentralized structure that records transaction which is known as 'block' and it is data management technology which is inter-connected with several data networks that is called 'chain' (Yli-Huumo et al., 2016). Nowadays, digital marketers utilize this technology for their cross-border operation.
- 5) **Virtual Reality (VR):** VR has become one of the mainstream tools for cross-border e-commerce firms. It is a powerful and compelling computer application which can mimic the real-life and can provide a rich sensory experience to the user. Marketers can introduce their products or services through VR technologies. Consumer from the different parts of the world can enjoy the facility at the same time.
- 6) **Omnichannel marketing:** Omnichannel is considered as an updated form of multichannel retailing. While multi-channel retailing refers two diversions such as the physical and online shop, in the omnichannel environment, clients can openly dwell among channels (on the web, cell phones, and physical shop), all inside a solitary exchange process (Zhang et al., 2010). For cross-border marketing, taking the advantages of omni-channel marketing can generate more reach and lead.
- 7) **Augmented Reality:** In cross-border marketing presenting the products through AR is a new trend for the marketers. AR is the real-time direct or indirect representation of physical goods and services using virtual technology. Cross-border marketers use AR for reaching international clients (Carmigniani et al., 2011)
- 8) **Big Data:** Most of the multinational organizations in the world have already reached almost all the part of the world. Managing a big chunk of customer data has become a major challenge for the marketers. Big data helps the marketer in keeping, maintain, and prioritizing significant number of data based on the specific market information.
- 9) **Deep Learning:** Deep learning is a digital platform where marketers use computational models in different layers to learn about customers data with multiple level of abstractions (LeCun et al., 2015). Cross-border marketers can utilize it for speech recognition, object detection, and finding the specific segment.

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- 10) **Neuromarketing:** Neuromarketing is a popular platform form of neuroscience which is widely used in digital marketing. Marketers are now using different methodologies for finding the subconscious mind of a customer in different part of the world for developing their products (Gani et al., 2015).

## **Digital Marketing Strategy**

A good digital marketing strategy is necessary in obtaining new customers, and in retaining existing customers in the market. Chaffey & Bosomworth (2013) proposed RACE digital marketing framework which is widely accepted specially in the field of online and social media marketing (Drokina, 2018).

RACE planning framework consists of five stages, namely, Plan, Reach, Act, Convert, Engage. By taking the latter four words it stands as RACE.

### **1) Plan**

In planning stage, digital firms conduct three major activities: (i) marketplace analysis or situation analysis, (ii) objective setting, and (iii) strategy formulation (Chaffey & Bosomworth, 2013). After planning, digital firms perform the subsequent stages. An overview of planning stage is mentioned below:

- (i) Marketplace analysis or situation analysis: In marketplace analysis a digital firm make their initial analysis on-
  - a. Micro-environment (customer analysis, market analysis, competitor's analysis, and analysis on Intermediaries, influencers and potential partners)
  - b. Macro-environment (Analysis on social, legal, economic, political, and technological environment)
  - c. Capability analysis (audit spreadsheets)
  - d. SWOT analysis (Strengths, Weakness, Opportunities, Threats)
- (ii) Objective settings: Chaffey & Bosomworth (2013) recommended four objectives to remember for future digital marketing strategies-
  - a. The long-term goal is to ensure how the firm can be benefitted from digital channels
  - b. Mid-long-term vision is to communicate to the large organization about the importance of transformation
  - c. Specific SMART objectives (Specific, Measurable, Actionable, Relevant, and Time-limited)
  - d. Checking the key performance indicators
- (iii) Strategy formulation: Digital strategies should be formulated aligning with the actual marketing strategies in an online format. Digital marketing strategy formulation needs to integrate with the goals of the organization. Chaffey & Bosomworth (2013) recommended several issues while formulating digital marketing strategy:
  - a. Targeting and segmentation (selectively target based on demographic, value-based, lifecycle and behavioral personalization)
  - b. Positioning (defining online value proposition, reinforcing key proposition, defining key message)
  - c. Proposition and the marketing mix (product, price, place, promotion, people, process, physical evidence, partner)
  - d. Brand strategy (demonstrating brand credibility through online)

- e. Online representation or presence (Website strategy-main site and sub-domains)
  - f. Content and engagement strategy (content features, user generated content- reviews, ratings, comments, etc.,)
  - g. Digital channel acquisition communications strategy (outlining the traffic acquisition and also focusing on offline customers)
  - h. Digital channel conversion strategy (information architecture, page template, design, merchandising, messaging and performance)
  - i. Digital channel retention communications strategy (repeatedly focusing both online and offline customers)
  - j. Data strategy (permission marketing and data capture- improving the quality of customer data)
  - k. Multichannel integration strategy (integrating traditional and digital strategy)
  - l. Social media marketing strategy (aligning social media as a part of broader customer engagement)
  - m. Digital marketing governance strategy (managing digital marketing strategies)
- 2) **Reach/Visitors:** According to Drokina (2018) in this stage digital firms using social media, search engines, and different blogs and publishers to get the potential customers. The success on this stage drives to ensure traffic on the main web presence. On this stage, digital marketing firms try to create awareness regarding the market offerings and value propositions. Drokina (2018) mentioned the essential marketing tools uses on this stage as followed:

Table 2. Essential tools at reach stage

	Tools
Site audience comparison	Alexa, SimilarWeb, Google Analytics Benchmarking, Compete, Experian Hitwise tools
Digital Analytics tools	Google Analytics, Google Analytics Premium, Adobe Analytics, Kissmetrics, Mixpanel
SEO Keyword Analysis Tools	Google Keyword Planner, Google Trends, SEMrush, Bing Keyword Research Tool, UberSuggest
SEO Ranking	Google ranking position reporting, Moz, Advanced Web Ranking, Search Metrics, SEM Rush
SEO Crawling	Screaming Frog's: SEO Spider, Google Sitemaps, Bing Sitemap Generator, XML Sitemaps.com, Yoast: XML Site Generator
SEO Backlink Analysis	Bing: Inbound Links Tool, Google: Sample Links Tool, Majestic, Open Site Explorer, Link Research Tools
AdWords Paid search analysis	Wordstream, SEMrush, Spyfu, Bidcops, Adthena
Influencer outreach and management	Followerwonk, Buzzstream, Traackr, Onalytica, Klout
Data management platforms and audience profiling systems	Cxense, Krux, Neustar, Adobe Audience Manager, Oracle Data Management Platform

Source: Drokina (2018)

- 3) **Act/Shares/Leads:** This is the persuasion process where digital firms are trying to attract their customers to get them for further search. Firms usually share their contents through SMS and email. Getting success on this stage is very difficult because creating the interaction through social media platforms and website to generate the leads. Keeping and retaining customers up to purchase interest

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and putting their preferences to the cart is the main target on this stage. Drokina (2018) specified some essential marketing tools for this stage as followed:

Table 3. Essential tools at act stage

	Tools
Page engagement tools	Google Page analytics, Hotjar, Clicktale, Crazyegg, Tealeaf
Content Management Systems (CMS)	Episerver, Sitecore, Adobe Content Experience Manager, Acquia, Oracle WebCenter Content
Blogging Tools	Wordpress, HubSpot Blogging, Movable Type, Expression Engine, Drupal
Content curation and authoring tools	Evernote, IFTTT, Scoop.it, Cronycle, Feedly
Landing page creation and testing tools	Unbounce, LeadPages, Instapage, Ion Interactive, Optimizely
Digital Asset Management Adobe Experience Management	Wistia, Vimeo, Uberflip, Placeit
On-site push notification	Hellobar, Brightinfo, Evergage, Bounce Exchange, Sale Cycle

Source: Drokina (2018)

- 4) **Convert/Sales/Profit:** Drokina (2018) mentioned that this stage leads turn into action. The interested customers are becoming into paying customers. Perspective customers are making their purchase from online and physical platforms. Drokina (2018) specified some essential marketing tools for this stage as followed:
  
- 5) **Engage/ Repeat/ Referral:** In engage stage firms tries to build a long-term relationship with customers. Positive word-of-mouth or referral, repeated sales, and reviews on blog is crucial in making a profitable online business. On this stage getting customer loyalty is the most important target for the firms. Drokina (2018) specified some essential marketing tools for this stage as followed:

Table 4. Essential tools at convert stage

	Tools
Personalization for Ecommerce	Evergage, Barilliance, Marketizator, Salecycle, Monetate
Ecommerce re-targeted messaging	Cloud.IQ, Salecycle, Optilead, Fresh Relevance, pure360
AB and Multivariate tools for structured experiments	Convert, Visual Website Optimizer, Optimizely, Maxymiser, Adobe Target
Ecommerce management	Magento, Woothemes, Shopify, Prestashop, Actinic
Customer reviews and ratings tools	Trustpilot, Feefo, Yotpo, Bazaarvoice, Reevo
Call tracking (AdWords and other paid media)	Identify, Convirza, Response Tap, CallTrackingMetrics.com, CallRail
Live chat	Olark, Tawk.to, Liveperson, LiveChat, TouchCommerce

Source: Drokina (2018)

RACE is widely accepted digital marketing framework for managing and improving digital marketing activities. It is the best practicable technique to get more customers from the market.

Table 5. Essential tools at engage stage

Social media – publishing focus	Hootsuite, Buffer, Sprout Social, Viralheat, Falconsocial
Social media – listening focus	Socialmention, Talkwalker alerts, Buzzsumo, Sysomos, Social Crawlytics
Social media – campaign tools:	Shortstack, Spreadfast, Woobox, Pagemodo, Tab Foundry
Online customer service tools	Zendesk, Help Scout, Get Satisfaction, Freshdesk, Groove
Marketing cloud, Digital Marketing Hubs for CRM and campaign management	Marketo, HubSpot, Salesforce Marketing Cloud, Oracle Marketing Cloud, Adobe Marketing Cloud
Email marketing service providers (ESPs)	MailChimp, ConstantContact, GetResponse, Infusionsoft, Act-On
Voice of customer (VoC): Feedback and Surveys	SurveyMonkey, Polldaddy, Typeform, Hotjar, Confermit, Google forms

Source: Drokina (2018)

## SEARCH ENGINE OPTIMIZATION (SEO)

**Search engine optimization** is one of the commonly used way that helps in reaching the website very quickly. SEO enables a website to appear in top result from a specific search engine through some selected keywords (Yalçın & Köse, 2010). SEO is basically based on the searched keywords that matches with any websites comes in front of the users.

### Features of Search Engine Optimization

Search engine is a type of software that collects data based on the keyword searched. Yalçın & Köse (2010) mentioned that the collected data that comes to computer screen contains web site URL, keywords or group of keywords related with searched keywords, and link related with different websites. There are some crucial features of SEO as mentioned below:

- 1) **Relevancy:** Search engine tries to provide most relevant matches of the search result through internal algorithm which we don't even think of.
- 2) **Customize title tags and metadescription:** Title tags used to navigate search engine and makes aware the visitors about the site in the most accurate and possible way. The keywords usually appear in a highlighted way. A meta description is a brief of the content or keyword any one searched. It usually contains 160 character or less than that. It provides an idea about the content someone searched for.
- 3) **URLs and Header Tags:** URL stands for Uniform Resource Locator, is one of the most important elements in SEO. URL is the page link. It tells what the page is about, and it is the way through

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which search engine finds that page. Header tags usually denoted by H1 (heading 1), H1 defines the topic of the page. Through tag googles finds the users interest.

- 4) **Cross-device compatibility:** SEO can be operated via any type of screen or device where internet can be accessible. A mobile device can be utilized to access the Google or Bing platforms.
- 5) **Internal linking:** Search engines provide many internal linking to the users. It provides further reading and search materials as a suggestion. SEO ranks the words that might help the readers. Google usually crawl the internal links and index the sites.
- 6) **Schema Markup:** Schema markup helps to more informative results to the HTML of the searched page. It adds different rich media content playground, customer ratings, star-ratings, and other types of helpful information.
- 7) **Tagged image:** Uploading image with the content will make the web pages more attractive. Inclusion of **alt attribute** is necessary while adding the image, because Google can only read **alt text** not the image.

## SEO Process

Dodson (2016) specified four major stages for search engine optimization. Four stages are described below:

- 1) **Goals:** Understanding the benefit of optimizing SEO is crucial for the organization intends to go digital format. It is the basic driver while organizations develop SEO strategy. While initiating SEO campaign, it is necessary to keep in mind whether the goal is realistic, clear and fulfills the organizations mission and objective.
- 2) **On-page optimization:** On-page optimization identifies those factors that can be easily controlled by the user. One can take any measures directly through the website to improve the position in the web search. On-page optimization helps in reading, understanding, crawling through, and navigating the pages more effectively (Dodson, 2016)
- 3) **Off-page optimization:** Off-page optimization indicates that all the necessary measures needs to be taken outside of the actual website in order to improve its positioning. This allows website positioning for organic search and that can't be managed through on-page optimization (Dodson, 2016).
- 4) **Analyze:** It's the last stage of SEO process. Here firms are looking at data flow, analyze the coming data, and take the necessary steps for the adjustment.

SEO process is a cyclical process. After the analysis organization reviews the whole process and again determines their goal for SEO optimization.

## Success Measurements of SEO

1. **Traffic:** KPI calculates the number of visitors or leads that results from organic search traffic to website. Website visit that comes from search engine result, and not from paid advertisement that is called organic search traffic. In organic search, searchers will find the website more frequently and that hold the interest of the searchers.
2. **Keyword rankings:** Keyword ranking is the most favorite SEO metrics. By setting appropriate keywords digital firms can get more traffic. There are several things necessary to remember before

using keywords, these are: using many keywords are not always better, higher keyword density is not appropriate, and setting multiple pages with multiple keywords are not appropriate which might hamper home page (Shih et al., 2013)

3. **Time spent on page:** The time visitors spent on a website shows their engagement and favorability. There are several Google algorithm engagement metrics that shows every change to its ranking algorithm like- Panda, Penguin, Hummingbird, Pigeon, Mobile, RankBrain, Possum, Fred, etc. These engagement metrics show how long a customer spent their time on a website. If any customer spends higher time in a website, it indicates the website satisfies customers intent.
4. **Bounce rate:** Bounce rate refers to the immediate shift from one webpage to another webpage. Users land on one site and immediately hit the backward button or open another page. Such behavior has a negative effect on webpages. Through bounce rate it is possible to analyze each page separately.
5. **Device traffic:** People are now accustomed with mobile phone and smart tablets. A rise of the use of mobile phone means the operation through the Google is appropriate. It defines a certain keyword ranking through the use of mobile phone and smart tablets.
6. **Click-Through Rate (CTR):** CTR shows that how many times a customer clicks on the specific website and the total number of users who view the pages.
7. **Ranking-** For SEO the ranking refers to the location of your material on the results pages of the search engine (SERPs). A # 1 ranking means that when people search for a given word, your web page is the first result apart from the results promoted
8. **Return on Investment (ROI)** is what a search marketing agency wants from every client. Calculating when you're doing Pay-Per-Click (PPC) advertising is an easy thing. If your revenue is higher than your expenditure, the fees for PPC management and the cost of the goods, then your client receives a return on their investment. While it is easy to calculate ROI for PPC, the same cannot be said for search engine.

## **SEARCH ENGINE MARKETING (SEM)**

**Search engine marketing** is a form of online advertising by using different search engine to reach the ultimate and potential customers. Search engine marketing is a paid form of advertising using Google, Bing, Yahoo, Baidu, Yandex.ru., DuckDuckGo, Ask.com., AOL.com., WolframAlpha, Internet Archive etc. Search engine marketing (SEM) alternatively used as search engine advertising, pay-per-click ads. These include SEO, paid listings and ads, and other program related services and functions which will increase reach and exposure of the web site.

### **Conceptualization of Search Engine Marketing**

SEM encompasses with SEO, paid placement, and paid directory listing. Search engine marketing processes are mentioned below:

- 1) **Organic search or natural result:** Organic search is also called search engine optimization. Organic search finds the most relevant matches for the user. It is an unpaid search method, and the



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least expensive method among other forms. Moran & Hunt (2014) mentioned some basic steps of organic search:

- a) It is important to set as necessary number of pages into the search index to find the query immediately by the users. Page missing from the index can't be found by the users.
  - b) Choosing the right content for the search engine marketing like-
    - I. Keywords: Keyword is the basic item for all search engines. Keywords can be words, a single word, a group of words, phrases etc.
    - II. Text ads: Text ads are the standard types of ads which comprises with titles, two or three lines of text, and the customized link to reach the searched contents.
    - III. Ad group: Ad groups are one or more ads, and keywords that share to the similar target search.
    - IV. Search network: While a firm advertise on search network, advertising will appear on the next search. In google search it appears with maps, location of retail, images, and related websites, etc.
  - c) Digital firms need to optimize their content on a continuous basis. Updating the contents based on the demand of the market is important for the marketers. Firm can update their contents by themselves or can heir consultant or digital firms for this purpose.
- 2) **Payment result:** Like organic search, the advertiser must pay an amount for each click he gets. Through paid search marketers can get more web traffic via desktop or mobile web search. Nearly every search engine facilitates the advertiser for placing the ads.

### Benefits of Search Engine Marketing (SEM)

1. It is very flexible for the marketers to control their advertising through SEM ad campaign management tool.
2. A firm advertise on search engines, firms' name become clearly visible on the top of search results.
3. A firm using SEM can easily reach to the target audience.
4. A firm can change their ad at any time, depending on their budget.
5. A firm can easily track the number of visitors, their view, such as clicking it, asking for directions or placing a phone call from it.
6. A firm can easily track their lost customers and can easily reattract them for the new offerings.
7. Through SEM a firm can generate qualified traffic to the firms' website, and it can also create brand awareness too.
8. It is very easy to run an advertising campaign through SEM as it is very cheap and there is no budget limit for running a campaign.
9. It provides more competitive data for the firm
10. It provides great opportunity for the mobile marketing firms

## WEB ANALYTICS

Web investigation is the assortment, revealing, and examination of site information (Zheng & Peltsverger, 2015). Web analytics helps in examining the visitor's behavior to a web page. Through web analytics a

firm can attract more clients, retain them and can continue a long-term relationship. As the firms expand their businesses through cross-border e-commerce, analyzing web analytics is crucial for them.

## **Types of Web Analytics**

Web analytics technologies have been divided into two categories: i) on-site web analytics ii) off-site web analytics

- 1) **On-site web analytics:** Data collected from the current site is referred to on-site web analytics. It measures visitor's behavior on a web site. It measures the performance of a website from the perspective of commercial context. It measures several aspects of direct user-website interactions, number of visits, time on site, click path, etc. Google analytics is the most popular and widely used on-site web analytics service. On-site analytics use trend analysis software to analyze server logs, tag pages, etc. to forecast and analyze about the website.
- 2) **Off-site web analytics:** Measures and track website traffic from different external sources. It includes data from other sources such as surveys, campaigns, market report, social media sites, competitor comparison, social engine marketing, email marketing, and public information, etc.

Major reasons why website analytics are important for cross-border marketing:

Web analytics as an e-commerce logistic platform raises company's performance (Wu & Lin, 2018). Some of the major reason why web analytics are important for cross-border marketing:

### **1. *To know the visitors and to enhance user experience:***

Cross-border geography is an important component for digital marketing strategy. Digital firms monitor different geographical markets through the lens of web analytics. At this point firms having digital experience monitors clients age, sex, preferences, choice, intention and intuition and so forth as a silent monitor a firm can take appropriate measures to provide ultimate satisfaction.

### **2. *To know the best content and to focus on it:***

Site investigation apparatuses like Google Analytics, Spring metrics, Woopra, Clicky, Mint, Chartbeat, Kissmetrics, User Testing, Crazy egg, Mouseflow and MonsterInsights, etc. show vividly which items gets the most visits, normal term, and skip rate for the individual pages, so the owner can break down, and enhance, for better commitment. Moreover, through the web analytics, a firm can easily decide what content works better than another. So, businesses can concentrate on some specific content that bring more performance.

### **3. *It Helps the Site's SEO:***

Search Engine Optimization (SEO) is one of the most essential viewpoints in deciding the business development. The more natural traffic the business site gets, the more leads and transformations it gains.

### **4. *Tracking the top referrals and building strategies:***

## Digital Marketing

Referrals in web analytics indicates to the “referred” visitors to any site through clicking a link. It excludes advertising, and organic search, in most cases. By analyzing site through different metrics, business can monitor who alluded most traffic to their website, breakdown and move around the systems to acquire referrals from them. Based on the referral, firms can easily make their strategy to reach any customer throughout the world.

### 5. Utilizing outbound links as a partner

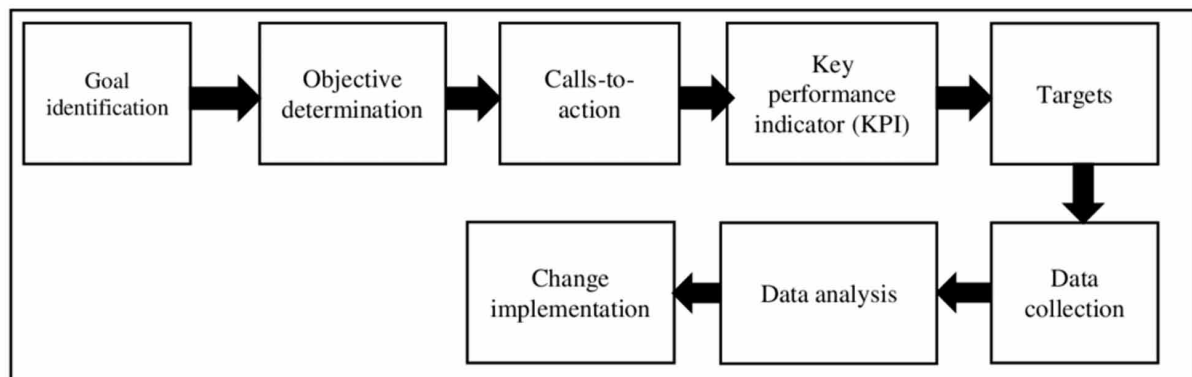
Site information not only gives the knowledge into the site referrals, but also about those who are alluded to or outbound connections. Utilizing different analytics platforms, the top connections tapped on the site that go to different sites can be seen, dissect, and contact those sites with organization offers.

## Web Analytics Process

Web analytics is not just a reporting technology, it’s a cyclical process of measuring client’s behavior, a tool for measuring cost, an indicator for improving performance for cross-border e-commerce, marketing and management. There are some following steps in web analytical process:

Figure1. Web analytics process (Adopted from: Bekavac & Garbin Praničević, 2015)

### Web analytics process:



- 1) **Goal identification:** Why a firm needs to have a website? - should be outlines first. Different organizations have different types of goals according to their functionality, but specifying the goal is important to provide ultimate service (Schaupp et al., 2006).
- 2) **Objective determination:** The objective of a website is to provide the relevant information to enhance the sale of their product or service. A website should determine how to attract the customers and keeping them until the final calls. Objective helps in achieving the goals.

- 3) **Calls-to-action:** A call to action is an instruction to the visitors designed to provoke an immediate response.
- 4) **Key performance indicator:** KPI measures the success of objective and the particular progress in achieving goals. Each KPI is correlated with a specific action which matches with the criteria/ attributes of timelessness, simplicity, relevance and usefulness (Bekavac & Garbin Praničević, 2015).
- 5) **Targets:** Target indicates the threshold that determines the achievement of a specific objective. For example, a search rate of any specific website should not be less than 30% than before. It shows an increasing trend of that web page.
- 6) **Data collection:** Data collection is very crucial for the development of web analytics. Data collection process should be accurate and need to protect for future. There are some ways to gather information through web analytics:
  - i) **Cookies & IP address:** Cookies are the small text files which resides into user's computer. Each cookie has a unique number which makes it easy to detect which site the visitor accessed and it helps to find returning visitors and new visitors. Internet Protocol (IP) address is provided to all internet users. IP address helps in finding the location (Kumar et al., 2012).
  - ii) **Logfile Analysis:** Server logs is a basic book document that records movement on the server. It is made consequently and kept up by the server's information. With the assistance of a server log document, he/she can discover the action subtleties of the site/pages.
  - iii) **Page Tagging:** It collects data through JavaScript code (Nakatani & Chuang, 2011). Every time when a visitor opens a page the script is activated, and the code is sent to the visitor. The code collects the necessary information about the search. The data is then collected and saved for the analysis.
  - iv) **Web Beacons:** A web beacon is a clear picture file to identify one's navigation pane through a single webpage or multiple webpages. It tells how banner ads perform through multiple web sites. Web beacons might be connected with cookies to gain an more understanding.
  - v) **Packet Sniffing:** It is also known as packet analyzer, protocol analyzer. It analyzes the network traffic. Sniffers collects data through examining streams of data packets that flow between computer and network, regardless of how the data packet is addressed.
- 7) **Data analysis:** Web analytics tools provide a summary report based on the metrics from the different monitoring platforms. Some data analysis metrics are:
  - i) **Visits:** Visit counts every time page views, recurrence visit, unique visitors, time spends on page, time spent on site.
  - ii) **Bounce rate and exit rate:** How long a visitor stays on a specific webpage.
  - iii) **Trend analysis:** It's the prediction of data movement through the observed trend data. It shows the chronological changes of a selected metrics (Zheng & Peltsverger, 2015)
  - iv) **Distribution analysis:** Based on different types of search like- referral, location, time, new users, device, client's typology metrics provide information to the website operator.
  - v) **Conversion analysis:** Conversion rate estimated through the number of completed sales target. All web analytics tries to increase conversion rate by improving their visitors experience.
  - vi) **Performance analysis:** It measures how a web site performs while navigating from different part of the world. It gives the data related with loading times, linking with other pages, and traffic volume, etc.

## Commonly Used Web Analytics for Cross-Border Marketing

Throughout the world firms are adopting web analytics for the success of their management and marketing operations. To date the most commonly used platforms are:

Table 6. Commonly used web analytics tools

<b>Web log tools</b>	Google Analytics, Webtrends Analytics, FireStats AWStats, Webalizer, StatCounter, Mint, Spring metrics, Woopra, Clicky, etc.,
<b>Page tagging tools</b>	Piwik, Clicky, Chartbeat, GoSquared, FoxMetrics, GoingUp, eTracker, IBM Unica NetInsight, Stuffed Tracker, Crazy Egg

Source: Adopted from Bekavac & Garbin Praničević, 2015.

## SOCIAL MEDIA MARKETING

Social media has changed the fortune of thousands of companies. Social media is a series of technological innovations which facilitates less expensive content creation, interaction, and inter communication through online platforms (Whitelock et al., 2013). Whitelock et al. (2013) stated that though the research of social media has been focused in many studies, there are only a limited number of studies were evident from the cross-border perspective. The issue of social media marketing for cross-border marketing and management needs to give more emphasize (Cheng et al., 2019).

### Importance of Social Media for Cross-Border E-Commerce Marketing and Management

Global firms need to have strong social media orientation for their operation throughout the world. Importance of social media from the perspective of marketing and management are mentioned below: -

- 1) **Social media and marketing:** For cross-border marketing, social media connects people through different social networks. It is the way of interaction by staying outside. Whitelock et al. (2013) mentioned that social media is an international advertising platform where any domestic firm can easily approach internationally. Webber (2009) focuses on the issue of cross-border segmentation, targeting, and positioning strategy through social media marketing.
- 2) **Social media and branding:** Social media enhance brand awareness and reinforce brand loyalty (Shen & Bissell, 2013). Social media is a brand recalling point and these are the less expensive platforms for the marketers (Webber, 2009).
- 3) **Social media and cross-border relationship:** Social media become a global media through internet. Multinational firms using social media increases their cross-border exchange relationship. Firms can easily collect data about foreign markets. Social media together geographically dispersed communities in a single platform as a sense of single community (Holt, 2016).
- 4) **Social media and cross-border shopping behavior:** Behavioral scientists have emphasized on the cross-border shopping behavior and social media. Through social media platforms firms can

easily monitor demographic factors, market segments and shopper's behavior (Dmitrovic & Vida, 2007). Thus, social media could help us before moving to international.

- 5) **Social media and modern business:** Social media have transformed traditional business activity into the digital activity. Social media helps in interactivity in business by establishing a spontaneous communication among the stakeholders. Through social media businesses can communicate with their customers on 24/7 basis through several ways. A personalized immediate response can be established by utilizing social media for business operation.

## **Building Social Media Marketing Strategy for Cross-Border Marketing**

Social media doesn't belong to any specific country rather it belongs to everyone and its presence globally. The big challenge for cross-border social media planning is to think from the local customers perspective. Marketers can adopt following strategy before social media planning: -

- 1) **Market research with appropriate social networks:** The world market can be divided based on which social network they used mostly. Before launching any market offering, it is necessary to know which social network belongs largest customer group. A through market research for finding the market gap, appropriate product or service, competitors' position, USP etc. are necessary to approach into the market.
- 2) **Find the preferences:** Throughout the world people use different social media for different purpose. Understanding different cultural value and consumer preference is important before launching any program. Understanding geographic, demographic, psychographic, and behavioral segmentation is crucial before moving into a market with social media.
- 3) **Strategy formulation:** Social media marketing strategy depends on several issues: -
  - a) **Message strategy:** Depending on the geographic background, marketers need to customize messaging strategy. It is better to accompanied with foreign language rather depending on google translation. People usually find it more compelling while they see the offerings in their own language.
  - b) **Logistic strategy:** Firms need to develop basic logistic infrastructure to deliver the product in another country. Digitally enabled firm can heir some domestic firm to deliver the products on behalf of them, otherwise long-distance shipping in cross-border e-commerce marketing generates higher cost compared to the domestic delivery (Ding et al., 2017).
  - c) **Website strategy:** Before creating the website a digitally enabled firm should consider some important aspects like the visual, layout, and international SEO, etc. Regarding the visual content firm must care about the word and length of every sentence usually used by the domestic people. Graphical representation is another important issue needs to consider on the webpage. The layout of a website needs to decorate based on the international market. International SEO of a website needs to create in a very fundamental way that can be user friendly to all.
  - d) **Content strategy:** In content strategy some of the specific thing we need to consider like-
    - Content relevance with target audience
    - Culture-specific reference
    - Focuses based on local issues (currencies, measurement systems, local spelling etc.)
    - Cultural factor (avoiding controversial issues)
    - Focusing on current issues.

## Digital Marketing

- 4) **Establishing interaction:** The most important aspect of utilizing social media platform is to engage the audience and making them the final long-term satisfied customer.

### Social Media Platforms for Cross-Border E-Commerce Marketing and Management

For cross-border e-commerce marketing, marketers are depending on various social media platforms in different continent. Based on the origin different social platforms in the world is:

Table 7. Popular social network sites

Continent	Social Networking Sites	Country of origin
Asia	QQ, WeChat, Qzone, Baidu Tieba, Sina Weibo, YY, Renren, Douban, TikTok, Kuaishou	China
	Viber	Japan (Previous- Israel)
	Telegram, VKontakte (VK), Badoo,	Russia
	Zalo	Vietnam
	LINE, Mixi, Viber (Previous- Israel)	Japan
	Kakao	South Korea
	MyHeritage	Israel
	Vero	Lebanon
Europe	Skype	Sweden and Denmark
	The Dots, Wayn	UK
	Skyrock, Viadeo,	France
	Xing	Germany
North America	Facebook, WhatsApp, Tumblr, Instagram, Twitter, Google +, Snapchat, Pinterest, LinkedIn, Reddit, Foursquare, Tagged, Myspace, StumbleUpon, Kiwibox, Snapfish, ReverbNation, Flixster, Care2, CafeMom, Ravelry, Nextdoor, Cellufun, YouTube, Vine, Classmates, Xanga, LiveJournal, Friendster, Funny or Die, Gaia Online, We Heart It, Buzznet, DeviantArt, Flickr, MeetMe, Meetup, spreely, Discord, ELLO,	USA
South America	Taringa	Argentina
	Skoob	Brazil

## E-MAIL MARKETING

E-mail marketing is a vital part of e-marketing to increase the site traffic and sales. E-mail marketing is a platform where marketers send commercial and non-commercial messages to the receiver (Hudák et al., 2017). Nowadays, e-mail marketing is called newsletter, and modern firms usually send their latest updates through e-mail as a newsletter. A number of bulk registered email addresses of the customers were connected through HTML format, and the newsletters are sent automatically. Using email as a marketing tool is highly beneficial for the corporations. Corporations can expand their customer reach, target specific audience, and easily communicate with them (Moustakas et al., 2006).

## **Advantages of E-Mail Marketing for Cross-Border Market**

International firms are getting some advantages through newsletter or e-mail marketing. Importance of e-mail marketing from the cross-border e-marketing and e-commerce perspective is mentioned below:

1. **Return on investment:** E-mail marketing doubles the return on investment (ROI) compared to other online marketing tools (Pavlov et al., 2008). By obtaining e-mail as a tool of marketing, international firms can easily reduce the cost of other marketing tools in other countries or even in domestic market (Fariborzi & Zahedifard, 2012).
2. **Personalization or customization:** Through e-mail marketing a dynamic personalization or mass customization of content is possible according to the segmentation of the market. Marketers can easily add some value to their customers through tailoring the products based on their choice and demand (Chaffey, 2007).
3. **Easy monitoring:** Sender can easily track the email receiver while they open the email, click through the link and proceed to order. Through e-mail marketing it is very easy to monitor the undelivered message, number of completed response, conversation rate of action, and referral to others.
4. **Automatic:** Through 'autoresponder' a sender can fix a message and its delivery date to send the message to the receiver on any specific offer. Based on different territory and special dates, different types of email can be prepared earlier, and it is very easy to set the date based on specific occasion.
5. **Quick reach and cost effective:** Through e-mail marketing information get a quick reach to the target clients. E-mail quickly spreads throughout the world. E-mail is a kind of permission marketing, until the customers unsubscribes the email platforms (Fariborzi & Zahedifard, 2012).

## **Cross-Border E-Mail Campaign Planning**

Cross-border e-mail marketing campaign is very important for cross-border e-commerce and e-marketing activities. According to Chaffey (2007) before starting a cross-border e-mail marketing several issues needs to be taken into care:

- 1) **Setting e-mail marketing objective:** Companies need to set their cross-border e-marketing activities aligning with e-mail message. A strategy based on customer acquisition, retention and a long-term relationship for brand building needs be made for e-mail campaign.
- 2) **Build and segment an email list:** In cross-border e-marketing collecting the clients email address is a very challenging task. To get the success in cross-border e-marketing, building and stocking the email list based on different territory is one of the crucial tasks for the marketers. Without such an effort, reaching to the ultimate customer is kind of impossible.
- 3) **Preparing the budget:** For cross-border e-mail marketing, firms need to specify ROI, revenue and different types of cost related with the campaign. Different sorts of variable cost like creative cost, layout, design, text and graphic cost are important while preparing the budget. Moreover, for HTML e-mail marketing the cost must be higher than the regular one. Cost related with database management and software purchase are also important while preparing the budget.



## **Digital Marketing**

- 4) **Campaign design:** Chaffey (2007) mentioned four variables for effective e-mail campaign design are:
- I. Creative: Design and layout of the e-mail. Cross-border firms can generate mobile friendly e-mail for the convenience of the clients.
  - II. Offer: Unique selling proposition.
  - III. Timing: Selecting appropriate time, day, month, season is necessary for e-mail marketing campaign.
  - IV. Targeting: Targeting the specific segment

While designing the campaign, marketers need to remember several issues like- e-mail language. Sensing an e-mail with some mistakes like- spelling, phrasing, grammar, and misused-word might destroy the whole campaign objective. A professional translation service might help to reduce the number of mistakes. On the other hand, using appropriate image and tone is important based on specific geography. Relating the appropriate image can generate interest for the clients.

- 5) **Integration of the campaign:** An integrated marketing campaign in foreign country can generate more sales for the company. Integrated marketing campaign through TV, radio, print advertising, website, etc. along with e-mail marketing will make a strong effort for the company. Data quality of the foreign market is necessary to access before launching e-mail marketing. If the data quality is poor in targeted segment, alternative marketing campaign might be beneficial.
- 6) **The creative brief:** A creative brief is the main theme or summary of the message intended to be delivered. Agencies conducted to initiate the campaign usually takes the responsibility for creating the brief, but a theme or tone may be suggested by the firm.
- 7) **Measurement:** Chaffey (2007) detailed about four variables to measure the effectiveness of e-mail marketing campaign as (number sent, number of clickthrough, number who complete the form, and the number of recipients who become customers). Moreover, there are few e-mail marketing metrics that uses to measure the campaign success:
- Spam Percentage/complaints
  - Open Rate
  - Click-through Rate (CTR)
  - Conversion rate
  - Action Rate Over Time
  - Bounce Rate
  - Unsubscribe Rate
  - Number of Unsubscribe
  - List growth rate
  - Forwarding rate/email sharing
  - Engagement over time
  - Overall ROI
  - E-mail sharing rate
  - Mobile open rate
  - Mobile click rate
  - Domain open rate
  - Domain click rate

- Revenue per email
  - Revenue per subscriber
- 8) **Enabling auto respond and auto tracking:** An auto responder is a marketing tool that enables automatically send message to the interested clients. It is the way a firm can make an interactive communication with their clients to make a long-term relationship. Through this a firm can easily monitor from where the client is looking for their offerings.
  - 9) **Continuous improvement:** After measuring the success rate, firms need to take the corrective measure for strengthening the campaign in international market. Once a firm get a success, they usually try to conduct multiple campaign through e-mail.
  - 10) **Testing:** Chaffey (2007) mentioned about two types of testing for e-mail marketing- efficiency and effectiveness testing. Efficiency measures the reachability of the marketing campaign, and effectiveness measures success of the campaign.

#### Challenges of Cross-Border Email Marketing

- 1) **Difficulties in obtaining permission:** Chaffey (2007) mentioned that unsolicited commercial e-mails are the major barrier in cross-border e-mail marketing. Rendering permission from the client regarding receiving newsletters or e-mail is difficult. In most of the cases it keeps an open option for the clients whether they would like to receive a newsletter or not. If someone agrees to receive the newsletter, on that case they were sent the e-mail.
- 2) **Undelivered e-mail:** There are several reasons for email bounce like – a non-existence email address, unavailability of email server, mailbox is full, on vacation or autoreply, blocked email, etc. Senders usually don't understand the reason for email bouncing, and there might have some other reasons to email bounce.
- 3) **Probability of less response:** It is difficult for the marketers to keep active of their e-mail or newsletter subscribers for every offer. Even subscribed clients may not open the message.
- 4) **Renderability:** Fariborzi & Zahedifard (2012) specified the issue that some browser or system doesn't allow to open all types of email by showing security issues. Such inconvenience might hamper e-mail marketing in international platform.
- 5) **High spam complaints:** Most of the marketing campaign comes into the spam folder and clients usually tries to avoid those emails for some security reasons. Due to the internet fraud, people often skip such market offerings.

## MOBILE MARKETING

The world has already observed a significant success in digital marketing through different platforms, unfortunately the study of mobile marketing from the perspective of cross-border perspective is only a few (Okazaki, 2006). Mobile marketing adoption strategy is a cutting-edge demand throughout the world (Okazaki, 2006). Cross-border e-commerce firm uses many types of mobile marketing strategy for reaching into their customers.

## **Types of Mobile Marketing in Cross-Border Marketing**

Mobile marketing is multi-way communication platform between a cross-border firm and its clients (Shankar & Balasubramanian, 2009). Mobile marketing has brought a significant success in cross-border marketing. A summary of different mobile marketing strategy has been mentioned below:

- 1) **Short message service (SMS):** SMS marketing includes broadcasting (relevant information about certain promotion), sweepstakes, appointment reminders, voting in contents, text-to-collect information, instant wins, polling, offering consumer stats and other data types. These are the common forms of SMS marketing strategy for collecting information from foreign markets.
- 2) **App-based marketing:** App-based mobile marketing is programmed based on different purposes of life where users can download the apps from internet and install on their mobile phone, and they can use it on a regular basis. It is the way a cross-border firm can get new customers, improve retention, and can lower the customer dissatisfaction.
- 3) **Push notification:** Notification services are the communication platform that notify clients by providing information or alert regarding their social affiliation through social networks, information services, location-based services (Kim, 2014). It is a kind of permission marketing where users were asked before enabling the service whether they would like to receive the notification or not.
- 4) **E-mail marketing:** The present mobile revolution demands to rethink e-mail strategy based on mobile devices. In cross-border e-commerce obtaining customers information and engaging with the customers through mobile e-mail marketing strategy is a complementary strategy for email campaign.
- 5) **In-game mobile marketing:** Multiple brands offer different types of mobile games starting from puzzle to different types of complex games (Shankar & Balasubramanian, 2009). Some development studios usually take the responsibility for cross-border e-marketing firms to make games for their clients.
- 6) **QR-Code marketing:** QR code is the pull marketing strategy of the cross-border e-marketing firms which facilitates a two-dimensional bar codes that provides website, information and application (Watson et al., 2013). QR codes is a permission-based marketing strategy by which clients have been asked to open the code and to provide their information to access the service.
- 7) **Bluetooth marketing:** It is a proximity mobile marketing that allows firms to send advertising to client's cell phone. By using an Ad-Pod which is a dedicated to Bluetooth and WiFi, a firm can easily send the message between mobile devices.
- 8) **Geo-location based mobile marketing:** Geo-location-based apps helps in tracking the movement of customers and customers behavior. It monitors the location where they spent most of their times and money. Geo location-based notification encourages users to operationalize their promotional codes or emails to any specific stores to receive the gift or any specific packages.
- 9) **Mobile site redirection:** A mobile site that leads a client to a specific application which effectively helps in downloading the application of that brand.
- 10) **Ringtone and ring-back tones:** Different types of jingle, screen saver or wallpaper are offered by many multinational brands which attracts customers.

## **Advantages of Mobile Marketing for Cross-Border E-Marketing**

Öztaş (2015) specified advantages of mobile marketing from the perspective of international business atmosphere:

- 1) Success factors can be measured in more detail, reliable and easy way
- 2) It measures instant campaign success and follow-up
- 3) Most of the mobile marketing methods are very cost-effective
- 4) It is a form of one-to-one marketing and very much interactive
- 5) Most of the mobile marketing are permission-based marketing
- 6) Through different mobile marketing platform cross-border forms can easily measure the responses from consumers
- 7) It is very easy to set target group
- 8) Rate of return is higher (approximately more than 10%)
- 9) It is more visible and can be stored for long-time
- 10) It has a powerful viral effect

## **Transaction System of Cross-Border Mobile E-Commerce or M-Commerce**

M-marketing covers verities of activities for ensuring a smooth transaction throughout the world. Krum (2010) mentioned some the ways how mobile marketing make the e-commerce transaction smoother than retail services:

**Mobile Payment:** Mobile payment services is a special form of the electronic payment system which is integrated with web system or offline (Gani et al., 2020; Schierz et al., 2010; Krum, 2010) via contactless payment options such as Near Field Communication (NFC) and Radio Frequency Identification (RFID). Mobile payment technology market in cross-border e-commerce utilizes many platforms for their transaction:

1. NFC
2. QR Code
3. WAP & Card-Based
4. Digital Wallet
5. Banking App-based
6. SMS-based/DCB
7. Others ([USSD/STK, MST, etc.]

**Mobile Banking:** Mobile banking is a form of banking activity that allows currency to change hands via a mobile phone (Krum, 2010). Mobile banking in e-commerce marketing and management can be utilized in several ways: “Remittance; Utility Bills Payment; Balance Recharge; m-Shopping, Balance Enquiry, Funds Transfer, Donations, ATM Locations” (Mallat et al., 2004).

## **Mobile Marketing Challenges for Cross-Border E-Marketing**

Cross-border e-marketing firms faces some challenges in e-commerce business:

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- 1) **Advertising problem:** Making an advertising compatible with Android and iOS is difficult for the content creator. Even due to the cultural differences sometimes it is difficult to produce appropriate advertising for the target customer. Moreover, some ads are not supported in specific devices.
- 2) **Screen size:** Screen size of mobile phone is totally depending on client's choice and page rendering speed is depended on screen size and resolution. As a result, for cross-border m-marketing different promotional advertising and contents don't appear to the consumers mobile screen. As a result, shooting a public campaign is difficult for the firm.
- 3) **Competitive apps:** Mobile marketing industry is booming day by day, and the competition is also increasing with the same pace. While people intend to download an apps, they were become confused with many options, and it is very difficult to rank the apps.
- 4) **Language personalization:** Barriers to multiple languages make it difficult for the marketers to reach international consumers.
- 5) **Individualization:** It is very difficult for the marketers to make customized apps or service by targeting individual customers. The problem can be solved by segmenting the market.
- 6) **Frequency:** In e-commerce marketing, reaching specific segment in a daily basis is difficult unless having a strong manpower to set the program. Moreover, how the people perceive daily message is another critical factor for the marketers.
- 7) **Web traffic:** The grater difficulties in cross-border e-commerce marketing for mobile marketing is web traffic. Most of the people tries to see the website through their mobile phones that creates the traffic on the web. If the web response is not quick, there is a chance to lose the customers.
- 8) **Privacy concern:** With multiple market offerings through mobile marketing clients might think they are losing their personal information and privacy. Customers are not interested to share their personal information with another third-party vendor.
- 9) **Overloaded information:** Cross-border firms usually try to reach the customers through multi-channel social media platforms which might create a matter of irritation to the customers. Getting the same promotion from several sources might be a reason to unsubscribing from the platform.
- 10) **Inadequate measurement metrics:** Measuring the success of mobile marketing is still inadequate in the world. Metrics based on advanced search technique is yet to find.
- 11) **Difficulties in getting international license:** Jobodwana (2009) mentioned that foreign firms usually face the difficulties for the implementation of m-marketing. For getting into a new market, cross-border marketers need to invest huge amount of money to get the license. Cross-border firms need to follow all the rules of the domestic country's specific tele-communication rules.
- 12) **Risk related with mobile-payment theft:** Though m-payment is more secure than traditional payment system, the major threat to online transactions is malware or different types of viruses that collect clients' personal information, and diffuse it to an external database over the Web, to later be used or sold by hackers (Krum, 2010).
- 13) **Mobile spamming:** According Krum (2010) in cross-border e-commerce marketing mobile spamming is one of the major threats like e-mail spamming. Mobile marketing spam described as the unsolicited text, picture, fraud offer, picture message, or different location-based market offerings.

## DISPLAY ADVERTISING

Display advertising is a type of advertising that notifies a commercial message through text, logos, animations, videos, photographs. Cross-border e-commerce firms are spending a lion proportion of their total digital marketing budget for digital advertising. The top five display ad companies in the United States are Facebook, Google, Twitter, Yahoo, and AOL (Laudon & Traver, 2016). Display advertisers frequently target users with particular traits to increase the ad's effect. Display advertisement intended to generate traffic to a website by linking to it. Also, Display ads can function as print advertisements. It notify the customer about a new product and increase brand awareness. Companies can grow their brand awareness using banner ads so people can easily recognize their product or service. It's an easy way to increase users base. If somebody visit the website but doesn't sign up on newsletter they can retarget them with display ads. Whether a new company tries to develop brand recognition or an established business attempting to maintain a customer's loyalty logo will be at the forefront of customer relations. It is critical to make logo stand out when designing display ads. USP (Unique Selling Proposition) makes a business stand out from the rest. For example, it can be a unique product feature, better prices, excellent customer service or anything else. The purpose of display advertising is to convince customer to do something. A call-to-action makes objective clear and easily understandable.

### Types of Display Ads

There are different types of display ads used by the cross-border e-commerce firms:

**Banner ads:** It is the oldest form of advertising. Banner ads are less effective, and it incurs very low cost comparing to other display advertising in digital marketing platform. It is a form of promotional message which appears as a rectangular format in desktop screen or in mobile phone. Banner ads are directly connected with the firm's website and from banner ads it's very easy to monitor user's behavior. Banner ads can be formatted with videos and animation.

**Rich Media Ads:** Rich media is a digital advertising method for an ad. It's like video, audio, or mploy animation, sound, and interactivity, using Flash, HTML5, Java, JavaScript, and other elements content for encourage audience to interact with audience.

**Video advertising** is a great way to create an emotional connection to the brand. But launching a video campaign takes a big investment. First, company need to tell the story of the brand. Then they produce a commercial and put it in front of customers. With all that effort, company would know that their video is customer at the right people at the right time at the right price. Most of the time big companies use this type advertising.

**Text advertising** was first introduced I display advertising. Promotions only work as well as the marketing and advertising behind them. Slick text allows company to quickly and easily spread the word to best customers with a simple text message. People respond much quicker to text advertising than any other form of display advertising.

**Image advertising** is more used because it can engage more customer then text advertising less expensive than video advertising. It creates an image to customer's mind.

## **Advantages of Display Advertising for E-Commerce Marketing**

### Advantages

An online display advertising has several advantages for the growth of a cross-border firm. Some advantages are:

- 1) **Awareness:** Display advertising has high reach and a large number of people can view it at a time. Display ads can create initial interest to the audience which is very crucial for creating brand awareness.
- 2) **Monitoring immediate success:** Through different tracking metrics it is very easy to monitor the success of display advertising. Cross-border firms can easily monitor when lead converted into sale.
- 3) **Easy to target:** Cross-border firm can easily target the people for their ads based on demographics, it is easy to fix the rotation of the ads to be displayed. Cross-border e-commerce firms usually focuses on the location of the people and put several positioning of the display.

### Disadvantages of Display Advertising

- 1) **Lower click-through rate (CTR):** Azimi et al. (2012) mentioned that display ads have lower rate of CTR. A lower CTR indicates a lower sales and transactions. All display ads can't generate leads or sales.
- 2) **Lack of integration:** The largest platform for display ads are Facebook, Google, Twitter, Yahoo, and AOL in the US and other parts of the world. Moreover, there are many more social media platforms which is still yet to include on this process. Advertiser could include different social media platforms for getting more reach.
- 3) **Ad avoidance:** A cross-border firm usually invests a lot for creating a rich ad, and it might create a high impression, but I can't guarantee a paid attention.
- 4) **Ad blocking:** One of the biggest threats of display advertising for cross-border e-commerce marketing is people around the world use different types of ad-blocking software, which creates the barrier to display ads, pre-roll video ads, retargeted ads, and some types of native ads on desktops and laptops (Laudon & Traver, 2016).
- 5) **Ad fraud:** Laudon & Traver (2016) specified that there are four primary sources of ad fraud. "First, Botnets can be hired by publishers to click on their Web pages to create phony traffic. Second, a browser extension can insert ads into a premium publisher's Web site, and then list the ads as available on a programmatic ad exchange. Third, ad targeting firms can create bots that imitate the behavior of real shoppers, and then charge advertisers for successfully targeting consumers. Fourth, if you are a publisher looking to attract ads to your site, the simplest technique is simply to hire people in low-wage countries to click on your ads using a proxy server".

## CONCLUSION

The objective of the chapter is to enlighten some basic idea of digital marketing which helps the reader to depict an initial picture on different concepts and application. Nowadays, small to large organization plans their marketing operations by integrating digital aspects like search engine optimization, web analytics, social media, e-mail marketing and other platforms. The world of marketing is changing continuously, and adoption of these new technologies are challenging for the customers and marketers. However, accepting the challenges of the digital world can be exciting.

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# Chapter 9

## Social Network and Social Commerce

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### ABSTRACT

*A social network refers to a network of social interactions using various social media sites such as Facebook, WhatsApp, Twitter, Snapchat, Instagram, Pinterest, and LinkedIn. This chapter will first explain various concepts of social commerce involving the use of social networks and then elaborate on the key characteristics of social commerce and will highlight how it is different from e-commerce. A discussion is included on the concept of cross-border social commerce and its specific characteristics. Further, this chapter examines the trends in social commerce adoption by companies to promote international sales and the related benefits and challenges. It also presents a discussion on the use of social networks to understand and influence cross-cultural consumer behaviour in social commerce. Additionally, this chapter explores how social commerce can specifically benefit SMEs and born global firms to reach a larger audience in foreign countries and includes a discussion on cross-border social commerce strategy for business.*

### INTRODUCTION

A social network is generally conceptualised as a network of social actors including individuals, groups and organizations. The members in a social network often share common interests and maintain interpersonal relationships to exchange opinions, ideas, information and events. The interactions between social network members can be termed social networking (Zhang & Benyoucef, 2016). Thanks to the

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Internet age, web-based social networking now offers ubiquitous connectivity to the users of social media (e.g. Facebook, WhatsApp, Twitter, Snapchat, Instagram, LinkedIn). Using smartphones and computers, individuals can easily interact with family, friends, acquaintances, co-workers, customers and clients. Social media or social networks can also support buying and selling products, which is known as social commerce (Busalim, 2016; Hajli & Sims, 2015; Zhang & Benyoucef, 2016).

This chapter will first explain various concepts of social commerce involving the use of social networks. Essentially, social commerce shares some common features with e-commerce in that involves the use of the online medium to perform business transactions. However, several unique characteristics of social commerce make it different from e-commerce. Therefore, the chapter will elaborate the key characteristics of social commerce and will highlight how it is different from e-commerce. This follows a discussion on cross-border social commerce and its specific features. The rapid growth of social media has significantly contributed to the growth of cross-border social commerce. The chapter examines the trends in cross-border social commerce adoption by companies to promote international sales and the related opportunities and challenges. Customer knowledge is an important organisational resource.

A deeper understanding of customers is essential for companies to be able to offer the right products, design an effective marketing strategy and improve customer purchase and retention. The chapter presents a discussion on the use of social networks to understand cross-cultural consumer behaviour in social commerce. SMEs and born global firms often face problems in achieving international success largely due to their lack of market knowledge and limited access to overseas distribution channels. The chapter explains how social commerce can specifically benefit SMEs and born global firms to reach larger audiences in foreign countries. The continuing growth of social networks and encouraging success stories of companies using social commerce might have already inspired many international businesses to explore further the optimal social commerce strategy. Accordingly, the chapter also includes a discussion on cross-border social commerce strategy for business.

## **SOCIAL NETWORKS, SOCIAL COMMERCE AND CROSS-BORDER SOCIAL COMMERCE DEFINITIONS AND CONCEPTS**

A **social network** refers to an online site that allows individuals to create and maintain interpersonal relationships with friends, acquaintances, family, co-workers or even strangers with similar interests (Ellison & Boyd, 2013; Grabner-Kräuter, 2009). Examples of popular social networks include Facebook, Twitter, Instagram, Pinterest, WhatsApp, Snapchat and LinkedIn. These are, however, Web 2.0 applications as they provide the user with opportunities to share online information with others and create information individually as well as in collaboration with other network members (Bicen & Cavus, 2011; Newman et al., 2016; Rasul, 2016b).

Social networks offer higher levels of user interactivity than static online platforms (e.g. a website); hence there is greater scope for collaboration and real-time communication (Hiremath & Kenchakkannavar, 2016; Newman et al., 2016). The five key features of a social network are the following (Amichai-Hamburger & Hayat, 2017; Eginli & Tas, 2018; Ellison & Boyd, 2013; Gao et al., 2018; Prabhu, 2017):

1. **Ubiquitous connectivity** – Participants can connect with each other anytime from anywhere.
2. **User-directed** – Social networks are controlled by users. They create and disseminate information (through conversations or sharing content).

## **Social Network and Social Commerce**

3. **Community-led** – Social networks are like social communities or social groups consisting of individuals who share common beliefs, ideas, backgrounds, interests, concerns, hobbies, preferences, etc. A social network, therefore, can also be viewed as an interest-based community where members can inspire and enrich each other, recognise each other's contribution, and collaborate to achieve common goals. Participants in a social network may identify themselves with certain subcultures because of the strong-tie relationships among themselves.
4. **Interactive communication** – A social network facilitates two-way communication or reciprocal interaction involving both participants sending and receiving information and ideas and they can have an influence on each other.
5. **Importance of emotion and self-disclosure** – Social network membership is considerably influenced by an individual's emotions. Participants willingly share their emotions, personal beliefs, thoughts, likings, disapprovals, behaviours and experiences with others. Self-disclosure may take place in the form of one-to-one communication (such as WhatsApp chatting), group communication or public communication (everyone can view the message).

**Social networking** refers to the use of online social media to engage in a range of activities such as one-to-one or group chatting, sending/receiving written texts, audio files, photos and videos for the purpose of interacting, and sharing and learning (Amichai-Hamburger & Hayat, 2017; Eginli & Tas, 2018; Rasul & Hoque, 2020). The types of interactions and activities depend on the social media platform and the purpose of communication.

Social networking can be driven by purely social purposes, business purposes or a combination of the two. The social purpose of social networking may include staying in contact with family, friends or individuals who are like-minded or have common interests and sharing photos/images/videos or any personal content.

Alternatively, the business purpose of social networking may involve, among others, promoting brand awareness and trust, creating a real human connection with brands, customer engagement, market research, innovation, crisis communication and increased sales (Lawlor, Dunne, & Rowley, 2016; Scuotto, Del Giudice, & Carayannis, 2017). Social network participants may help each other to know about products or services that have value. Satisfied current customers can share their positive experience with fellow social network members, such as how they are benefitting from products and services, which is likely to influence the purchase decision of new customers who are yet to establish trust in the brand (Farook & Abeysekara, 2016; Kujur & Singh, 2017).

The rapid growth of social networks and a huge rise in smartphone users have contributed to the increasing popularity of a new type of e-commerce known as 'social commerce'. The term was first introduced by Yahoo in 2005. **Social Commerce** can be defined as a form of e-commerce that uses established Internet-based social networks to communicate and collaborate with potential customers (Busalim, 2016; Curty & Zhang, 2011; Hajli & Sims, 2015; Turban, Strauss, & Lai, 2012; Zhang & Benyoucef, 2016). Unlike traditional e-commerce, the focus of social commerce is not just buying and selling. Yahoo described it as a collection of collaborative shopping tools consisting of the following (Busalim, 2016; Lu & Zhou, 2016; Han & Chen, 2018):

- User ratings and reviews
- Social advertising (e.g. advertisements on social media platforms)

- Online customer communities and forums (facilitating customer-customer and customer-business conversations)
- Customer-generated product information, advice and referrals
- F-commerce (online store within Facebook; content and storefronts are designed and developed in a way that they are suitable for Facebook)

## Difference Between Traditional E-Commerce and Social Commerce

While social commerce shares some features with e-commerce, there are some distinct differences. The major differences are the following:

Table 1. Difference between social commerce and traditional e-commerce

	E-commerce	Social commerce
Human involvement (customer engagement)	Online business transactions (e.g. buying and selling) take place largely without the involvement of people. Low level of customer engagement (often limited to the use of ratings and review systems).	Buying, selling and promotion of products and services rely heavily on the use of social networks. Customer reviews, testimonials, ratings and referrals influence individuals' purchase decisions. Inputs from customers are used in product design as well as marketing and promotion strategies. Social commerce also benefits from viral marketing where customers share information in their social networks about a product or service that generates significant interest. The message spreads very quickly like a virus.
Shopping experience	Buying and selling is largely a solitary experience and often involves 'click and buy'.	Buying or selling is largely a social experience as it is influenced by information exchange/interactions between social network participants. Customers can make informed decisions; hence shopping is a more enjoyable experience.
Branding management	There are communication challenges in customer relationship-building and branding management. Lack of information may hinder a comprehensive understanding of the target market.	The use of social networks facilitates customer relationship-building as marketers can easily receive feedback from customers regarding their shopping experience and address their queries and concerns; hence they better understand their needs and preferences.

Source: Busalim, 2016; Han & Chen, 2018; Huang & Benyoucef, 2013; Lin & Wang, 2017; Lu & Zhou, 2016; Molinillo, Liébana-Cabanillas, & Anaya-Sánchez, 2018

## Cross-Border Social Commerce

The omnipresence of social media offers companies ample opportunities to reach the global audience. **Cross-border social commerce** refers to transactions between customers and sellers in different countries using social networks (Cheng, Su, & Zarifis, 2019; Paniagua, Korzynski, & Mas-Tur, 2017). Although an effective use of social networks enables them to save the increasing costs of international advertising, essentially, cross-border social commerce is more challenging than domestic social commerce as it involves more complexities in terms of dealing with entry barriers in overseas countries, including regulation handling, logistics, support services, inventory management and payment processing (Cheng, Su, & Zarifis, 2019; Paniagua, Korzynski, & Mas-Tur, 2017; UNECE, 2011). Nevertheless, some of these challenges are less pertinent in the case of selling and buying of services that can be delivered electronically (software, e-books, etc.).



## **Social Network and Social Commerce**

Unfortunately, the literature on cross-border social commerce is quite scarce. Below are some specific characteristics of cross-border social commerce (Cheng, Su, & Zarifis, 2019; Lin & Wang, 2017; Paniagua, Korzynski, & Mas-Tur, 2017):

- Focus on tapping into customers in different countries using social networks.
- Importance of understanding characteristics, needs and preferences of customers in various countries
- Need to develop regulation handling capabilities to deal with international trade rules including product standards and customs regulations
- In addition to collaborating with customers, it's important to collaborate with foreign partners in relation to logistics, support services, distribution and inventory management.
- Need to adapt varying payment methods in different countries (can be an important source of challenge). Also, vulnerable to currency fluctuations.

The next section is dedicated to presenting a discussion on the trends in cross-border social commerce adoption by companies to promote international sales and the related benefits and challenges.

## **CROSS-BORDER SOCIAL COMMERCE: TRENDS, BENEFITS AND CHALLENGES**

At this stage, it is clear that social commerce empowers businesses to reach and sell their products and services to global customers, which cannot be achieved in the traditional retail setting (Zhou, Zhang, & Zimmermann, 2013). In many ways, social commerce benefits businesses in the global context, which will be explored in this section. However, in the existing literature, the properties of social commerce have never been presented in a straightforward manner; there exists a variety of approaches that have been used in categorizing the properties of social commerce (Hwang, Lee, & Kim, 2014; Lee, Cha, & Cho, 2012).

Lee, Cha and Cho (2012) suggest the following six properties of social commerce:

1. **Flash Sale** – Short-term discounts, usually lasting not more than twenty-four hours, are given on products or services.
2. **Group Purchase** – Almost like the flash sale, this allows a group of a certain number of people, rather than an individual, to buy a product or service on discount within a given time period.
3. **Social Shopping** – Based on the power of social media, this allows users to share their experience with others, with a focus on increasing sales.
4. **Social Shopping Apps** – In addition to allowing customers to share their experience with others, as in social shopping, these apps allow customers to follow and access all their favourite stores from one place.
5. **Purchase Sharing** – This allows customers to share information about their purchases with others, which gives them pride of ownership. Customers sharing their purchase experience could have a positive or negative impact on a business.
6. **Personal Shopper** – Chatbots or artificial intelligence (AI) are used here to provide customers with the required information during their buying process.

Alternatively, Hwang, Lee and Kim (2014) advised that based on the Asian context, social commerce fall into three types:

- **Social link commerce:** This refers to a business model based on internet linkage where e-commerce sites rely on social networking sites.
- **Communal purchase commerce:** In this case, a group of customers receive a certain discount upon buying a given number of products. Social networking sites are used to encourage further purchases by the customer's friends and family members.
- **Online-offline linkage commerce:** As the name implies, this social commerce strategy attracts customers through a variety of online channels based on different promotional strategies (e.g., discount coupons) for offline stores.

## **Advantages of Social Commerce**

With the advent of internet technologies, social commerce has become an integral part of our online shopping experience. Before making a purchase, customers prefer to check the reviews of a product on an e-commerce portal that has come from social networking sites such as Facebook. Businesses strive to satisfy their customers' needs by maintaining the quality of their products or services, providing a competitive price and ensuring post-purchase assistance if required to make sure their products or services get good reviews on social networking sites and sales remain satisfactory or increase.

The four key advantages of social commerce for businesses have been briefly discussed below:

### **1. Increased engagement**

By allowing customers to provide reviews and ratings of their purchases on social network sites, businesses increase their customers' engagement with their own online community. This also allows businesses to take customers' feedback into account to meet their requirements, to enrich their shopping experience, and to further work on their marketing and promotional activities (Han, Xu, & Chen 2018).

### **2. Trust building**

For online businesses, building trust among potential customers is always a challenge (Han, Xu, & Chen 2018). In the social commerce space, it becomes relatively easier for marketers as potential customers can see the reviews of other customers who have bought the same product. Given that negative reviews will have a detrimental effect on potential customers, firms need to make sure that they fulfil their promises to their customers, especially in terms of the quality and price of products or services.

### **3. Greater reach**

Social commerce allows customers to share their purchases on their social media pages (e.g., Facebook or Twitter), which gives firms greater exposure to other potential customers. It is relatively more cost-effective for them to reach a large number of people with comparatively less effort and within a short period of time (Han, Xu, & Chen 2018). A share with an endorsement from a customer increases the possibility of converting a potential customer into a happy customer.

#### **4. Higher search engine visibility**

It is important for every online business to be found quickly by potential customers when they are using a search engine (e.g., Google, Yahoo or Bing). In this regard, a higher search engine visibility is crucial. Since social media allows customers to easily post comments, recommendations and reviews about firms and also share information with each other, interactions between customers also benefit social commerce businesses in terms of increasing their visibility on search engines (Zhou, Zhang, & Zimmermann, 2013).

There are numerous examples of social commerce where many businesses are successfully meeting customers' needs, increasing market share, and making profits. While various social media platforms including Facebook, Instagram and Pinterest have promoted social commerce and enabled it to reach its exponential growth, an immensely large Facebook user base has been the catalyst for the success of both established and new businesses. In fact, Facebook was the first social commerce platform to allow businesses to sell their products on the Facebook platform by opening an individual shop (Han, Xu, & Chen 2018; Li & Ku, 2018). Instagram allows marketers to easily engage young customers using superior visual content (Abed, 2018; Kırçova, Yaman, & Köse, 2018). On the other hand, Pinterest allows customers to use buyable pins on its platform to buy products rather than going to the source website to buy them. Scholars view that in terms of providing shopping facilities to customers, Pinterest has not been as successful as Facebook and Instagram; however, the customers who particularly use mobile devices to do online shopping prefer Pinterest over the other similar type of platforms (Henninger, Bürklin, & Parker, 2019; Mladenović, Ahmad, & Krajina, 2019).

### **Challenges in Adopting Social Commerce**

While social commerce has already proven its benefits for businesses, it is not free from challenges. The existing literature has highlighted several challenges that businesses face when dealing with their customers through their social commerce platform, namely:

#### **1. Volume of data**

The number of social media users is increasing exponentially. Baghdadi (2016) predicted the number of social media users would be around 2.5 billion by 2018, and according to Statista's (2019) forecast, it would be almost 3.08 billion by 2020. Analysing the data related to a huge number of users and utilizing them for commercial benefits could be an overwhelming task for many social commerce businesses, especially for SMEs.

#### **2. Content generated by customers**

It is evident that positive reviews and higher ratings on social network sites increase businesses' sales and reputation and assist them in building customers' trust. However, the opposite can happen as well. If the customers' complaints are not regularly addressed effectively, it could affect businesses' performance (Han, Xu, & Chen 2018).

### 3. Privacy concerns

When a customer writes a review on a social commerce platform, their personal profile becomes available on different social networking sites and could be used by other businesses to make unsolicited contact with them. There is even a risk of identity theft (Zhou, Zhang, & Zimmermann, 2013). It becomes a great challenge for businesses to make sure that their customers' privacy is not compromised.

### 4. Measurement of financial performance

Currently, online businesses are spending a large proportion of their budget on their social commerce platform, but it is not easy to measure how they are financially benefitting from social commerce. It is easy to measure when a potential customer has clicked on a link from a social networking site and completed a purchase. Nevertheless, in many instances, potential customers read good reviews about a product on a social networking site and then make a purchase after a few days directly from the company website (Zhou, Zhang, & Zimmermann, 2013). In this case, it is not possible to say whether this customer has come from a social networking site or not.

Considering the challenges associated with social commerce adoption, businesses require a well-planned strategy for adopting and gaining optimal benefit from a social commerce platform. Researchers in this field are yet to enrich the existing literature, particularly with regard to solid theoretical foundations on how to handle the challenges of cross-border social commerce, an area of great demand. Practitioners could also play a role by sharing their operational strategies with others.

## **THE USE OF SOCIAL NETWORKS TO UNDERSTAND AND INFLUENCE CROSS-CULTURAL CONSUMER BEHAVIOUR IN SOCIAL COMMERCE**

Gaining competitive advantage in the global market requires companies to develop a deeper understanding of consumer behaviour in different countries. The ultimate aim of this, however, is to influence consumer behaviour and improve the conversion rate through designing feasible marketing strategies (Di Fatta, Patton, & Vigila, 2018; McDowell, Wilson, & Kile Jr, 2016). Companies engaged in social commerce can effectively use social networks to understand the differences of and similarity between consumers in different countries in terms of their interests, wants and consumption behaviour (Xiang et al., 2016; Zhang & Benyoucef, 2016).

A cross-cultural analysis through social networks or social media may reveal the demographic, geographic, psychographic and behavioural profiles of people from different countries. The information enables companies adopting social commerce to target the most suitable market, choose appropriate channels and design an effective communication strategy (Altınışık & Yıldırım, 2017; Nadeem, Juntunen, & Juntunen, 2017).

### **Theoretical Lenses to Understand Cross-Cultural Consumer Behaviour in Social Commerce**

Many scholarly studies have explored the topic of consumer behaviour in social commerce using various theoretical lenses, however, without much emphasis on cross-cultural consumer behaviour in social com-

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Table 2. Cross-cultural analysis using social networks

Factors	Examples
1. <b>Demographic factors</b> (understanding shared characteristics of the target customers)	Age, gender, ethnicity, language, family size, occupation, marital status, income level, education level, religious affiliation, etc.
2. <b>Geographic factors</b> (understanding needs and wants of customers on the basis of geographic units such as regions, countries, cities, states)	Cultural characteristics, preferences, values, interests, weather, climate, etc.
3. <b>Psychographic factors</b> (understanding shared psychological characteristics of a population group)	Values, interests, lifestyles, beliefs, personality traits, opinions, interests, hobbies, social status, degree of loyalty, psychological influences, occasions, motivations, priorities, etc.
4. <b>Behavioural factors</b> (understanding customers' actions)	User status, purchasing habits, decision-making process, purchase reasoning, buying process, usage rate, spending habits, brand awareness, product knowledge, brand interactions, occasion-based behaviour, product/service rating, etc.

Source: Altınışık, & Yıldırım, 2017; Ballestar, Grau-Carles, & Sainz, 2018; Beheshtian-Ardakani, Fathian, & Gholamian, 2018; Nadeem, Juntunen, & Juntunen, 2017; Sarai et al., 2016.

merce (Molinillo, Liébana-Cabanillas, & Anaya-Sánchez (2017). Some of the key theoretical lenses that are relevant to the study of cross-cultural consumer behaviour in social commerce include the following:

### 1. Stimulus-Organism-Response (S-O-R) model

This model was developed by Mehrabian and Russell (1974). The model explains three stages involved in the way people respond to stimuli (S); the response (R) has two contrasting forms, namely approach or avoidance, which are the result of an individual's internal evaluations (O) of the various cues in the environment (Zhang & Benyoucef, 2016). Any environment produces an emotional state in the individual that has three dimensions (termed as PAD) as described below (Li, 2019; Molinillo, Liébana-Cabanillas, & Anaya-Sánchez, 2017; Zhang & Benyoucef, 2016):

- **P: Pleasure** (joyfulness, satisfaction, happiness) – **Displeasure** (sadness, dissatisfaction, boredom)
- **A: Arousal** (excitement, stimulation, alertness) – **Avoidance** (inactivity, refusal, disapproval)
- **D: Dominance** (in control, free to act, influence on others) – **Submissiveness** (accepting authority, hesitation in stating feelings, easily influences)

As suggested by Molinillo, Liébana-Cabanillas and Anaya-Sánchez (2017), the S-O-R paradigm has been widely used by many researchers to examine the technological aspects of social commerce, including interaction, personalization and sociability, in customers' virtual experience. These include **social support** (either emotional support or information support or both), **social presence** (the degree of importance, connection, comfort or emotional fulfilment between two individuals during communication), and **flow** (the degree of immersion experienced by a social network participant, in other words, the extent to which an individual is absorbed in social networking activities).

In summary, the S-O-R model demonstrates how stimuli in the environment (such as a social network) interact with individuals' emotional states and influence them to behave in a particular way (e.g. approach or avoidance behaviour). For businesses engaged in social commerce, the S-O-R model can be used to understand how customers from different countries, regions and cultures respond to different

stimuli (Islam & Rahman, 2017; Kamboj et al., 2018). Accordingly, to promote approach behaviours, marketers need to ensure that social networks (the environment) present factors that generate pleasure, arousal and dominance in the targeted audience.

## 2. Social support theory

The concept of social support is used to measure how individuals belonging to a social group feel when their fellow group members demonstrate care, respect and concern for them (Molinillo, Liébana-Cabanillas, & Anaya-Sánchez, 2017; Shanmugam et al., 2016). The quality of perceived social interactions (relationship quality) in a group in terms of satisfying participants' needs has an important impact on members' sense of belongingness and loyalty to that group (Hajli, 2015). Social support theory can explain the following aspects of cross-cultural consumer behaviour in social commerce (Hajli & Sims, 2015; Liang et al., 2012; Molinillo, Liébana-Cabanillas, & Anaya-Sánchez, 2017):

- Social variables that influence social network members' intention to use particular social media websites to exchange commercial information.
- The impact of relationship quality on network members' intentions to engage in commercial activities.
- Why and how to improve social support to enhance the relationship quality among social network members to enhance customer loyalty.

Liang et al. (2012) have the view that social support received through social networks could give individuals positive experiences such as warmth and kindness. Thus, it could fulfil social as well as psychological needs. Therefore, it is important to ensure that a social network acts as a community offering good social support where an individual receives **information support**, such as enthusiastic feedback about a product or service, supportive commercial information or knowledge, product advice and recommendations, and **emotional support**, such as listening to experience, sharing stories, showing concern, demonstrating empathy and helping to solve problems (Liang et al., 2012; Shanmugam et al., 2016; Zhu, Sun, & Chang, 2016). Success in cross-border social commerce largely depends on whether the marketer can take advantage of relationships between social network members to derive commercial gains, namely increased transactions (sales of goods/services resulting from the sharing of commercial information) and higher customer loyalty.

As indicated earlier, relationship quality or relationship strength among social network members positively affects customers' loyalty. The literature suggests three elements of relationship quality (all of them are largely emotional states), namely, **trust** (the level of confidence in the other party; e.g. a fellow network member or the company is authentic and caring); **commitment** (the level of effort to maintain an ongoing relationship with the other party based on the perceived importance of maintaining such relationship); and **satisfaction** (an overall evaluation of the level of benefits derived from social network interactions) (Hsu, Chen & Kumar, 2018; Liang et al., 2011; Sheikh et al., 2019; Tajvidi et al., 2017).

Therefore, care should be taken to improve the relationship quality to improve target customers' social commerce intention and continuation intention. For instance, when individuals perceive a closer relationship with a social network, they are more likely to share or seek valuable commercial information, advice or recommendations from fellow network members. Also, they will have more confidence and

trust in the service provider. Further, they will have motivation to maintain the relationship with fellow social network members, as well as the company, to be able to continue obtaining goods or services.

### **3. Social exchange theory**

The theory was developed by sociologist George Homans, who proposed that social behaviour is the product of an exchange process where each party aims to maximize **benefits** and minimize **costs** (Liang et al., 2011; Zhang & Benyoucef, 2016). Examples of benefits include positive outcomes of social interactions such as friendship, social support, companionship and enjoyment, while costs could be negative experiences from relationships in relation to money, time, emotion and effort. In simple terms, a rational individual will continue the relationship with the social network (e.g. interactive contact) as long as the potential benefits outweigh the risks; once the potential risks outweigh the benefits, the relationship will be abandoned.

**Expectations** and **past experience** also play an important role in the social exchange process (Kim, 2012; Liang et al., 2011; Shiao & Luo, 2012). In fact, past experience shapes individuals' comparison levels and hence the expected benefits from a relationship. For example, if a customer has received high levels of social support, care and advice from a previous network membership, his or her comparison level (in terms of expected benefits) will be higher from a new relationship.

Naturally, as part of the social exchange process, individuals constantly look for possible alternatives that involve evaluating costs and benefits using their own comparison levels. Once a superior alternative is available, the old relationship is abandoned. Interestingly, the beginning of a new social relationship involves a 'honeymoon phase' when individuals may be less inclined to evaluate the social exchange balance (Shiao & Luo, 2012; Zhang et al., 2014). Therefore, during this time, individuals demonstrate a higher level of readiness to accept higher costs or lower benefits (potential benefits could be overestimated). Since the evaluation of the exchange relationship is a continuous process, the 'honeymoon phase' soon comes to an end and individuals perform a more realistic cost-benefit analysis to decide whether the relationship should continue or not (Chen & Shen, 2015; Shiao & Luo, 2012; Zhang et al., 2014).

Taken together, the S-O-R model, social support and social exchange theories could be used by marketers involved in social commerce to develop a better understanding of the factors that stimulate customers to engage in more interactions, the importance of persistent social support, and the social exchange process within social networks. Existing and potential customers across cultures will decide to respond reciprocally to certain stimuli only when their expected benefits from a social relationship (social support) outweigh the costs (Hajli, 2015; Sheikh et al., 2019; Tajvidi, et al., 2017; Zhang et al., 2014).

In other words, the higher the levels of social relationships (friendly and trusting relationships that help the users feel that they are cared about by the community) and social support (useful information that influences purchase intentions) in a social network, the higher the levels of the members' readiness to share commercial information and offer recommendations to fellow network members. The readiness to seek information from others and accept information provided by others will also be higher. It is a challenging task to promote friendships and trusting relationships among customers across cultures, but, as there is a positive relation between social support and social commerce, ways must be found to enhance both emotional support and information support for social network participants.

## **SOCIAL COMMERCE FOR SMEs AND BORN GLOBAL FIRMS**

Small and Medium Enterprises (SMEs) and Born Global Firms (BGFs) are relatively small-sized organisations often constrained by limited financial and other resources (Ayyagari, Demirgüç-Kunt, & Beck, 2003; Rennie, 1993). The marketing and other business operations of these firms are largely impacted by these limitations (Brockman, Jones, & Becherer, 2012). Social networks and social commerce, therefore, would create an ideal platform for these companies to establish their businesses and reach out to their preferred markets in domestic and international locations (Abed, Dwivedi, & Williams, 2015). McAfee (2006, 2009) labelled the organisations that use emergent social software platforms (ESSPs) as Enterprise.2 organisations.

Enterprise.2 organisations, according to McAfee (2009a, p. 235), are smart companies 'embracing Web 2.0 technologies, as well as the underlying approach to collaboration and creation of content'. Zeiller and Schauer (2011) posited that SMEs benefit from ESSPs as they offer plenty of opportunity for collaborations. Therefore, those SMEs and BGFs that are embracing ESSPs and Web.2.0 technologies, which are essential social commerce platforms, would be amply benefited in collaborations and interactional exchanges with their stakeholders. This section of the paper introduces the general background of SMEs and BGFs and then discusses some of the benefits of social commerce to SMEs and BGFs in general.

SMEs are generally understood to be small and medium-sized organisations that employ a workforce of up to 250 people or thereabouts (Ayyagari, Demirgüç-Kunt, & Beck, 2003). The limited size and scope of such organisations generally impede their operations (Chaston, 1998; Doole et al., 2006). These structural limitations generally motivate SMEs to adopt innovative and cost-effective methods in marketing and business operations (O'dwyer, Gilmore, & Carson, 2009). Social network sites, social commerce and particularly the application of ESSPs are found to benefit SMEs in many ways (Zeiller & Schauer, 2011). Other studies indicated that social media platforms such as Facebook help SMEs to improve their financial and non-financial performances, such as customer satisfaction (Ainin et. al., 2015; Rodriguez, Ajjan, Peterson, 2014; Kwok and Yu, 2013).

BGFs are so called because, from their very inception, a major portion of their revenue is from international markets (Rennie, 1993; Oviatt & McDougall, 1994; Knight & Cavusgil 2004). Moen and Rialp (2019) stated that born global firms are also referred to in the literature as global start-ups (Jolly et al., 1992), instant internationals (Preece et al., 1999) and international new ventures (McDougall et al., 1994). BGFs are generally small and medium-sized organisations with scarce financial and other resources (Moen & Rialp, 2019). However, these firms are reported to be innovative in their operations (Rennie, 1993; Cavusgil & Knight, 2015). Therefore, social commerce platforms would be best suited to BGFs' operational constraints and innovative pursuits (Zhou, Wu, & Luo, 2007).

Social Networking Sites (SNS) are proven to support the innovative performances of small firms (Scuotto, Del Giudice, & Carayannis, 2017). Social networks are also reported to be useful in identifying business opportunities for small firms (Ellis & Pecotich, 2001), and they enhance the performances of born global firms in their internationalisation process (Zhou, Wu, & Luo, 2007). Therefore, a business model based on the use of SNSs would no doubt be a viable proposition for SMEs and BGFs. Social commerce has been defined by Huang and Benyoucef (2013, p. 247) as 'an Internet-based commercial application, leveraging social media and Web 2.0 technologies which support social interaction and user-generated content in order to assist consumers in their decision making and acquisition of products and services within online marketplaces and communities'. Social commerce not only makes use of SNSs but also effectively uses Web 2.0 technologies and ESSPs. Social commerce, therefore, could be a very



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effective method of connecting with consumers and other stakeholders of SMEs and BGFs. Some of the specific benefits of social commerce especially relevant to SMEs and BGFs are listed below.

### **1. Value creation**

Stephen and Toubia (2010) indicated that social commerce helps create a virtual shopping environment that helps customers in searching for buying options with all possible information about the online sellers, products and services. This virtual shopping environment provides SMEs and BGFs with an equal opportunity to showcase their offers, juxtaposing them with those of the big players in the market. This opportunity creates economic value for both the seller and the buyer. Both buyers and sellers co-create value (Hajli, 2014) in this virtual environment, enabled by social networks, ESSPs and Web. 2 technologies. Social commerce, therefore, helps SMEs and BGFs in creating economic value.

### **2. Supportive and collaborative environment**

Social commerce platforms create an environment of support and mutual help among members of the community and between the members and the business organisations (Liang et. al., 2011). This support and help enhances trust (Chow & Shi, 2014) and the propensity for self-help and mutual aid among buyers and sellers. A supportive virtual environment, therefore, helps SMEs and BGFs in creating trust and cooperation in their business networks.

### **3. Enhanced purchase and sale experience**

Social commerce enhances purchase and sales experience because of the increased social support, social presence and opportunities for the self-presentation (Li & Ku, 2018; Shadkam, & O'Hara, 2013; Liang et al., 2012). Consumers feel highly satisfied with the personalised purchase experience through social commerce platforms. The sellers, on the other hand, get the opportunity to be innovative in creating customised solutions that cater to the personal needs of the consumers. The exchange process in this context is a highly rewarding process for all parties involved.

### **4. Information driven strategies**

An efficient information management system usually supports social commerce. Creating meaningful content that attracts the consumer's attention assumes pivotal importance in social commerce strategies (Zhou, Wu, & Luo, 2007). Interactive content also enables direct access to consumer feedback that encourages social commerce companies to be proactive in a highly competitive business environment. Content marketing, data management and data analytics, therefore, are useful tools that make social commerce efficient. The data and information-driven strategies create excellent opportunities for SMEs and BGFs to be innovative, cost-effective and profitable in their businesses.

### **5. Increased growth and innovation**

Studies have indicated that social commerce platforms help small and medium-sized organisations grow (Sheikh, et. al., 2019). Li and Huang (2014) indicated that social media platforms such as Twitter

had demonstrated a positive correlation between an NBA basketball player's salary and their Twitter following. Social media and social networks, therefore, help intensify the growth and revenue of all organisations, especially small and medium-sized organisations, locally and internationally. Social commerce also offers an environment of accelerated innovation for organisations (IBM, 2011). As indicated above, this is due to the increased opportunities for receiving quick feedback from consumers and other network partners. This opportunity helps SMEs and BGFs to thrive in a low-cost, innovative environment.

There are countless success stories of social commerce among SME and BGF sectors. One glaring case in point is that of Accessory Concierge. Accessory Concierge was a petite start-up company begun as a Facebook page that gradually grown into an e-commerce platform and recently into a brick and mortar retail establishment (Winkler, 2015). Accessory Concierge was started by two enterprising women, Amy Claro and Amy Coffee, from Dallas, USA in April 2012 (Social Commerce Success Stories, n.d.). The company started selling trendy jewellery and accessories through their Facebook page and earned a revenue of a million dollars within a year (Social Commerce Success Stories, n.d.). Accessory Concierge still has its strong presence on Facebook and other social media platforms while flourishing as an e-commerce as well as brick and mortar designer jewellery seller.

The above discussion suggests the relevance and importance of social commerce platforms for the start, development and growth of SMEs and BGFs.

## **CROSS-BORDER SOCIAL COMMERCE STRATEGY FOR BUSINESS**

Success in cross-border social commerce depends on how well companies can motivate customers from different countries to recommend their brands. Therefore, promoting positive customer-customer and customer-business interactions within social networks is at the centre of cross-border social strategy. Effective cross-border social commerce strategies enable companies to achieve the following objectives (Huang & Benyoucef, 2013; Huang & Chang, 2017; Turban, Strauss, & Lai, 2012; Yadav et al., 2013; Zhou, Zhang & Zimmermann, 2013):

- Establishing connections with the target audience (for retail selling)
- Identifying prospective business partners (for B2B selling)
- Identifying prospective brand influencers and brand ambassadors and establishing strong relationships with them (to enhance the conversion rate)
- Supporting customers to make informed purchase decisions through facilitating peer recommendations (encouraging and enabling customers to engage in real-time and open sharing of shopping experiences, purchase activities and views about goods and services, as well as the company)
- Mutually beneficial and trust-based collaborative relationships with customers and suppliers
- Effective use of analytics in decision-making
- Successful market research

Below are some strategies that would enable companies to achieve the above-mentioned objectives.

### **1. Choosing appropriate social media**

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Choosing appropriate media is critical to being able to create connections and building and maintaining relationships with customers across countries (Hajli, 2014; Huang & Chang, 2017; Turban, Strauss, & Lai, 2012). Some popular social media that are affordable by most companies include the following:

- **Facebook** is widely used by companies for global audience growth as it is the most popular social medium with a huge audience. Facebook has easy-to-use built-in tools that can be used for highly targeted advertising, event promotions and directing customers to the product page (Linda, 2010; Hajli, 2014). Social commerce businesses need to maintain an active presence on Facebook to generate awareness, create connections, engage with customers and build relationships (Liang et al., 2011). Since Facebook is used by customers of all age groups and socioeconomic and geographic backgrounds, it can support companies in developing a large pool of followers (essential for e-branding) as the most important marketing asset (Linda, 2010; Marsden, 2011). Similarly, Facebook facilitates identifying and using powerful brand influencers and brand ambassadors in different countries (Enke & Borchers, 2019; Jin, Muqaddam, & Ryu, 2019; Khamis, Ang, & Welling, 2017; Singh & Sonnenburg, 2012). Facebook is also suitable for social media contests due to its low barriers to entry, easy accessibility and wider availability (Edelman, 2010).
- **Twitter** is a fast-growing micro-blogging platform (Murthy, 2018; Henninger, Bürklin, & Parker, 2019). Interestingly, when compared with Facebook, gaining followers is much simpler. Real-time communication with followers can be done without becoming their friends. Twitter is widely used by companies across the world as an important marketing tool as Twitter users can easily follow companies, brands, goods and services on social networks (Bulearca & Bulearca, 2010; Culnan, McHugh, & Zubillaga, 2010; Pentina, Zhang & Basmanova, 2013). Twitter is often considered superior to other Web 2.0 technologies in terms of enabling businesses to communicate and engage with customers and suppliers, as well as supporting business operations, thanks to its characteristics including real-time information sharing by customers; active interaction of customers with company products and brands; and open access to information, views and suggestions of users (Henninger, Bürklin, & Parker, 2019; Wamba & Carter 2013). Further, Twitter allows targeted advertising based on demographic and geographic information related to users, such as country/region and language (Bulearca & Bulearca, 2010; Culnan, McHugh, & Zubillaga, 2010; Kircova, Yaman, & Köse, 2018).
- **Pinterest** allows users to share images, videos and Graphics Interchange Format (GIF) (Henninger, Bürklin, & Parker, 2019). It consists mainly of pins (images) and boards (collection of pins) related to various themes such as travel, quotations, home ideas, recipes and style inspiration. Pinterest is particularly popular among companies that promote products with great visual appeal (Henninger, Bürklin, & Parker, 2019; Gibreel, AlOtaibi, & Altmann, 2018; Kim & Kim, 2018; Turban et al., 2018). While it is considered a valuable source of referral traffic, in comparison with Facebook and Twitter, it has limitations in regard to conversion rates (Henninger, Bürklin, & Parker, 2019; Kircova, Yaman, & Köse, 2018; Mladenović, Ahmad, & Krajina, 2019). However, recently a range of new features have been included in Pinterest, such as more spaces for online shopping, additional browsable sections, customized recommendations for style and home décor boards and in-stock products from brands across the globe. Many of these features make Pinterest a valuable source of referral traffic for social commerce businesses (Henninger, Bürklin, & Parker, 2019).
- **Instagram** is an image and video sharing social medium. It is owned by Facebook. Users can use filters to edit media and organize them using tags and location information before sharing with

pre-approved followers or publicly (Henninger, Bürklin, & Parker, 2019). Instagram users like photos and videos uploaded by others and become followers of other users. A post made by an individual will appear on their followers' feeds. It is argued that Instagram has high engagement rates (when compared with other social media) thanks to a number of its unique features including the following: 1) emphasis on the use of superior visual content (visual information in the form of photos, images and videos is more appealing to people than other types of content; this also makes it popular among millennials; it makes effective use of visual content so that consumers can immediately associate with brands and place an order); 2) companies can set up free Instagram business profile; 3) it is easy to build relationships with customers through responding to comments or direct messages; 4) facilities humanizing the online store through the use of stories, going live, using informal language, introducing customers with best-performing employees/teams, and using memes; 5) availability of customer service (firms can address questions, queries and concerns in a friendly manner); 6) it facilitates influence marketing (through the use of influencers); 7) it facilitates user-generated content that has commercial value (Abed, 2018; Henninger, Bürklin, & Parker, 2019; Kırçova, Yaman, & Köse, 2018).

## **2. Using gated content**

This is a proactive approach that includes generating leads or arousing the curiosity of strangers about the company and its products through actively participating in social media such as Facebook, Twitter and LinkedIn (Ahmad & Rasul, 2019; Lashgari et al., 2018; Weerakkody, 2019). The target audience is offered potentially valuable information in the form of online articles, ebooks, videos or product demos. However, to access the materials, they are asked to fill out a form and provide personal details such as name, phone number and email address (Chandler & Munday, 2016). Given that some customers feel uncomfortable disclosing their personal information, some businesses share ungated content as a strategy to promote brand awareness. Nevertheless, the use of gated content is an effective way to obtain rich information about the target audience that can be used to create customer profiles based on their geographic and demographic characteristics (Lashgari, et al., 2018; Weerakkody, 2019).

## **3. Utilizing reliable brand influencers and brand ambassadors**

Considering the importance of peer recommendation in social commerce, companies need to find reliable influencers from various parts of the world and build a mutually beneficial and trusting relationship with them (De Veirman, Cauberghe, & Hudders, 2017; Enke & Borchers, 2019; Jin, Muqaddam, & Ryu, 2019; Khamis, Ang, & Welling, 2017). Influencers are people who can persuade their followers to purchase a company's products. The choice of brand influencers needs to be based on their credibility, trustworthiness, relevance, popularity (celebrity status) and level of social media presence (Booth & Matic, 2017; Brown & Fiorella, 2013). Some indicators of influencers' acceptance among their followers include likes, shares and comments (Enke & Borchers, 2019; Jin, Muqaddam, & Ryu, 2019; Khamis, Ang, & Welling, 2017). Similarly, brand ambassadors can be chosen to enhance sales and increase brand awareness among a large audience in different countries/regions.

## **4. Arranging social media contests**

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Organizing social media contests is an effective way to increase audience engagement. Companies engaged in social commerce can use social media competitions to achieve several objects, namely (Mabry & Porter, 2010; Kumar & Mirchandani, 2012; Rasul, 2016a):

- Increasing the number of followers
- Increased exposure and brand awareness (since a competition creates buzz and raises interest among customers)
- Increasing the contact list (email, cell numbers, etc.)
- Better customer engagement

However, if the winners are chosen through a lottery (on a random basis), it is important to check the relevant regulations in individual countries as in many countries and regions companies need a licence or a permit to involve their citizens in any lottery.

### **5. Ensuring well-designed landing pages**

Traffic should be directed to a well-designed landing page on the company website so that customers can have a quality experience (Di Fatta, Patton, & Viglia, 2018; Li, 2019). The landing page should have easy accessibility, flawless design and high-quality content (texts, images, videos, etc.) that are easy to scan; all the necessary information should be presented in a succinct manner (Hsu, Chen, & Kumar, 2018; Lee, Cha, & Cho, 2012; McDowell, Wilson, & Kile Jr, 2016). Essentially, in the context of cross-border social commerce, the information and resources provided should take into consideration the diversity of customers in terms of language, ethnicity, religion, tastes and preferences.

To sum up, companies engaged in cross-border social commerce need to ensure higher levels of visibility and greater engagement of customers from around the world. In addition to using appropriate social media platforms, they should use gated content, utilize reliable brand influencers and brand ambassadors from different countries/regions, organise social media contests/competitions and ensure well-designed landing pages.

## **FUTURE RESEARCH DIRECTIONS**

Following are some of the potential areas of future research:

- Social commerce – comparison between the approaches by large organisations and SMEs;
- Viable social commerce models – evaluations of feasible models for SMEs and BGFs;
- Customers to Business (C2B) social commerce models (every social network user can be a potential seller as well as a buyer); and
- Effectiveness of different social network sites to different customer segments in the context of social commerce (for example, Facebook appeals to middle aged customers and Instagram to young customers, etc.).

## CONCLUSION

The discussion in this chapter indicates that social networks have been the catalyst behind the success of social commerce in the both traditional and cross-border contexts. Social networks have considerably facilitated social commerce businesses to increase their engagement with existing and potential customers and improved customer retention, brand image, sales and profits. Additionally, an effective use of social networks have greatly helped many businesses with their global branding.

As highlighted in this chapter, a well-orchestrated social media strategy is needed for any organisations including SMEs and BGFs to establish an effective social commerce platform to be able to establish the business in a very cost-effective and profitable fashion. With the aid of Web.2 technologies and collaborative social networks, these organisations would be able to successfully reach out to their customers and stakeholders, far and near, in mutually beneficial exchanges. Value exchanges supported by social media platform would also create a virtual entrepreneurial and consumer culture that is truly sustainable in nature. Social commerce can also help SMEs and BGFs further expand their business horizons into e-commerce and physical business presence, as in the case of Accessory Concierge. Nevertheless, to keep the success of social commerce sustainable, social networking sites need to put more focus on maintaining customers' privacy, as in the past, social networking sites (e.g., Facebook) have been accused of breaching users' privacy.

Taken together, given the differences in country, culture and consumer behaviour, cross-border social commerce (using social networks) involves numerous challenges. Nonetheless, an enhanced emphasis on knowledge and information as a strategic resource, and a set of well-informed social commerce strategies can convert those challenges into opportunities. Specifically, the competitive advantage of firms engaged in social commerce will depend on a better understanding of the three broad aspects, namely: 1) the effective use of Web 2.0 technology, social media platforms and social networks in the promotion, buying and selling of goods and services in the global market; 2) mutually beneficial relationships with customers, influencers and suppliers from various cultures; and 3) understanding of the regulations and payment systems across countries.

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# Chapter 10

## Managing Human Resources in E-Commerce

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### ABSTRACT

*Human resources are the driving force and source of the core competitive advantage of any business. The purpose of this chapter is to discuss how human resource management (HRM) practices and human resource (HR) strategies are formulated and utilized in the context of e-commerce firms. When discussing e-commerce, relatively less attention is paid to HRM-related issues. However, analyzing, carefully, both the successful start-ups (i.e., Dollar Shave Club and Warby Parker) and e-commerce giants (i.e., Amazon and Alibaba) treat HRM as a critical success factor. Because business success depends on the careful integration of HRM strategies with business requirements and strategies. In this chapter, the different HRM practices and strategies adopted by different e-commerce firms will be discussed.*

### 1. INTRODUCTION

E-commerce has made everyone's life more comfortable and faster by saving time, energy, and cost. When people buy something online, their first interaction is with the e-commerce website. They enter an attractive and informative website, which guides them through the process of purchasing with easy instructions. If there is any query nowadays, a chatbot is always there for their assistance. No human involvement is seen, nor the presence of anyone is felt. Once the customers made the final click, the product gets delivered to their doorstep, sometimes within a day. For what it takes, just one final tap for the customers has a vast and tremendous backstage process, which no one gets to see. What more, one order just adds to the ocean of millions of more orders, which makes the process even more cumbersome. Moreover, with the boons of technological advancement, e-commerce has reached an advanced stage of cross-border e-commerce, making the world within a far easier reach for the customer. However, given the complex nature of the cross-border e-commerce industry, doing business has become ever more challenging from various aspects.

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Amazon, headquartered in Seattle, is the world's largest cross border e-commerce retailer (Forbes, 2019), with sales revenue of \$232,887 billion (Amazon, 2018), serving millions of customers around the world. Jeffrey P. Bezos, the founder of Amazon.com, launched this customer-driven business with the promise of fast and inexpensive service. Amazon has around 798,000 employees as of December 2019, including full-time and part-time workers (Statista, 2020). These employees are working tremendously hard, 24/7 for the customers, starting from creating a smooth ordering experience online through developing a high-quality website, to order processing, packing, shipping, and delivering to the customers' doorstep. The success of the business depends on the excellent synchronization of these employees' jobs and proper management every day. So how does Amazon manage the workforce of around 798,000 employees?

Since the beginning, Jeffrey P. Bezos's message to his employees was clear and simple, "You can work long, hard, or smart, but at Amazon.com you cannot choose two out of three" (Amazon, 2018). However, human working to catch up with the inhuman speed of technological advancement comes with its toll on the workplace. In 2015, The New York Times made a report on Amazon, calling it a "Bruising Workplace" (Kantor, 2015). However, even though Amazon denied this report calling it biased, since then Amazon's people science team has been working continuously to improve the conditions. They launched a program called "Connection." to ask employees questions about their feeling about the workplace every day to understand more about the employees (Soper, 2015). Recently, Amazon was ranked as number 10 in the list of 2000 Best Employers around the world in 2019 and the number 1 best employer on the internet and catalog retail industry, published by Forbes (Forbes, 2019).

Amazon, even though the world's largest cross border e-commerce retailer, is just one example of an e-commerce company. There are many more e-commerce companies around the world. Some are operating on a large scale, whereas some are operating on a smaller scale. Some are operating at a domestic level, whereas some are operating both at the domestic and global levels. Depending on the business objective and strategy, different e-commerce has different structures and operating systems. Therefore, each cross border e-commerce companies have their own unique human resource requirement and human resource management (HRM) strategies.

Human resources are the central source of competitive advantage for any firm. Business success largely depends on the proper utilization of human resources for the business mission and vision. Starting from a small e-commerce start-up to a large e-commerce enterprise, the success of the business depends on attracting the right talent for the firm and motivating them to engage and retain. That is only possible through an effective HRM strategy or strategic human resource management (SHRM). However, there is no one best HRM strategy. Depending on a company's unique business strategy, objective, industry context, and cultural context, the HRM strategies might be different.

The objective of this chapter is not to teach about HRM strategies. That is a too broad concept and out of the capacity to discuss in one chapter. Instead, the objective of this chapter is to understand how different cross border e-commerce companies starting from small start-ups to e-commerce giants, are managing their human resources. In the rest of this chapter, the different HRM practices and strategies that the different e-commerce companies have been utilizing would be discussed. The structure of the chapter would be as following. At first, the theoretical and practical background and importance of HRM in e-commerce firms would be discussed. Then HRM strategies and practices in the context of small start-up firms would be discussed with example. Next, four basic HRM practices used in e-commerce firms would be discussed with examples. Finally, the trends and challenges in HRM in cross border e-commerce firms would be discussed, followed by the conclusion.



## **2. HUMAN RESOURCES IN E-COMMERCE FIRMS**

At the beginning of e-commerce, experts speculated that doing business online would diminish the necessity of a larger workforce. Interestingly, in contrast, whereas many jobs have been disappearing, a more significant number of new job opportunities have been creating. In India, e-commerce giants Amazon and Flipkart have combinedly created 140,000 direct, indirect, and seasonal job opportunities as of 2019 (Business Today, 2019) and expected to create more. On the other hand, in the US, Amazon held an Amazon career day as a part of its plan to recruit 30,000 new employees by 2020. in all kinds of positions, which is around a 5% increase to the permanent positions Amazon has (Liu, 2019).

### **I. What Do Theories Say?**

As e-commerce continues to flourish, and the cross-border e-commerce emerges to be more promising, more jobs are expected to be created worldwide in different industries directly and indirectly. Blount, Castleman, and Swartman (2003) explained this phenomenon with the combination of three theoretical perspectives- the labor process approach, theory of informatization, and post-Fordist organization.

- a. **The Labor Process Approach:** According to the labor process approach by Child (1985), when a new technology enters the marketplace, many traditional jobs get eliminated.
- b. **Theory of Informatization:** In this theory, Zuboff (1988) argues that whereas the new technology certainly eliminates some of the existing jobs, it also creates the demand for designing new jobs that adapt to the new technology. That creates a demand for reskilling or training the labor force to work under the new technology.
- c. **Post-Fordist Organization:** Finally, the Post-Fordist organizational perspective enlightens regarding organizational structure needed to operate in the dynamic business environment of e-commerce. For better sustainability, e-commerce business demands higher adaptability, fluidity, more open and decentralized structure of the organization.

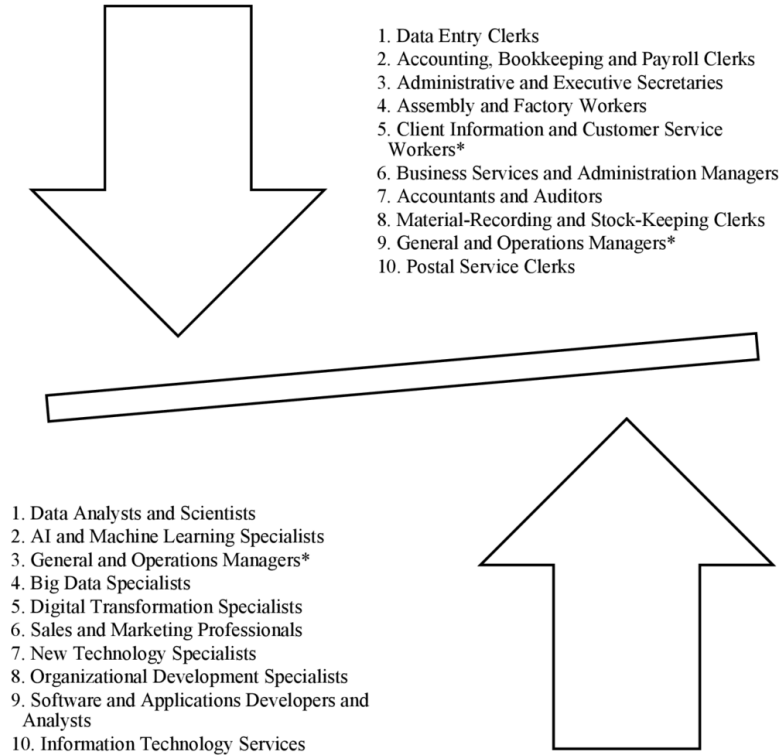
### **II. Human Resource Requirement Is Ever persistent**

These theories can largely explain the past, present, and future trends of employment in the business world. In a report published by Oxford Economics, it was speculated that globally around 20 million manufacturing jobs would be displaced by machines by the next decade (Tappe, 2019). On the other hand, in the Future of Jobs Report, published by the World Economic Forum in 2018, it was mentioned that by 2022 globally, 75 million job roles would decrease, whereas 133 million new job roles would emerge (WEF, 2018). This report is based on a survey, which represents more than 15 million employees around the world in different industries. A list of top ten decreasing and emerging job roles is provided in Figure 1.

Note:\* Marked job roles appeared in both the list. It indicates that whereas demand for some job roles would decrease in some industries, the demand would increase in another industry.

Figure 1. Diminishing and Trending Job role by 2022

Source: Future of Job Reports 2018, World Economic Forum



### III. What Is Human Resource Management In E-Commerce?

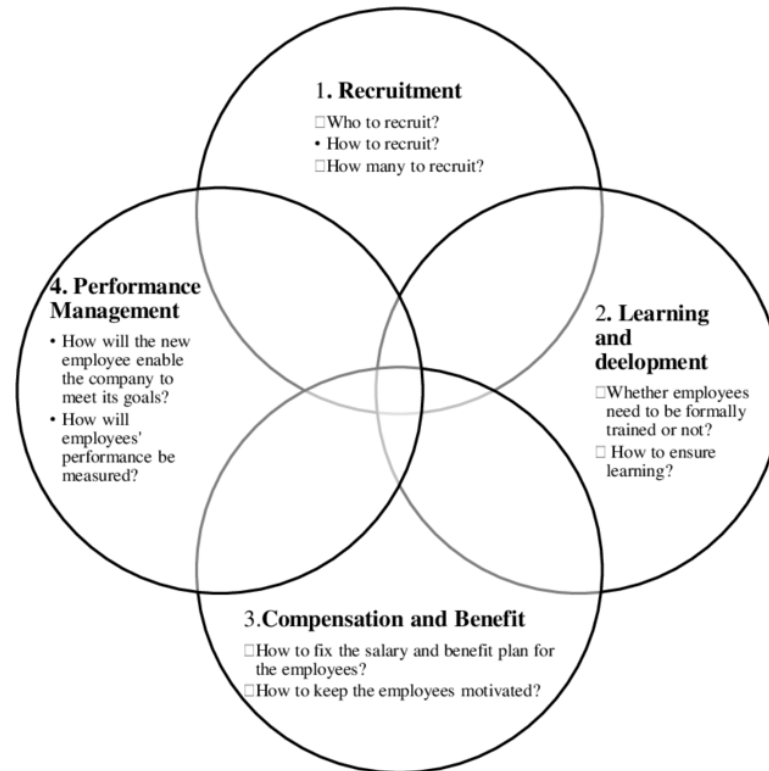
eToys.com, an online retailer founded in 1997, made a significant investment on their website to make it attractive and user-friendly and spent millions of dollars on advertisement. As a result, they started to get large orders. However, without adequate planning and support of the delivery system, it failed to fulfill 10% of the orders. Without proper customer service, employees in the customer services were struggling to handle a large number of disappointed customers taking days to respond to emails and keeping the customers on hold for 20 minutes (Hallowell, 2001).

Most start-ups begin with an entrepreneur's brilliant business idea without much focus or knowledge on HR planning and management. For cross-border e-commerce firms, it is easy to reach millions of consumers within a second. Once the business starts to grow fast, so does the individual requirement. Many HR-related questions start to arise too. These questions can be categorized into four underlying HRM-related issues, as shown in Figure 2. It becomes necessary to plan strategically regarding these HRM-related issues as all of these issues are interconnected and ensure business success.

Traditionally HRM was just a business process that handles the operation related to employee recruitment, training, compensation, and performance appraisal. Then strategic HRM starts to get adopted by market champion companies, which integrate business strategy with HRM strategy. However, in this millennium, HRM is more than just strategic HRM. In the Amazon HR tenet, it is mentioned that Amazon manages HR as a business (Mccracken, 2019). Their goal is to be the maximum scientific HR company

*Figure 2. Categorizing basic HR-related questions to 4 traditional HRM functions*

Source: Author



possible in the world. Beth Galetti, the Senior Vice President of Global HR of Amazon, says, “We’re a cost to the company, so we have to be sure that we’re delivering value” (Gallup, 2018). Therefore rather than focusing only on employee management related issues, Amazon HR focuses on being a support organization and, at the same time, be scalable as fast as possible through technology and easy process. That adds one more role to the list of HR roles in e-commerce suggested by Dave Ulrich (1997).

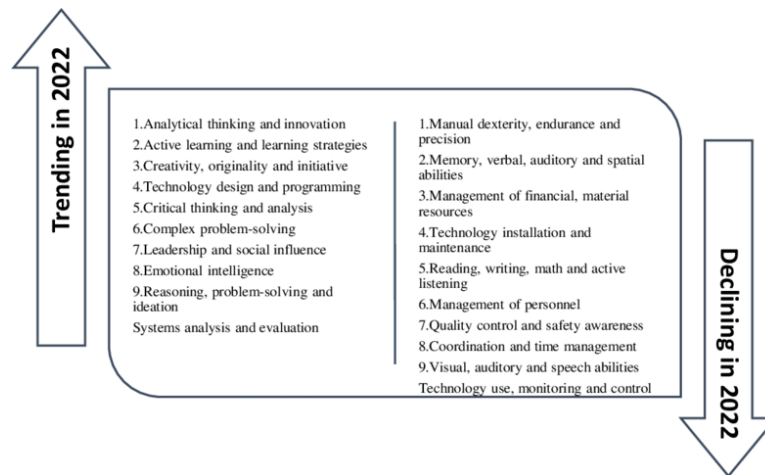
- a. **Support organization:** HR is not only a function or department of the organization anymore. Instead, in today’s world, HR needs to consider themselves a business unit that thinks each of their decision in terms of cost and benefit for the most efficient support they can provide to the business.
- b. **Change Agent:** Given the dynamic nature of the cross-border e-commerce industry, HR is expected to play as a change agent in the organization. To keep up with the speed of changing the business environment, HR needs to support up to date human resource requirements continually.
- c. **Strategic partner:** When HR successfully acts as a change agent, they actually become one step ahead to become a strategic partner of the organization. To successfully cope with the uncertain business environment, business strategy and HR strategy needs to go hand in hand to have the most effective and efficient business performance.
- d. **Employee advocate:** The core role of HR in business is to support the employees in various ways so that they can work efficiently and effectively in the organization. HR listens to the employees, support them, and help them to develop and foster a good feeling about the organization.

- e. **Administrative expert:** The basic role of HR in any organization is to support administrative activities. HR helps create and maintain the primary structure of the organization.

#### IV. Why Learn About HRM In Cross Border E-commerce?

In the future of the job report, it was reported that by 2022 more than 88% of the companies surveyed in the consumer industry and on an average 75% of the companies in all the industries surveyed are expected to adopt the app and web-enabled market (WEF, 2018). Moreover, with China’s “one belt and one road” initiative, cross-border e-commerce around the world is also expected to flourish more. On the other hand, artificial intelligence (AI) and automation would change the nature of the workplace drastically by the next 10-15 years. A projected list of declining and emerging job skill requirement by 2022, published in the Future of Job Report 2018 is provided in Figure 3. Based on another study conducted by Mckinsey Global Institute, hours spent on technological skill and social and emotional skills would increase by 55% and 24% by 2030, respectively (MGI, 2018).

Figure 3. Trending and declining job skills by 2022  
Source: Future of Job Reports 2018, World Economic Forum



In this situation, the primary concern of business experts and researchers around the world is regarding the lack of talent with updated skills and knowledge for the future workplace (MGI, 2018). Companies are now and will be more soon in a war on attracting, motivating, reskilling, and retaining the right talent for their firms. To cope up with these workplace changes, companies need to prepare

- Recruitment Strategy:** Determine whether to hire, retrain, contract, or disperse new employees to obtain talents who have updated knowledge and skill.
- Mindset Shift:** Shift the mindset of the employees through a culture of learning and provide training.
- Organizational Set-up:** Change the organizational set up as an agile organization focusing more on team works and removing hierarchies.
- “New Collar” Jobs:** New job roles need to be created by relocating skills among employees.

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- e. **Workforce Composition:** Change in the workforce composition by integrating more independent contractors and freelancer
- f. **C-Suite Aand HR Changes:** Change the mindset of the CEOs and HR strategies that can support all these changes

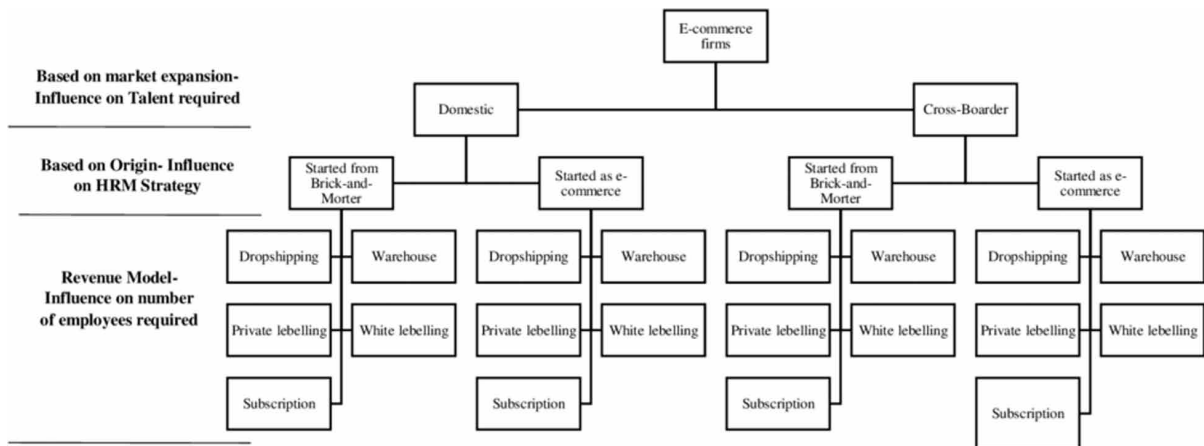
All of these agendas to prepare the organization for the future are related to HRM strategies. Sooner or later, all the firms, including e-commerce or brick-and-mortar, need to face the changing nature of the workplace directly or indirectly. Success and sustainability of the existing global firms and the upcoming new start-ups lie in understanding the future of the workplace and HRM strategies of the companies around the world to devise the HRM strategies needed for their firm. Because in this era, a disintegrated business and HRM strategy alone can never achieve and maintain the best performance and success.

**3. APPROACHING HUMAN RESOURCE MANAGEMENT ISSUE IN CROSS BORDER E-COMMERCE**

In this 21<sup>st</sup> century, there are many types of e-business firms. The categorization of the e-commerce firms can be done in different ways based on different business aspects, business strategy, and business models. Understanding these categorizations is necessary as it helps to understand the HRM practices and strategies adopted by different cross border e-commerce firms. A categorization of e-commerce is provided in Figure 4, which might influence the HRM strategy of the e-commerce firm.

*Figure 4. Classification of e-commerce firms that might influence the firms' employee number and HR strategy*

Source: <https://www.rapportrix.com/6-types-of-e-commerce-business-models>



Based on the various types of e-commerce firms with different business strategies and goals, the HRM strategy is also different across companies. Some organizations are small in terms of the number of employees but doing big businesses. For example, the Dollar Shave Club (DSC) is a cross-border

e-commerce firm with dropshipping and subscription revenue model. (DSC) has less than 500 employees but doing a billion-dollar business. On the other hand, global giant Amazon has around 798,000 employees. Next, the discussion on HRM practices and strategies is will be discussed in terms of small and medium enterprise (SME) e-commerce start-ups.

## **I. HRM in Small and Medium Business Cross Border E-Commerce**

From a detailed case study on five global firms, it was found that e-commerce SME start-ups might begin like any SME start-ups. Initially, they might not feel the necessity of any HR policy or strategies. In the beginning, the motivation to run the business might come from fun or learning. However, at the growth stage of the business cycle, they begin to realize the “freestyle” management is not sustainable anymore. For example, Initially, they might employ friends and family or based-on the relationship, but in the long run, that is not a sustainable strategy. Gradually the firms feel the urge to approach the HRM-related issues more strategically rather than a freestyle approach for the sustainability of the business (Dietz, Van der Wiele, Van Iwaarden, & Brosseau, 2006).

Most-sites.com, a sports website, began a secured start-up phase with necessary financial back-up and an outstanding contract. They hired sixty staff with an excellent salary offering. However, after the contract period ended, with no substantial earnings anymore, they had to lay off half of the recruits. As this did not have any formal HR policies in practice, the whole situation led to a catastrophe. After two years of their business due to this incident, they first realized the importance of formal HR policies and hired an HR specialist (Dietz, et al., 2006).

Furthur from a study on a sample of 30 UK SME e-commerce firms conducted in 2001, it was found that more than half of the e-commerce firms in the sample have personnel appoints as the HR specialist, who is responsible for handling employee-related issues. Among the HRM-related practices, performance appraisal and training were found to be commonly existing in more than half of the sample.

### **A. HR at Dollar Shaving Club**

In 2011, Michael Dubin came up with the idea of founding Dollar Shave Club in the men’s grooming industry. In March 2012, he posted the first commercial video on YouTube, with the idea of spending a dollar a month for a shaving blade. The video went viral in minutes and received 12000 orders within two days (Tradegecko, 2018). By 2016 Dollar shave club generated more than US\$200 million in revenue, with only 190 employees becoming a significant threat to the market leader Gillette. So how did they manage their human resources?

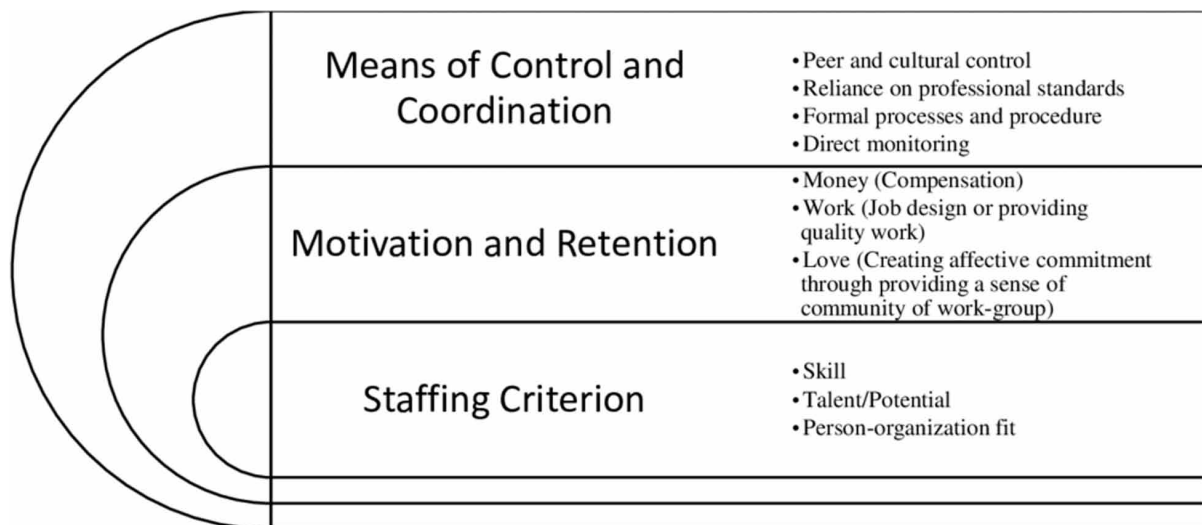
First of all, the Dollar Shave Club started as a drop shipping and subscription-based e-business model. That reduces the significant number of human resource requirements. In 2012 they had only 24 employees, with most of the workload on the CEO. As the business was growing, so was the requirement of employees, reaching around 50-80 in 2014. It was not possible to do everything by Micheal Dubin anymore. He needed organizational processes and discipline. First of all, he needed a talented team of employees to whom he can delegate the work. Micheal Dubins also learned from his experience of hiring mistakes in 2012 that hiring talented and skilled employees in various job roles, also need expertise (Blakely, 2017). Now DSC has its own dedicated people team who are working on hiring the best talent, employees learning, development, and creating excellent employee experience. However, some of the administrative works are being outsourced- employee relocation (Urban Bound, n.d.). Employee

relocation used to take a considerable amount of time from the talent management and acquisition team of DSC. DSC partnered with Urban Bound, a company that handles employee relocation. People team can now focus more on the core parts of HRM.

## II. Baron and Hannan’s HR Blueprint for SME E-Commerce Firms

From another longitudinal study conducted by Stanford Project on Emerging Companies (“SPEC”) on 200 technology start-ups in the silicon valley in California, Baron and Hannan (2002) observed different HR models among the start-ups. These HR models are based on three broad dimensions, namely- staffing criterion, retention motivation, and means of control and coordination. These dimensions also vary in different sub-dimensions across different firms, as provided in Figure 5.

*Figure 5. Dimensions of employment blueprint*  
 Source: (Baron & Hannan, 2002)



Based on the most observed five combinations, Baron and Hannan suggested five significant types of HR strategies adopted by these tech start-up firms, which are – Commitment, Star, Engineering, Bureaucracy, and Autocracy.

- a. **Commitment Strategy (Culture/peer, Love, P-O Fit):** In this strategy, firms hire employees judging if they can fit with the organizational culture and work-group and try to make them attach and retain based on proving them a feeling of community. Firms control the employees indirectly through peer or organizational culture.
- b. **Star Strategy (Professional, Work, Potential):** Under this kind of strategy, firms hire employees based on their talent or long-term potential and try to attach them with an organization based on

providing quality work. Employees are provided autonomy and independence and are expected to comply and perform well due to their professionalism.

- c. **Engineering Strategy (Culture/peer, Work, Skill):** Firms following this strategy, recruit employees based on their skill and experience and try to attach them with the organization based on the prospect for interesting and exciting work. Employees are controlled through organizational culture.
- d. **Bureaucracy strategy (Formal, Work, Skill):** In this strategy, employees are hired based on their skills necessary to accomplish the task, motivated based on the opportunity to do exciting work and controlled through formal procedure and system.
- e. **Autocracy strategy (Direct, Work, Skill):** In autocracy strategy, employees are hired based on their skill and experience, motivated to retain based on the compensation provided and controlled by direct monitoring.

When SPEC initiated the study, these firms were, on average, five years old. They observed the firms over eight years period and found, firms that more tend to adopt a star strategy or commitment strategy were more likely to survive in the long run. Firms that adopted the commitment strategy also showed the highest likelihood of initial public offering. Bureaucracy and autocracy were, on the other hand, though easy for the employer to apply, less liked by the employees. However, firms also confessed that adopting a commitment and star strategy is not easy as it was fragile and less scalable compared to bureaucracy and engineering strategy.

The next discussion is on an cross border e-commerce company that started as a small start-up but turned out to be a massive success in a short time and grew very fast- Warby parker. Their HR strategy resembles Baron and Hannan's commitment strategy.

### A. Company Culture as Strategic Solutions: Warby Parker

In 2009 Neil Blumenthal, Dave Gilboa, Andy Hunt, and Jeff Raider, the four co-founders of Warby Parker, came up with an idea of designing eyeglasses and producing by themselves. By saving a massive cost on the middleman, they can sell it to the customer at a lower price. Warby Parker is now a certified B corporation with over 1500 empl (Ulrich, 1997)oyees (Warby Parker, n.d.). The story behind Warby Parker's success involves an influential team culture, but to maintain the same spirit on a workforce of more than 1500 employees is a bit challenging (Hollis, 2019). So how did they do it? At the beginning of Warby Parker, all the employees gathered and listed down all the factors that motivate them to keep on living. Everyone shared their list and looked for the common motivating factors, which became the core of Warby Parker's culture. The core company culture became the mechanism that binds Warby Parker's business value with HRM practices. Different HRM-related practices at Warby are provided below (Warby Parker, 2018), and how the company culture integrates the business mission with HRM practices to produce better employee experience is provided in Figure 6.

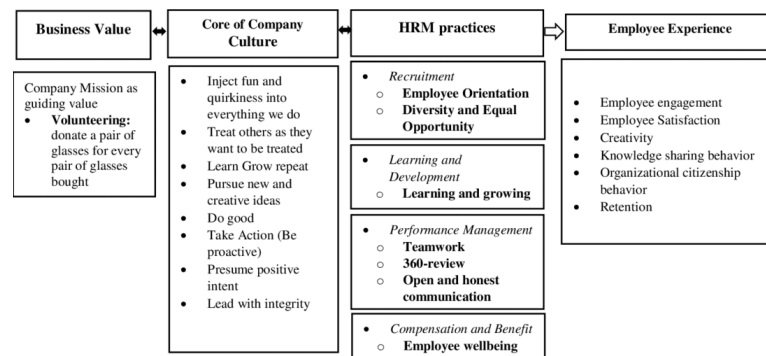
- a. **Company mission as the guiding value:** The mission of Warby is to donate a pair of glasses for every pair of glasses bought. Employees are encouraged to volunteer by providing 16 hours of paid leave for volunteering activities.
- b. **Newcomer Orientation:** New employees get one week on the job training and mentoring by all the team members in turn so that the newcomers can connect, feel welcome, and comfortable.



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- c. **Teamwork:** Team spirit is the core of working at Warby Parker. At Warby Parker, every team conducts a weekly meeting where every team member has to share a fun fact about themselves. That helps to foster empathy and strong bonding among team members.
- d. **Open and honest communication:** Warby Parker has a 360-review for team performance evaluation. This practice fosters open and honest communication among the team member and allows everyone to learn and grow together.
- e. **Learning and development:** The core work values at Warby Parker is “Learn, Grow, Repeat, and take action.” Apart from providing different learning resources and sessions, they also have a “Lunch and Learn” and “Snack and Share” where employees can share knowledge on any topic.
- f. **Diversity and Equal opportunity:** Warby Parker is renowned for its inclusive work environment. Their philosophy is not only to hire people who will fit into the organizational value and culture, but they will add to it.
- g. **Employee Wellbeing:** Warby puts particular emphasis on employees’ health and wellbeing by providing annual eye exams and insurance, free glasses, mental/behavioral health resources, biannual outings, plenty of snacks, book clubs, and flexible “My Time” vacation policy.

Figure 6. Integrated business strategy and HRM practices through core cultural value  
Source: Sustainability Report 2018, Warby Parker, 2018



## 4. BASIC HRM PRACTICES IN CROSS BORDER E-COMMERCE FIRMS

The main characteristic of the cross border e-commerce business environment is agility. In a survey conducted by Deloitte University Press in 2017, 94% of the more than 10,400 business and HR leaders surveyed indicated that agility and collaboration is the critical success factor for businesses (Deloitte, 2017). To cope up with this agile environment, global firms need an agile HR strategy. Agile HR strategy would focus on acquiring proactive, collaborative, egoless, honest, and talented people with updated knowledge and skills. These employees also need to be groomed and monitored continuously. Finally, the HR team needs to be very creative to keep the employees motivated and engaged and stay with the organization. These are related to four essential HRM practices, which will be discussed next.

## I. Recruitment and Selection

The initial stage of employee recruitment starts with HR planning and forecasting. HR planning depends on business strategy, operation, and revenue forecasting. A recruitment strategy also differs across global firms based on business strategy. For example, JD.com places more importance on internal talent development than external recruitment. Their policy is to fill up 80% of the vacant positions from internal recruitment (Lee, Tan, & Long, 2019). Whereas, Amazon, in addition to filling permanent job roles, each year before holiday shopping seasons, needs to hire thousands of seasonal employees. In 2019, Amazon recorded \$87 billion in sales during the Christmas season sales, which is a 21% rise increase than last year (BBC Business News, 2020). Amazon hired around 200,000 seasonal workers in the US to support the Christmas holiday shopping spree (Soper, 2019).

Moreover, different companies handle the recruitment and selection process differently based on cost-benefit analysis. Some e-commerce firms handle the recruitment process through an in-house HR team but with the help of digital recruitment tools and software. On the other hand, some firms entirely or partially outsource their recruitment process.

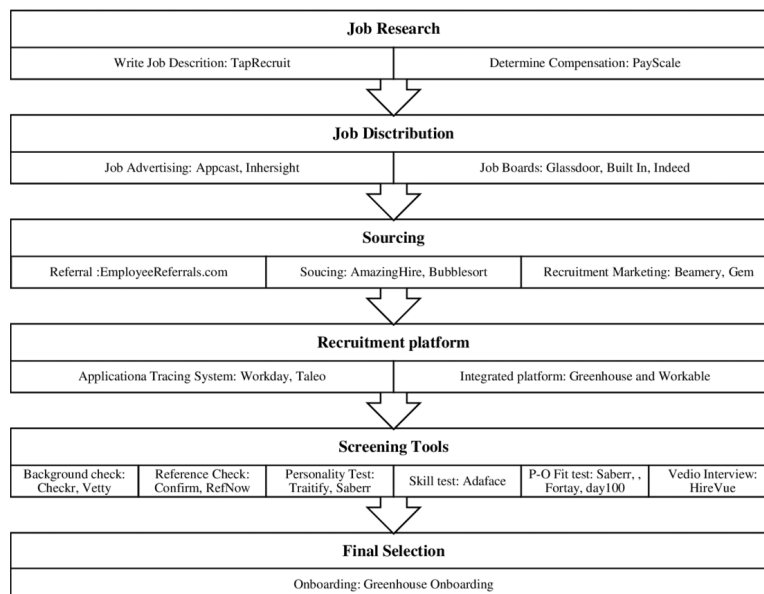
### A. Digital Recruitment

With the advancement of technology, recruitment has now become fully digitalized. There are now hundreds and thousands of tools and software to help companies in every step of the recruitment process. Some examples, along with the steps, are provided in Figure 7. Nowadays, some of these software and tools also utilize AI.

E-commerce firms use multiple recruitment tools that assist in the recruitment process. Trip Advisor is a company of more than 3800 employees from different countries. They use Greenhouse as their

Figure 7. General steps in recruitment and examples of recruitment tools

Source: <https://www.greenhouse.io/integrations>



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recruitment platform, LinkedIn, and WayUp to source the candidates; HireRight, to do a background check; HackerRank, Codility, and CoderPad to assess the candidates' skill and ability (Greenhouse, n.d.). In India, many start-ups utilize the speed hiring method through Cognitive Ability Speed Test (CAST), to screen out the candidates in 12 minutes. Many e-commerce firms adopt this hiring tool, i.e., Ola, Snapdeal, Quikr, and Foodpanda (The Hindu, 2015).

### **B. Recruitment Process Outsourcing (RPO)**

These days many organizations choose to partially or entirely outsource some of the complicated business processes like recruiting to RPO organizations. RPOs are like a strategic consulting partner for the organization. They bring their recruitment experts and technology to help other organizations find a unique and scalable solution for recruitment. According to indeed.com, among some of the top RPO firms of 2020 are Hueman, Orion Novotus, and LevelUP (Pepe, 2020). RPO makes recruitment easier for organizations so that organizations can focus on their primary business.

### **C. Recruitment at Amazon**

Amazon looks for highly Intelligent, critical thinker, creative, and self-driven regardless of age, gender, racial or ethnic minority, creating and equal employment opportunity. Amazon joins collaboration with different organizations and academic institutions to reach out to talented human resources.

The fundamental of Amazon recruitment driven by the 14 leadership principles, which define Amazon and the type of people they seek. The detailed procedure of recruitment might vary depending on the job role, but in general, there are several assessments of focusing on Amazon's Leadership Principles (Amazon, n.d.).

- a. **Workstyle assessment:** First, the candidates are asked to select the text that best describes the candidates working style
- b. **Work sample simulation:** In these assessments, candidates are asked to complete a virtual task related to a position to test their technical, problem-solving, prioritization, and interpersonal skills.
- c. **Post Assessment:** After a candidate successfully passes the pre-assessment tests, their background gets checked, and if there is no issue, then the candidate is called for a series of telephone, online, or on-site interviews.

Moreover, Amazon has a Bar Raiser Program in their hiring process. The objective of the Bar Raiser Program is always to hire employees who are better than 50% of the employees who are currently working in a similar job. There are more than 3600 bar raisers in Amazon, who are employees from different departments and job roles received training to interview as a third party interviewer (Day One Staff, 2019).

## **II. Learning and Development**

In today's world, HRM is more about nurturing than just managing. A crucial part of HRM practices is to ensure employees' learning and growth. By 2022, at least 54 percent of all workers would require a substantial update in skill (WEF, 2018). At present, all the business leaders are expressing concern about the lack of talent with updated knowledge and skill in e-commerce, especially in the cross-border

e-commerce (CBEC) sector. According to Cheng, Su, and Zarifis, (2019) there are four core skill that CBEC talent should have, and these are

- a. **Business and Marketing Knowledge:** Knowledge regarding different countries context, business environment, and client relationships management skill in cross border marketing, are some critical factors, for which more talents are needed.
- b. **Technical Skill:** In this digital age, technology is continually updating, therefore update technical knowledge and skill is undoubtedly a crying need for e-commerce firms.
- c. **Analytical Ability:** Doing a sustainable business as e-commerce takes careful analysis and decision making. CBEC is more complicated than regular e-commerce. Without analytical ability, it is impossible to survive.
- d. **Business practical ability:** Knowledge and skills are necessary, but not sufficient enough to survive in the e-commerce industry. Business practical ability is very crucial for success

Employee learning and growth is generally managed by the training and development programs initiated by the e-commerce firm. In the Future of Jobs Report (2018), companies are found to adopt three different strategies to manage the skills gaps widened by the adoption of new technologies.

- a. Hire new employees who have the required skills
- b. Retrain and reskill the existing employees
- c. Automate the work tasks, laying off people

## A. Training Model for CBEC Talent Development

Cheng, Su, and Zarifis, (2019) suggest problem-based learning (PBL) as the training method to train the employees for CBEC skill. PBL is the method of teaching by finding a solution to real-life problems. Cheng et al. (2019) demonstrated how PBL could be applied using a social network like Wechat, on Chinese university graduate students from different countries. This model is provided in Figure 8. Students were divided into groups were asked to find a solution to a problem in the CBEC context, which develops their business and marketing knowledge, technical skill, and analytical ability. Finally, they were required to write a business plan, which again helps to develop all these three skills and add to their practical business ability. This training model induced a positive attitude among the trainees (Cheng, Su, & Zarifis, 2019).

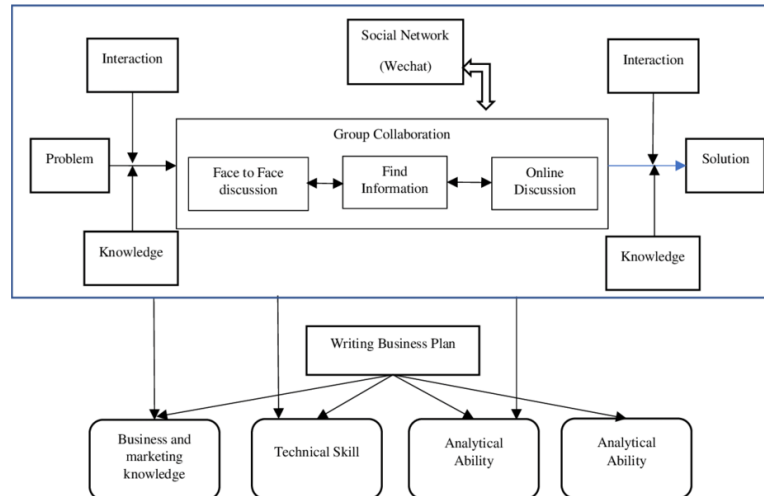
## B. Training and Development in Different E-Commerce Companies

What kind of strategy would a firm follow to train and develop the employees, depends on the business strategy. On the one hand, there are e-commerce companies like Netflix that does not provide any formal training unless the law requires it (McCord, 2014). On the other hand, there are many global e-commerce firms like Amazon, Alibaba, and JD.com, that put more emphasis on employee development through training and proper grooming.

Netflix, founded by Reed Hastings and Marc Randolph in Scotts Valley, California, in 1998, has over 148 million (Wikipedia, n.d.) subscribers worldwide with only 8600 employees (Statista, 2020). Netflix

Figure 8. Cross border e-commerce training model

Source: (Cheng, Su, & Zarifis, 2019)



does not offer any training or formalized development plan instead encourages self-development. Providing training and development has a cost, which might not be scalable for many small e-commerce firms too.

The journey of Alibaba, one of the world’s renowned e-commerce company, started in 1999 by Jack Ma and his team of 17 founding members. Since the beginning, Alibaba put particular attention on employees learning and development. There are several training programs tailored to the need of the employees. In May 2016, Alibaba launched a talent development program called Alibaba Global Leadership Academy (AGLA) for the future global leaders. This program is to provide the future leaders of Alibaba with on-the-job training and develop a deep understanding and expertise regarding Chinese culture and Chinese e-commerce business context (Wang, 2016).

### C. Amazon’s Upskilling 2025 Program

Amazon has arranged different learning and development opportunities (Amazon, n.d.) for its employees in the US as part of its Upskilling 2025 program. Amazon plans to invest \$700 in this program, which would benefit up to 100,000 employees (Liu, 2019).

- a. **Machine Learning University (MLU):** This program is to teach machine learning to the employees who have a background in technology or have enough knowledge of coding. Four hundred machine learning scientists will teach in this program.
- b. **Amazon Technical Academy:** The purpose of this academy is to provide non-technical employees with the necessary knowledge and skill so that they can have the opportunity to transfer to a software engineer career. It is a tuition-free program.
- c. **Associate2Tech:** This program is designed to support the associates working in the fulfillment center to get a technical job through 90 days of paid on-the-job training. They can get a tech job after passing the A+ Certification test, regardless of degrees.

- d. **Career Choice:** This program launched in 2012 to assist the fulfillment centers' associates in moving to on-demand occupations by covering 95% tuition or fees for certificate or diploma in the qualified courses, i.e., aircraft mechanics, computer-aided design, machine tool technologies, and nursing.
- e. **Amazon Apprenticeship.** This program is a department of Labor certified program to train employees to get technical jobs.
- f. **AWS Training and Certification:** As the demand for cloud computing skills is rising, this training is to provide the cloud skills to the employees.

### III. Performance Management

The sustainability of a cross border e-commerce firm depends on teamwork. Therefore rather than focusing on individual performance, firms now put more emphasis on team performance. Trust, inclusion, diversity, and clarity of roles are critical to team success. The performance of different teams is evaluated based on different metrics, which are called key performance indicators (KPI). In this digital age of HR, there are many new tools and approaches through which performances are evaluated and managed.

#### A. Digital Performance Management Tools

For continuous performance management, there are now feedback tools, i.e., Reflektiv, BetterWorks, Workboard, and SuccessFactors. These are feedback tools which help to

- a. Enable goal making to be more social and transparent, mobile, and digital
- b. Track progress
- c. Provide continuous feedback
- d. Provide information
- e. Perform analysis

#### B. Performance Appraisal in Different E-commerce Companies

In the agile HR, unlike traditional HR that does performance review at fixed one year or six-months, a frequent performance review is more preferred. Performance review at a long term interval could cause loss of valuable feedback that could have been received if performance was assessed immediately (Cappelli & Tavis, 2018). In global firms, if teams do project-based work, then instead of doing performance assessment at a fixed time, performance assessment at the end of the project is more effective. Moreover, today's e-commerce firms adopt a 360-degree approach to performance appraisal more. At Warby Parker, teams do open and honest 360 reviews for all the members (Hollis, 2019).

On the other different companies have different approaches for evaluation. Amazon has a performance review program called Forte. Forte focuses more on employee strength to help them develop more rather than focusing on employee shortcomings (Financial Express, 2018). At Alibaba, employees are not only evaluated based on their performance appraisal but also get evaluated based on how well they reflect the core values of Alibaba. The core values of Alibaba are- Customer first, teamwork, embrace change, integrity, passion, and commitment. Employees are evaluated during performance appraisal that to what extent they were committed, passionate, honest, a team player, and, most importantly, put the customer

## Managing Human Resources in E-Commerce

first. Through these values, Alibaba ensures a corporate culture that encourages openness, humbleness, and equality (Alibaba Group, n.d.).

JD.com, one of the largest e-commerce companies in China and a Fortune 500 global company, started its journey in 1998. Within, ten years it becomes the third-largest company in the world in terms of revenue. In JD.com, performance appraisal is dealt very seriously. In August 2017, JD.com proposed new principles and initiatives to make their performance appraisal stronger. First of all, they made their corporate value as the core performance criteria. JD.com follows an ABC principle, which is- to make any HR decisions on employee C, joint decisions of two supervisors A and B are required. If employee C fulfills 70% of the requirement of a position, then supervisors are required to pay special attention to the employees' development. The employees get an annual review of talent through a three-by-three matrix elimination process, as shown in table 1. In this evaluation, any employees who fall in the cell of 7, 8, and 9 are considered high potential talent and get the opportunity for further development. Employees in cells 2 and 4 are identified as having the chance to be developed in the future. Rest of the employees in cell 3, 5, and 6 are considered stable contributor and gets retained, whereas employees in the cell have to go through the process of elimination (Lee, Tan, Long, 2019).

Table 1. Three by three matrix assessment for performance appraisal by JD.com

Performance Depending on Experience	6 Stable contributor	8 High potential talent	9 High potential talent
	3 Stable contributor	5 Stable contributor	7 High-potential Talent
	1 To be dealt with	2 To be developed	4 To be developed
	Potential depending on leadership and logic		

Source: (Lee, Tan, & Long, 2019)

## IV. Compensation and Benefits

Compensation and benefit are another vital part of HRM strategies that helps a firm to attract, motivate, and retain talents. It creates a brand image of the company as an employer. In India, the Chief Financial Officer of a leading IT organization, Infosys quits his prospective job and joins a start-up called Ola cabs as the CFO (Spirit of HR, 2017), which leads to a big question. What motivates the employees and retain them? One thing for sure is that only a good salary is not enough. Instead, HRM specialists need to get innovative in constructing a motivating compensation and benefits plan. In the war of attracting the right talent for the company, this is very vital for both e-commerce giants and start-ups.

The workplace has now gone to the era of employing millennial employees, often called Generation Z, along with baby boomers, generation X, and generation Y. Global firms need to know what the people across generation value and expect the most from employers. For a generation, Z money is not the most critical factor (Sympa, 2019). Instead, Millenials place more importance on

- a. Doing a meaningful job (Values)

- b. Flexibility and autonomy
- c. Communication
- d. Transparency
- e. Feedback
- f. Learning and growth
- g. Community.

However, in this new age of Agile HR, many cross border e-commerce companies are adopting the policy of no bonus. One reason is to promote equitable pay that motivates extra-role behavior, i.e., knowledge sharing and learning. Performance-based bonuses sometimes accelerate unhealthy competition inside the organization that hampers growth and creativity (Cappelli & Tavis, 2018).

### A. Compensation and Benefits at Netflix

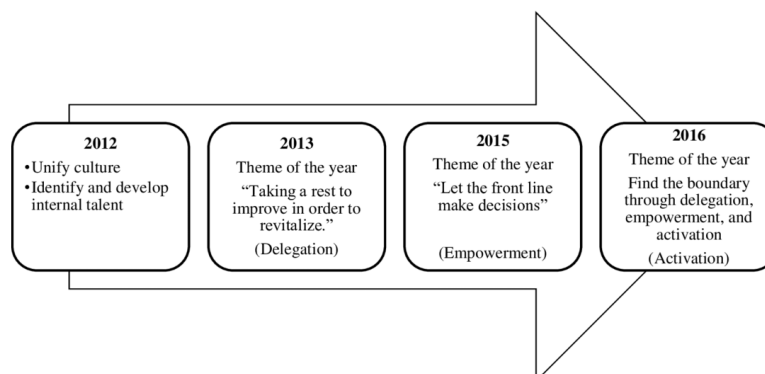
Netflix has a high-performance culture. Netflix does not mean to make a long-term committed workforce at the cost of inefficiency (McCord, 2014). Compensation and benefits strategy is straightforward at Netflix. Netflix analyzes what is the top of the market pay for a specific job and certain employees' capability and pays the individual employees over the top they can get. There is no centrally administered yearly pay raise or any bonuses. However, employees can choose to get the salary either in cash or in stock (Netflix, n.d.). The benefits at Netflix is also very straight forward. There is no vacation policy at Netflix. Since there is no 9-to-5 workday, so there is also no vacation schedule. Anyone can take a break when they need a break. Netflix provides a global family formation opportunity to support workers through their journey of pregnancy, surgery, or adoption.

## 5. HR STRATEGY EXAMPLE IN E-COMMERCE GIANT JD.COM

JD.com, China's one of the top e-commerce companies, founded by Qiangdong Liu, started its journey in 1998 as a brick-and-mortar company, but later converted to e-commerce in 2004. JD.com has around

Figure 9. Timeline of five year strategic plan in JD.com

Source: (Lee, Tan, & Long, 2019)



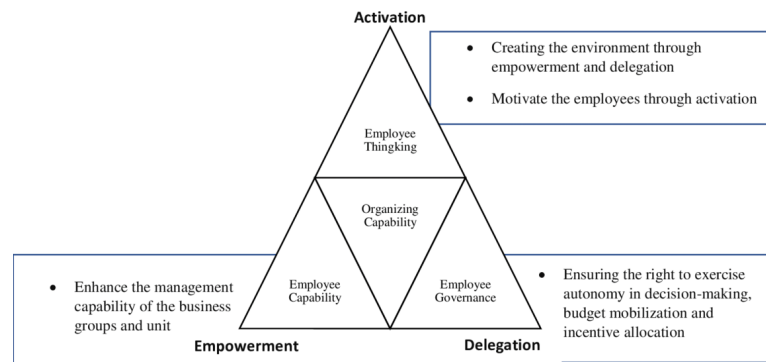


180,000 as of 2018 (Forbes, 2019). Over 20 years of business, JD.com has gone through constant changes in business strategies, which lead them to think about HR very strategically. They carefully integrated the business strategy with the HR strategy. They realized that the strategic solution is in culture, talent, and organization. Qiangdong Liu set a 5-year strategic plan for the HRM strategy, as provided in Figure 9, in 2012 that can support its business strategy for the next decade (Lee, Tan, Long, 2019).

Since the beginning, on top of hiring talented employees and chief officer, JD.com initiated its management trainee program to develop them. In 2012 they started to identify in-house talents and initiated the policy to fill up 80% of the vacant positions from the talented internal workforce. Apart from saving time, cost, and energy to look for talent outside, this strategy is also useful to boost the employee's morale. In 2013 Qiangdong Liu took a study break and set the theme of the company as "Taking a rest to improve in order to revitalize." The primary purpose was to initiate the delegation of authority to the talented future leaders of the company. In 2015, Qiangdong Liu set the theme as "Let the front line make decisions" to create a culture of employee empowerment in the company. Finally, 2016 was the activation phase of the new strategies of JD.com. Before setting the 5-year strategic plan, Qiangdong Liu realized that each business groups have their unique HR requirements and therefore required HRM practices to engage and motivate the employees are also different. Therefore he delegated and empowered different business groups to manage their human resources as they find it necessary. This management mechanism enabled employee governance, employee capability, and the employees' thinking, which makes the core of JD.coms organizational capability, as depicted in Figure 10 (Lee, Tan, Long, 2019).

*Figure 10. Management mechanism in JD.com*

*Source: (Lee, Tan, & Long, 2019)*



## **6. THE FUTURE OF HRM IN CROSS BORDER E-COMMERCE FIRMS**

Today's digital age affects the speed of everything people do. Digital disruptions and changing economic-societal conditions are continually influencing the workforce and the business needs and strategy. However, very few businesses can catch up with the speed of the changing business environment. Because it takes time for a human to adapt to the speed of the machines. Therefore, a gap gets created between the rate of technology change and business productivity, where a practical HRM strategy becomes necessary to help individuals to be prepared.

In the Global Human Capital Trends report in 2017, Deloitte University Press listed ten human capital trends, based on a survey on more than 10,400 HR and business leaders from around 140 countries (Deloitte, 2017). These ten areas of HR are where the organizations are facing issues and should focus more on preparing for the future. These are provided in Figure 11 and explained below in the context of e-commerce firms.

- a. **Organization of the future:** The rapidly changing environment in cross border e-commerce business requires firms to be more agile. E-commerce firms should focus on designing the workplace in such a way that they can respond very fast to any change. Some possible ways are allowing more empowerment, more support for collaboration, and ensure mobility of talents.
- b. **Careers and learning:** In e-commerce, the only constant is the change. Businesses can survive only focusing on continuous learning. Also from the perspective of an employer, firms that provide the opportunity of learning is more attractive
- c. **Talent acquisition:** As the way of doing business is changing, so the need for talents with updated knowledge and skill. Cross border e-commerce firms should leverage new technologies to help them get the required talents.
- d. **Employee experience:** The age of motivating employees with only an attractive package of compensation and benefit is bygone now. Global firms need to carefully construct the work design and culture and integrate with supportive management and growth opportunities to ensure employees' engagement, motivation, and productivity.
- e. **Performance management:** Performance management has still been a challenge. E-commerce firm needs to get creative on how to ensure employee performance without demoralizing the spirit.
- f. **Leadership:** With the changing environment, leaders need to think, act, and react differently. For all the e-commerce firms that were discussed in this chapter- Alibaba, Amazon, Dollar Shave Club, the leadership style played a significant influence on business success.
- g. **Digital HR:** E-commerce firms are fully technology-dependent and, therefore, relatively more digital. Cross border e-commerce firms should keep up to date with the technology that leverages HR work.
- h. **People analytics:** In this age of big data, all information regarding HR at the workplace can be easily obtained. Giant tech firms initiated the use of these data to derive HR-related decisions. E-commerce firms need to be prepared for adopting this future generation technology too.
- i. **Diversity and inclusion:** Diversity and inclusion have become a fundamental and sensitive topic in this new age of the workforce. Especially, to attract talent from all groups and generations, global firms must create an inclusive workplace and encourage diversity.
- j. **The augmented workforce:** The nature of the workforce has changed from balance sheet talents consisting of permanent employees to open talent consisting of the contractual, freelance workers from the new "gig economy." With the boons of AI, robotics, and cognitive computing, creating an augmented workforce is necessary to support the new and changing workforce.

Figure 11. Human capital trends in 2017, categorized into three levels

Source: 2017 Deloitte Global Human Capital Trends, Deloitte University Press

## **7. CHALLENGES FOR HRM IN CROSS BORDER E-COMMERCE**

### **I. Where Is the Boundary for Pushing?**

E-commerce giant Amazon has pushed its 2-day prime delivery to 1 day or same-day delivery (Newman, 2019). What was once a miracle, Amazon has turned it into a daily expectation, but at the cost of what? Is it that easy? Amazon workers in the warehouse share their bitter experience working for the warehouse.

In 2017, Amazon shipped more than 5 billion packages worldwide, only through Amazon prime (Columbus, 2018). In New York alone, it ships 2.5 billion packages a year (Cheng, 2019), which means, on average, millions of packages are delivered every day. With a massive jump in sales during big online shopping days, i.e., Cyber Monday, Black Friday, Prime Day, and Thanksgiving making up around 20% of the sales (Adobe Blog, 2019). Thousands of Amazon employees around the world protest before Amazon prime days and Black Friday sales for the inhuman working condition that is making the employees sick and increasing the rate of injuries. One Amazon employee says he must pick an item about every eight seconds, or 332 per hour, for a 10 hour day (BBC, 2019). Amazon fulfillment centers are equipped with robotics equipment and vehicles to lessen the work burden of the employees. Oppositely, one research study found that the injury rate increased almost four times in four years in an Amazon facility in Tracy, California, after introducing robots (Dailymail, 2019). It is even more difficult for the human to cope up with the speeds of machine and robots.

On the other hand, the co-founder of Alibaba, Jack Ma, stirs up controversy after encouraging 996 culture in Alibaba, saying it is a “huge blessing” for the employees. 996 is the expression for working from 9 a.m. to 9 p.m. for six days a week. Jack Ma says Alibaba is not a place for people who want an easy 8 hours job (Huang, 2019). What more, Jack Ma is not the only one who thinks like that. In an editorial, Peoples Daily in China mentioned that employees who object to 996 policy should be considered lazy (Kuo, 2019). The co-founder of JD.com, Qiangdong Liu, also agrees with Jack Ma, saying that at the beginning of JD.com, he used to work 8116+8, which means from 8 a.m. to 11 p.m., for six days and eight hours on Sunday (China.org.cn, 2019). It is because of this much of hard work, JD.com, and Alibaba has become what they are now. Chinese Labor Law allows up to 36 hours of overtime per month only. In China, many people are protesting this 996 policy.

Amazon, Alibaba, and JD.com are not only the prominent market leaders in the cross border e-commerce industry but also lies in the best employers list by Forbes. Still, there remains a question in the name of providing a faster and smoother experience to the customers and business growth, how far the e-commerce firms should be allowed to leverage human capacity?

### **II. How Much to Depend on AI?**

The proportion of human labor hours to machine labor hours would change from 70-30 in 2018 to 50-50 by 2025 (World Economic Forum, 2018). Now many companies are investing in machine learning to automatize the HRM practices too. In a survey by CareerBuilder in 2017, 55% of HR managers speculated that AI would be integrated into HR jobs by 2022 (Career Builder, 2017). Now there are already many AI-based tools and software that help in recruitment, interview, training, and compensation determination. E-commerce business leaders like JD.com, Alibaba, and Amazon are also seriously working on this new technology for future business success.

The Amazon team at Edinburgh engineering hub has been building its own AI solution for making the recruitment more effective and efficient. Based on specific job functions and locations, they set up 500 computer models. They taught these models to recognize 50,000 keywords that appeared in job applicants' resumes over the last ten year period. However, they found that these models are giving random results preferring unqualified candidates. Moreover, somehow the algorithms learned that male candidates are better than females, screening out all the female employees. It is alarming to depend on a machine that gives unreliable and gender-biased results. Finally, Amazon shut down the project (Dastin, 2018). However, Oxford University researcher, Dr. Sandra Wachter, explains, it is not unexpected if the data fed to a machine is biased in the first place (Hamilton, 2018). After all, It all depends on humans, what to teach the machine.

## **8. CONCLUSION**

Human resources are the driving force of a business. An Individual's effort and performance translate to business performance. An e-commerce start-up begins with an entrepreneur's exceptional and innovative idea. However, to convert that idea to a sustainable business takes a team effort of talented human resources. The core competitive advantage of all successful e-commerce firms lies in the talented team of human resources. In this chapter, the importance of integrating HRM strategy with business strategy was discussed along with the examples of the fastest-growing start-ups, i.e., Dollar Shave Club and Warby Parker and e-commerce giants, i.e., Alibaba and Amazon. Then there was a discussion on the changing workforce and the future trends in HR. At the same time, how the agile business environment in e-commerce, affecting the workforce was also depicted. In this new decade, more importance should be given on devising a healthy human resource management strategy that balances the use of machines and technology for reducing humans' stress but not to increase it.

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## **KEY TERMS AND DEFINITIONS**

**Agile HR:** A workforce that is resilient, flexible, and fast to adapt to the changes in the dynamic business environment and business needs.

**Inclusive Organization:** An organization that makes everyone feel comfortable and part of the organization regardless of all kinds of diversity, i.e., age, sex, gender, experience, perspective, lifestyle.

**Onboarding:** The process of making newly hired employees part of the organization and help them adapt to the workplace smoothly.

**Organizational Citizenship Behavior:** It is the high ground behavior expected from an employee as a responsible member of the organization.

**People Analytics:** Alternatively called HR analytics, is a decision making process regarding HR based on data analysis and evidence.

**Person-Organization Fit:** When certain qualities and personalities of a person that matches an organization's value and culture.

**Scientific HR:** Instead of a gut feeling, a rational way of managing HR.

# Chapter 11

## Big Data, Artificial Intelligence, and the Internet of Things in Cross–Border E–Commerce

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### ABSTRACT

*Today, the terms big data, artificial intelligence, and internet of things (IoT) are many-fold as these are linked with various applications, technologies, eco-systems, and services in the business domain. The recent industrial and technological revolution have become popular ever before, and the cross-border e-commerce activities are emerging very rapidly. As a result, it supports to the growth of economic globalization that has strategic importance for the advancement of e-commerce activities across the globe. In the business industry, the wide range applications of technologies like big data, artificial intelligence, and internet of things in cross-border e-commerce have grown exponential. This chapter systematically reviews the role of big data, artificial intelligence, and IoT in cross-border e-commerce and proposes a conceptually-designed smart-integrated cross-border e-commerce platform.*

### 1. INTRODUCTION

The emergence in e-commerce and commercial globalization across the globe have powered by the advancement of cross-border e-commerce (Cui, Mou, Cohen, & Liu, 2019). The popularity of the Internet, rise of big data, advancement in e-commerce, emergence of knowledge and information society, existence of cyberspace and sensors the artificial intelligence has been tremendously emerged, that lead to a new evolutionary stage (B.-h. Li, Hou, Yu, Lu, & Yang, 2017). In recent years, the cross border e-commerce has been emerged promptly that greatly adding to the world economy (e.g., Cheng, Su, & Zarifis, 2019; Cho & Lee, 2017; Song, Yan, & Zhang, 2019). Similarly, the improved global payment methods and its security, logistics arrangements and reverse logistics, less barriers in language, and so on have led

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the cross-border e-commerce to grow further (Hsiao, Chen, & Liao, 2017). For instance, the European Union has started many initiatives to encourage cross-border e-commerce by offering digital options to the public and business organizations (Valarezo, Pérez-Amaral, Garín-Muñoz, Herguera García, & López, 2018).

The cross border e-commerce has gained rapid attention and it has become significant form of foreign trade and business (J. Li, 2018). The IoT, big data, and cloud computing techniques could be adopted for the improvement of e-commerce logistics along with in all operational and decision-making levels (Barenji, Wang, Li, & Guerra-Zubiaga, 2019). The Internet as the accelerator that facilitates business entities to sell their products through cross-border e-commerce platforms (e.g., Deng & Wang, 2016; Hsiao et al., 2017). In cross-border e-commerce B2C or B2B creates new revenue business models that could allow to do e-commerce activities in domestic and overseas territories (Cho & Lee, 2017). The cross-border e-commerce create superior benefits to countries and regions having same cultural and geographic features for instance the European Union (EU) (Cho & Lee, 2017). Among the cross-border e-commerce, China's economy has established a steady and prompt development (Ma, Chai, & Zhang, 2018). China has reached the leading cross-border business destination and its e-commerce export capacity will grow to \$245 billion in 2020 (Du, Li, & Sun, 2019). Further, China is forecasted to exceed the USA, Germany, UK, France, and Japan and become the largest cross-border market by 2020 (Cui et al., 2019).

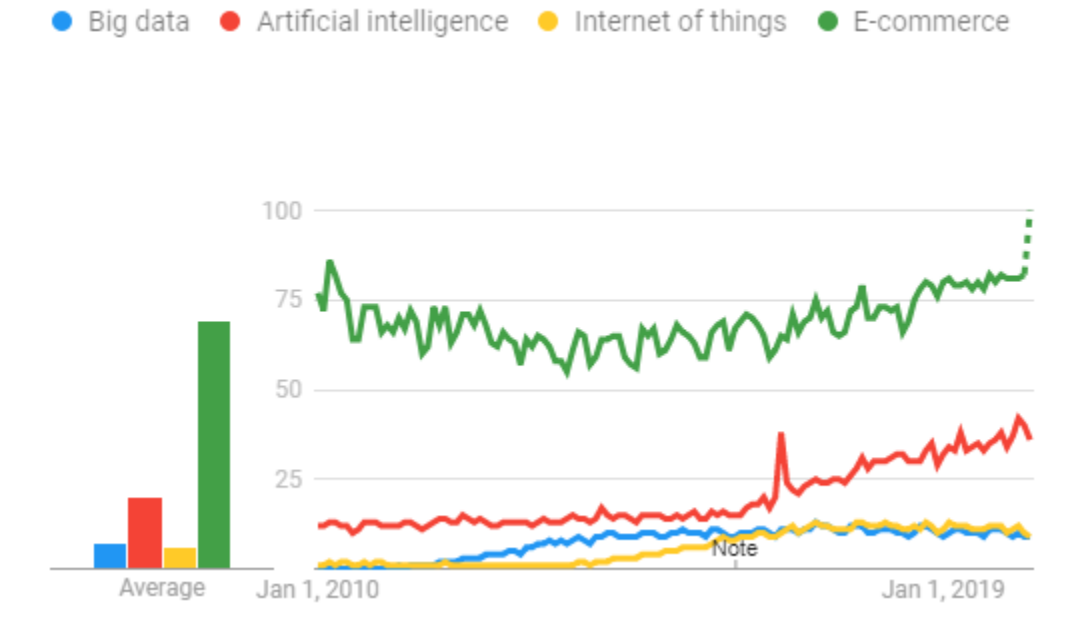
The objective of this chapter is to systematically review the role of big data, artificial intelligence and IoT in cross-border e-commerce and propose a conceptually designed smart integrated cross border e-commerce platform. This chapter is organized as follows. Next section discusses big data, artificial intelligence, Internet of things and cross border e-commerce trend, following this the applications of big data, artificial intelligence and Internet of things, then the recent trends and technology integration, the role of big data, artificial intelligence, Internet of things, and then reviewing cross-border E-commerce using prior studies, recent technologies, paradigm and new platform, and next proposing a conceptual integrated smart platform, opportunities and challenges created by big data, artificial intelligence and the Internet of things for cross-border E-commerce and finally, the future directions and prospects in cross-border E-commerce are discussed.

## **2. BIG DATA, ARTIFICIAL INTELLIGENCE, INTERNET OF THINGS AND CROSS BORDER E-COMMERCE TREND**

The cross-border shopping is rising and cross-border e-Commerce is projected to reach \$1 Trillion in 2020 (Saleh, 2020). The e-commerce has been received a significant attention among the researchers and industry practitioners in the past. Along with e-commerce, the terms artificial intelligence, big data, and Internet of things have also gained the popularity. The figure 1 shows the good trend for the terms big data, artificial intelligence, Internet of things and e-commerce from 2010 – 2020 at the business and industry category from worldwide. There is a rapid growth shown for the e-commerce, that denote there is a great chance for cross-border e-commerce to be expanded across the globe.

Companies are optimizing big data to develop customer tailoring that may also disclose some surprising shopping insights and behaviors. Similarly, big data platform with integrated predictive analytics capabilities can explore e-commerce customers' shopping behavior, make product recommendations, decide optimal product pricing, and make cart rejection flows. Artificial intelligence is used to develop

*Figure 1. Big data, artificial intelligence, Internet of things and e-commerce trend from 2010 - 2020*



robust AI product ready for sale in the enterprise. Similarly, the artificial intelligence-powered voice is the next big disruptor in product discovery, checkout, and even up-selling.

### **3. APPLICATIONS OF BIG DATA, ARTIFICIAL INTELLIGENCE AND INTERNET OF THINGS IN CROSS-BORDER E-COMMERCE.**

In the literature there are several emphasizes for the applications of big data, artificial intelligence and Internet of things in Cross-Border E-Commerce. For instance; the extensive application of big data, cloud computing, and the Internet of Things should be implemented to increase the services offered in international business and regulatory activities (Ma et al., 2018).

Artificial Intelligence is facilitating online retailers to communicate more efficiently with customers through chatbots and AI-powered voice assistant. The programmed systems like chatbots offer exact and rapid responses as they can be programmed to react quickly and correctly, handle large volumes of queries, and it can be available 24/7. In e-commerce, the artificial intelligence will optimize the information about a customer's past browsing and purchasing behaviors, and allowing brands to create custom-built 'buyers' to help their customers online.

Today, the intelligence and smart warehouses employ IoT-enabled devices such as IoT sensors and RFID tags create easy to update inventory management in the real time basis. Further, IoT can help e-commerce marketing campaigns to increase customer engagement, and revenue while presenting an enhanced experience to the customer. Similarly, the IoT devices can support for cross-border e-commerce for the superior tracking and logistics arrangements, automated inventory management, tailored infor-

mation and actions, IoT-oriented ecommerce websites, programmed shopping processes and improve relationships between vendors and consumers.

#### **4. RECENT TRENDS AND TECHNOLOGY INTEGRATION IN CROSS-BORDER E-COMMERCE**

This section discusses about the latest trends and technology integration which exist for the development of cross-border e-commerce. There are several industry and literature evidences that explain the current phenomenon in cross-border e-commerce. With the rapid application development of big data, cloud computing and block-chain in cross-border e-commerce, the consumers' behavior, suppliers' decision-making and the business models of cross border e-commerce have been reshaped (Zhao, 2018). In cross-border e-commerce the largest e-commerce vendors like, Amazon and Alibaba are transforming and influencing entire industries, businesses and technologies such as retail, logistics and transportation, manufacturing, cloud computing, entertainment, digital advertising, social media, search engine business, Internet of things (IoT), automation, robotics, artificial intelligence, payments, video streaming, and physical shops (Valarezo, Pérez-Amaral, Garín-Muñoz, García, & López, 2018). The Alibaba's global digital infrastructure for e-commerce enables the acquisition of data that are becoming the backbone of sophisticated innovations in artificial intelligence, cloud computing, and other emerging technologies (Vila Seoane, 2019b).

Many scholars have highlighted the "one belt one road" initiative of Chinese government for the expansion of e-commerce and cross-border e-commerce. For instance; the rapid development and Internet and the expansion of "One Belt One Road" initiative have significantly encouraged the progress of cross-border e-commerce in the recent years (Du et al., 2019). Further, Chinese cross-border e-commerce firms have speedily extended their business operations to the belt and road countries (Jianping Li et al., 2019). Alibaba does retail selling in China over the Taobao and Tmall platforms, wholesale businesses in China with Alibaba, at the same time the cross-border and global retail business activities via Aliexpress, Tmall global, and Lazada, and cross-border and global wholesale commerce through the Alibaba English portal (Vila Seoane, 2019a). As a result, there is huge demand for the cross-border logistics service as China's e-commerce operations grows rapidly (Lee, 2018).

#### **5. THE ROLE OF BIG DATA IN CROSS-BORDER E-COMMERCE**

Big data refers to complex dataset that has large volume, high velocity, rich in variety and high value of data that can be stored, processed, and analyzed by modern technologies to get practical meanings and insights by analyzing these data (Zhao, 2018). Today, the advancements in cloud, mobile and Internet technologies with big data analytics not only offer marketing strategies and business channels, but also offer various external and internal collaborations for cross-border e-business activities. The e-commerce sites generate large volume of customers', product, logistics, transportation, customer care, and business data. The application of big data analytics with cloud computing has made possible the handling of large volume of data and transactions (Tu & Shangguan, 2018). Present plenty of e-commerce data and machine learning techniques facilitate the cross-border e-commerce vendors to categorize goods more powerfully (G. Li & Li, 2019). Hence, it facilitates to extent ad expand the cross-border e-commerce

more and more beyond the geographical boundary. The big data related analytics can be applied to get latest and more significant information to design value-added business activities in supply chain of an organization (Wu & Lin, 2018). The big data is greatly supporting for the logistics industry by providing rich data sources, while these data are used for classifying customers, forecasting demand, optimization, quality measurement, business innovation and industrial re-engineering (X. Li, 2018). The development of big data, cloud computing and smart cities can uplift the expansion of China's digital silk road of the twenty-first century (Vila Seoane, 2019a). Big data and algorithms are extensively employed to forecast product sales, and that can be used for global supply chain management in cross-border e-commerce organizations (Ji, Wang, Zhao, & Guo, 2019). As a result, customers' preferences, buying behaviors, and choices can be explored for niche market by using customization and customization.

## **6. THE ROLE OF ARTIFICIAL INTELLIGENCE IN CROSS-BORDER E-COMMERCE**

Artificial intelligence refers to the ability of a computer / computer-controlled device to perform activities or simulate human intelligence in machines that are programmed to think like humans and mimic their actions. Nowadays, the applications of artificial intelligent in business is ever growing. For instance, organizations that are operating in cross-border e-commerce are increasingly sensing the opportunities by employing intelligent algorithms that will offer for their businesses in the future. In future, an increasing number of business firms will be optimizing the power of artificial intelligence to improve their performance in order to stand out positively from the competition for their survival. Artificial Intelligence will offer noteworthy prospects and values for retailers, vendors, customers and suppliers in various forms. These noteworthy insights can be used for value addition, market strategy, new business models and competitive advantage. The applications of artificial intelligence in cross-boarder e-commerce has many folded. IT applications that integrate the artificial intelligence and the state-of-the-art cloud computing technologies will enable the logistics practitioners to improve their internal order processing more cost effectively (K. Leung et al., 2018). For instance, the online retailers are already aware of how machine learning and artificial intelligence can support customer service during the shopping experience. Currently, artificial intelligence is supporting online retailers to communicate more effectively with customers through chatbots. Similarly, the application of artificial intelligence and machine learning techniques can be used to detect the fraud in payments (Ryman-Tubb, Krause, & Garn, 2018). Further, by using the entire artificial intelligence technology the landing pages and product pages can be generated or individualized automatically based on the international audience language preferences.

At present, the combination of Internet and artificial intelligence digital era have been driven by universal network, shared economies, cross-border integration, advancements in intelligence, innovations, and big data. The artificial intelligence methods integrated with the modern cloud computing infrastructure allow the logistics industry leaders to advance their in-house order processing more cost efficiently (K. H. Leung et al., 2018). The big giant e-commerce company like Alibaba's key strategy is to acquire customer data that can be the strength of modern innovations in cloud computing, artificial intelligence, and other growing technologies (Vila Seoane, 2019a). The collected customer data can be optimized for competitive advantage. The artificial intelligence is used for the operations of automated warehousing, green packaging, intelligent picking robots, intelligent delivery robots, intelligent surveil-

lance of industrial parks using augmented and virtual realities in the logistics of e-commerce industry (X. Li, 2018).

## **7. THE ROLE OF INTERNET OF THINGS (IoT) IN CROSS-BORDER E-COMMERCE**

The IoT refers to the Internet connecting things to things by using different high-tech methods to link things through Internet, with intelligent processing systems(X. Li, 2018). The IoT includes technologies such as RFID, cloud computing, sensors, GIS/GPS visualization, virtual reality, and augmented reality (X. Li, 2018). The role of IoT have played a biggest role in today's e-commerce. For instance, IoT supports e-commerce vendors to maintain better inventory records that minimizes the over-stock in the warehouses by using IoT-enabled sensors. Today, the applications of IoT is highly used in the intelligence warehouse to handle orders, order classifications, delivery scheduling, and record keep by using the RFID and sensor embedded IoT devices. IoT sensors enable to track the product from the beginning to final delivery that confirm it shouldn't be broken, delivery timing and quality. These can help to optimize cost and time saving in delivering the orders to the end user.

Today, the industry 4.0 has made significant changes in the manufacturing processing like handling inventories, automation, production scheduling, quality control, fault detection, maintenance, and machinery supervision. The role of IoT devices for smart manufacturing process in industry 4.0 is very much essential in many aspects. IoT focuses target customers for personalized promotion in a way it identifies the shopping pattern via online browsing to sell to the intended customers. In this line of thinking, IoT brings e-commerce to the next generation as a strategic partner. The IoT devices such as smartphone, tablet, wearable sensors or industrial sensors can be employed in financial sector for banking activities. For instance, customers can be tracked by the banking executives using smartphones, tablets and other digital devices and the to observe the retail locations of banks (Ravi & Kamaruddin, 2017).

## **8. REVIEW ON THE CROSS-BORDER E-COMMERCE**

This section describes about prior research works that are in the big data, artificial intelligence and the Internet of things in cross-border e-commerce context. The wide range of these techniques and applications have made many prospects such as improved economic efficiency by creating many new jobs in developing countries offering a chance to reduce development gaps and increase inclusiveness whether demographic, economic, geographic, cultural, or linguistic; while narrowing the rural–urban divide. Similarly, the cross-border e-commerce creates many benefits such as cross-border electronic payment platform, reduce the time cost and transportation cost of global procurement, improved logistics service quality, the protection of intellectual property the application of the law and the solution of the supervision problems, and the construction of the credit system should be promoted (J. Li, 2018). The cross-border e-commerce platform based on big data and artificial intelligence can redesign many business opportunities. The big data driven analysis and optimization enable helps to win the market through low cost, predicting potential customers, and high efficiency. For instance, China's Digital Silk Road stimulates e-commerce through digital free trade zones, which increase international e-commerce by reducing cross-border trade barriers and establishing regional logistics centers.



In prior literature there are number of studies that discusses the various aspects such as its characteristics, various frameworks, models, applications and technical and legal requirements. Some of them are discussed as follows. Accordingly, Jiahua Li (2019) proposed an optimized design of cross-border e-commerce guide system by integrating big data and artificial intelligence in which the hardware and software components of this proposed systems also analyzed. The initial experiments of this proposed design proved superior performance compared to the traditional system. Gessner and Snodgrass (2015) studied the possibilities for cross-border e-commerce transactions between Canada and the United States of America; in which they examined whether the both countries' cross-border facility programs can really help small and medium sized enterprises in surmounting their obstacles in doing cross border e-commerce transactions. Kawa (2017) Developed a model that aims to cut the costs of delivering goods, increase the speed of shipment for the ordered goods in the cross-border e-commerce.

Jianping Li et al. (2019) examined the consumer's perceived risk in online purchasing decisions making in cross-border e-commerce under belt and road initiatives in China. Song et al. (2019) proposed the risk assessment method to assess the commodity risk quantitatively in the cross-border e-commerce by using text mining and fuzzy rule-based reasoning in which the proposed model proved its efficiency and the accuracy in commodity risk assessment. Gomez-Herrera, Martens, and Turlea (2014) studied on the enablers and barriers to the cross-border e-commerce in the European Union countries in which they found that the distance-related shopping costs are significantly lower compared to traditional shopping for the same goods; whereas the language-related trade costs increase. Further, the web based shopping leads to the new sources of business costs like goods delivery and electronic payments systems.

## **9. RECENT TECHNOLOGIES, PARADIGM AND NEW PLATFORM FOR CROSS-BORDER E-COMMERCE**

Future business models consist of Internet-based, collaborative, service-oriented, customizable, and socialized intelligent manufacturing system that enable production and offer services to global customers (B.-h. Li et al., 2017). The technology enablement tools that are integrated into a retailer's e-commerce platform can allow retailer to offer a smoother shopping experience to the international consumer. There are various business models and innovations have emerged in high-tech information technologies by integrating big data, cloud computing and virtual reality, and augmented reality (X. Li, 2018). Accordingly, K. Leung et al. (2018) developed a system by combining genetic algorithm and rule-based inference introduced a cloud-based e-order fulfilment preprocessing system that made efficiency in reducing order processing time and traveling distance. Similarly, G. Li and Li (2019) proposed a model to perform automatic customs classification for text and image information by using dual convolutional neural network. Mou et al. (2019) applied Latent Dirichlet Allocation to explore topics that can be applied to help marketers and product designers to know the defects in product.

Today, the technology adoption and infrastructure sophistication bring more consumers online and comfort with digital platforms such as mobile, social media and smart devices that allows consumers around the globe to buy products. As technology and e-commerce rapidly grow, the payment options are also varying such as credit card, PayPal, debit card and direct debit from bank account. When it comes to modern payment options, the machine learning with the blockchain technology enables artificial agents that are offering security and confirming steady of the data. That in turn transfers funds instantly and securely, without any further confirmation (Ravi & Kamaruddin, 2017). Further, the blockchain can

*Table 1. Prior Studies in Cross-border e-commerce*

Author/s	System / Approach	Method, technique/ Platform Features	Application Domain	Highlight
<b>Jiahua Li (2019)</b>	Big data and AI based cross-border e-commerce shopping guide system proposed	Optimized design completed for cross-border e-commerce shopping guide system	E-commerce Shopping Guide System	Proposed design proved better performance than traditional system using the experimental data.
<b>G. Li and Li (2019)</b>	Used neural network to classify website text and image in cross-border e-commerce	Adaptive convolutional neural network in machine learning to classify text and images	E-commerce website	Experiments reveals the effectiveness of text and image combination to customs classification
<b>Mou, Ren, Qin, and Kurcz (2019)</b>	Latent Dirichlet Allocation model to discover topics of export cross-border e-commerce consumer feedback	Text mining with Latent Dirichlet Allocation model used	E-commerce consumer feedback analysis	Explored 35 key topics that were mostly mentioned by both buyers and sellers.
<b>Yang (2019)</b>	Supplier management intelligent system using optimization technique for cross-border e-commerce platforms	Machine learning and multi-objective evolutionary algorithm are used	Supplier management intelligent system for cross-border e-commerce platforms	The scientific evaluation and selection of suppliers and supplier management in cross-border e-commerce platform
<b>Cui et al. (2019)</b>	Sequential multimethod approach to examine sellers' acceptance of cross-border e-commerce	Empirically tested information system success model and conceptualized valence framework	Sellers behaviors and their decision to participate cross-border e-commerce platforms	Seller's trust, perceived benefits and service quality are the significant factors that decide to participate in cross-border platforms
<b>Hsiao et al. (2017)</b>	Kansei engineering based approach to identify customers' emotional perceptions to develop cross-border logistics service.	Text mining techniques used to analyze the online contents for cross-border logistics service.	Cross-border logistics service	Combined Kansei engineering and online content analysis proved as effective in catching customer-oriented design elements.
<b>Jianping Li et al. (2019)</b>	Text mining based framework to examine consumer's risk perception on belt and road countries	Latent Dirichlet Allocation model and sentiment analysis are used	consumer's risk perception on cross-border e-commerce	From the 66,661 reviews six major risk factors from nine belt and road countries are identified
<b>Song et al. (2019)</b>	Risk assessment method proposed to assesses cross-border e-commerce commodity risk quantitatively and semi-automatically	Text mining and fuzzy rule-based reasoning used	Risk assessment in cross-border e-commerce	Import inspection record is used to identify violated safety guidelines, risk possibility and its consequence
<b>Wu and Lin (2018)</b>	Hybrid content analytical model used to examine knowledge of e-commerce logistics from unstructured big data	Hybrid content analytic and topic mining are employed	logistics knowledge in e-commerce	Topic mining found ten important themes in e-commerce logistics.
<b>Lee (2018)</b>	IoT based warehouse management system is proposed for handling and delivering goods automatically	Self-directed Robots, Internet of Things, Cloud Computing are used	Smart warehouse management system in e-commerce	The smart warehouse system to maximization of floor space and labor force to increase logistics efficiency
<b>Ji et al. (2019)</b>	Proposed a XGBoost-based model is used in Cross-Border E-Commerce for sales forecasting	forecasting models, clustering algorithm used for sales forecasting in cross-border e-commerce platform.	Sales forecasting to the better logistics optimization of inventory management	Compared to other forecasting models the C-A-XGBoost is proved as efficient model for sales forecasting
<b>Du et al. (2019)</b>	Developed a Kano-fuzzy-DEMATEL model to evaluate and rank risk in SMEs' cross-border e-commerce	Measured the degree of link for each risk factor with uncertain information to decide the risk priority	Risk valuation in cross-border e-commerce	This approach in ranking risk factors offers basis for decision-making and increase the accuracy of forecasting
<b>Kim, Dekker, and Heij (2017)</b>	Examine how distance impacts on the delivery time in cross-border electronic commerce	Empirically tested the European Union's 721 regions in five countries.	Express delivery of orders in cross-border electronic commerce	distance is not a concern; express delivery reduces distance for demand and impact by income, relative lead-time and e-loyalty
<b>Luan and Zhang (2018)</b>	Cross-border enterprise e-commerce integrated information system based on collaborative information middleware	The design and implementation approach for the collaborative information system to support the effective e-business activities between enterprises	collaborative information systems for e-commerce enterprises	The proposed method proved the effectiveness of the integrated management information system in cross-border firm collaborative
<b>K. Leung et al. (2018)</b>	Intelligent re-engineering system for e-order fulfilment process of e-commerce orders	Cloud-based e-order fulfilment pre-processing using genetic algorithm, decision support, rule-based inference	e-order handling and logistics in e-commerce	Offers the operating efficiency in processing e-commerce orders

manage trade finance, clearing and settling of bond or equity transactions, and cross-border payments. In manufacturing sector, the Industry 4.0 has lead the firms to think sophisticated logistics and transportation systems such automated smart warehouse management systems incorporating IoT, cloud computing and autonomous robots (Lee, 2018). For the better delivery of ordered goods, the logistics arrangements in the cross-border e-commerce are highly essential (Gessner & Snodgrass, 2015). Accordingly, Today the IoT application has developed to the possible stage, and laid a foundation to execute the intelligent logistics (X. Li, 2018).

## **10. PROPOSED CONCEPTUAL CROSS-BORDER E-COMMERCE INTEGRATED SMART PLATFORM**

The figure 2 as shown below illustrate the proposed conceptually designed smart integrated cross-border e-commerce platform for e-commerce activities. It consists various components such as online customer e-commerce transaction, intelligence warehouse system, e-commerce operations data, customer placed order data, big data methods, techniques, and platform tools, and integrated smart cross border e-commerce platform. The below sections detailed each of the components with necessary information.

### **Online Customer E-Commerce Transaction**

Online customers are choosing various e-commerce platform for placing their orders. The online orders can be place by using electronic smart devices like smart phones, tablets and laptops for their convenient access. Today, the e-commerce platforms integrate various options, navigations, and user friendliness to make easiness for e-commerce activities. The e-retailers collects the placed order from these platforms for the additional processing. The intelligence smart warehouse system systematically processes like grouping, sorting, matching with the databased and connect with the IoT embedded order packs for the timely delivery of placed order. The logistic service providers handling the delivery of these orders goods to the customer's place by minimizing the time and cost for the delivery.

### **E-Commerce Operations Data**

For an e-commerce business firm there are several business operations such as production and manufacturing, order management, payment, logistics, customer care and supervision. In each of these operation, large volume of structure, unstructured, semi-structured data are generated by various devices and users. These data are large in size, variety of types, multiple structured, and complex in nature. The data pre-processing or the data preparation activity involves to clean, organize, process, and extract the data in a meaningful way.

### **Customer Placed Order Data**

Customers can place orders by using their smart devices in e-commerce sites. The customer order data can be classified or categorized based on the product, customers, country, region or more specifically with some custom features. These clustering and classifications may offer valuable insights, and mean-

ingful information for the business firms to formulate strategies to target profitable customers, markets, product lines, channels, and business models.

## **Big Data Methods, Techniques, And Platform Tools**

There are variety of big data methods and techniques for handing large volume of big data. Today, with the advancement of computing, internet technologies, and modelling the big data can be analyzed, extract, mine, visualize, simulate, and interpreted in a meaningful way. Artificial intelligence, the power of analytics, machine learning, deep learnings, data mining, text mining are some state-of-the art techniques to analyze large volume of big data. Similarly, there are variety of big data platform tools that can support to integrate, model, analyze, generate various big data related functionalities. The output of these big data techniques and tools can be produced as queries, reports, OLAP, and data mining for strategic business decision making.

## **Integrated Smart Cross Border E-Commerce Platform**

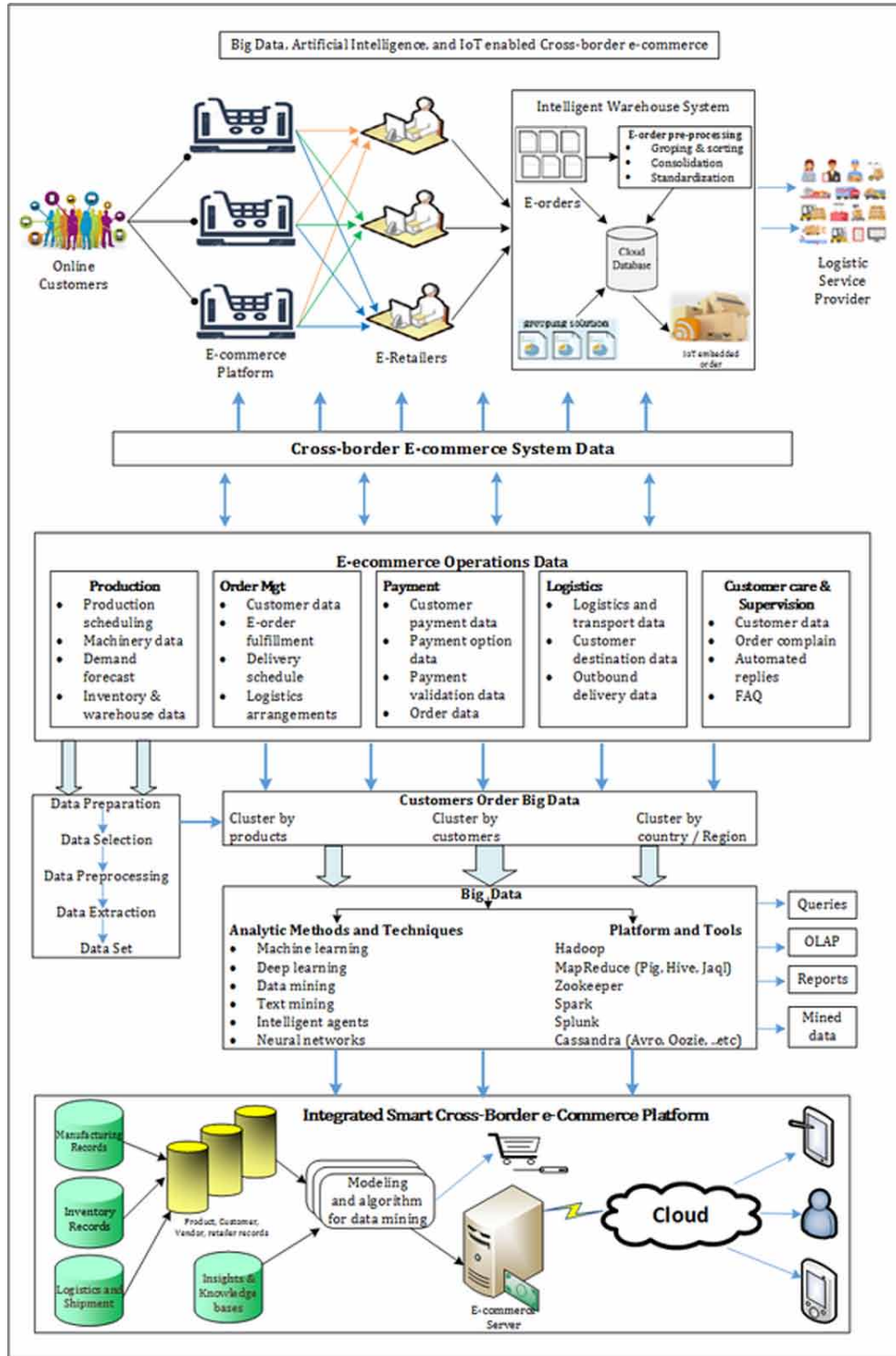
The integrated smart platform consists of different components for the smart cross-border e-commerce platform. In a typical business organization, production and manufacturing data, inventory records, and shipment and logistics data are available in the databases. Similarly, the product, customer, vendor, retailer data also stored into the databases. These databases can be optimized by employing advanced analytics, modelling, data mining, and algorithms for knowledge insights and explorations. Further, these analytics can be employed to generate e-commerce related business operations for stakeholders like suppliers, vendors, logistics partners, shipment, transportations, e-retailers. The e-commerce server provides the connectivity to the end users connected devices through the cloud infrastructure.

## **11. OPPORTUNITIES AND CHALLENGES CREATED BY BIG DATA, ARTIFICIAL INTELLIGENCE AND THE INTERNET OF THINGS FOR CROSS-BORDER E-COMMERCE**

The future of manufacturing industry will be integrated with full of human-machine integrated smart systems including digitalization, Internet of Things, customization, virtualization, collaboration, flexibility, and intelligence (B.-h. Li et al., 2017). Artificial intelligence and the high-tech cloud computing technologies will allow the logistics operation of the order processing more cost effectively (K. Leung et al., 2018). Today the chatbots with AI enabled running in the backend the machine learning and deep learning has several applications in the finance sector. For instance, financial analyst assistant, HR assistant, workflow assistant, market intelligence assistant, social media channel assistant, scheduling assistant and even it can be employed as the brand ambassador at business organization (Ravi & Kamaruddin, 2017). Similarly, the AI-enabled chatbots will check the account balance, fund transfer, settlement for utility bills, reporting the recent banking activities for their personalized customer queries (Ravi & Kamaruddin, 2017). Powered with IoT and Industry 4.0 in e-commerce and manufacturing industry, the intelligent logistics enables for flexible manufacturing, lean production, and further expansion of e-commerce (X. Li, 2018). Scholars used text mining techniques to detect the online perceived risk factors when they

**Big Data, Artificial Intelligence, and IoT enabled Cross-Border E-Commerce**

Figure 2. Proposed Conceptual Smart Integrated Cross-Border E-commerce Platform



make cross-border e-commerce purchasing decisions and measured the degree of these perceived risks (Jianping Li et al., 2019).

Similarly, the recent fast, convenient, and flexibility of market access can offer the opportunity to the early-mover exporters to get advantages than the late movers with regard to learning effects and switching costs (Deng & Wang, 2016). Researchers claimed that the language barriers, payment methods, currency of payment, tax and legal requirements and logistics and supply of products persist as the obstacles for the cross-border e-commerce (Kawa, 2017). Likewise, the consumer trust, cultural variances, logistics, online payment, and law and governance are identified as the challenges for the cross-border e-commerce (Tu & Shangguan, 2018). Similarly, conventional shopping guide systems has been became incapable to fulfill the varied needs of cross-border e-commerce shopping systems (Jiahua Li, 2019). Being a male, education, and computer knowledge with Internet Skills are found significant factors that determine the cross-border e-commerce in Spanish (Valarezo, Pérez-Amaral, Garín-Muñoz, Herguera García, et al., 2018).

The cross-border e-commerce and delivery has many complications than either the domestic markets or the conventional offline market, as it has high data asymmetry between global sellers and buyers, lack of legal execution across territories, barriers in language and culture, difficulties in logistics and transportation (Du et al., 2019; Song et al., 2019). There are ample of hurdles such as variances in duty and customs rules and tax laws in conducting business activities across cross borders (Gessner & Snodgrass, 2015). The government and regulatory agencies for instance custom clearance is a matter that are tighten across the globe (Jiahua Li, 2019). Cho and Lee (2017) studied the logistics and regulatory determinants factors that decide foreign direct purchases. Their study considered the regulatory institutions and globalization for the discussion. Long time for delivering goods and high cost for logistic to the placed order are also obstructs the growth of e-commerce (Kawa, 2017). Risk has been identified as the utmost significant restricting factor for the growth of cross-border e-commerce and that can lead to a severe losses (Du et al., 2019).

Equally, there are several factors have highlighted as the bottleneck for the development of cross-border e-commerce. For instance; the payment method has become the barrier in expanding the cross-border e-commerce (Cui et al., 2019). In designing cross-border distributed information systems for information sharing for the connected note, there are various design considerations. In architecting and modeling such systems, security, bandwidth, system integration, data integration from various sources must be taken into consideration. These kind of design requirement stage, combination of technologies such as distributed computing, distributed artificial intelligence, middleware, web services and database technology are greatly support (Luan & Zhang, 2018).

## **12. FUTURE DIRECTIONS AND PROSPECTS IN CROSS-BORDER E-COMMERCE**

The big data, IoT, artificial intelligence with Internet technologies have emerged the applications such as intelligent systems in transportation, strategic alliance, logistics and decision support in the China's e-commerce industry (X. Li, 2018). The wide use of technologies such as virtual reality and augmented reality will significantly improve the e-commerce shopping in near future (Tu & Shangguan, 2018). The future manufacturing will be in new form thus the intelligent manufacturing ecology driven by universal connection, big data, cross-border integration, self-directed intelligence, and massive innovation in product

and services (B.-h. Li et al., 2017). Powerful cross-border e-commerce platforms, efficient worldwide logistics, more secure and convenient electronic payment options, and the streamlined custom clearance are important for the success of cross-border e-commerce development (Tu & Shangguan, 2018). Further, Tu and Shangguan (2018) has identified four aspects such as the motivation from the governments, increasing number of middle class families in emerging countries, developments in technology, SMEs' readiness to adopt cross-border e-commerce.

### **13. CONCLUSION**

The e-business activities are promptly growing not only in the domestic markets but also around the globe. In Today's digitalized business world, the growth of e-businesses has brought incredible variations not only in customers' shopping behaviors, but also in order processing, logistics, delivery, and customer care. The big data, artificial intelligence, and IoT with Internet technologies have greatly emerged in cross-border e-commerce. Similarly, the wide range applications of technologies such as big data, artificial intelligence and Internet of things in Cross-Border e-commerce have made various implications for industry leaders and practitioners. This chapter discusses the role of big data, artificial intelligence, and IoT systematically in the cross-border e-commerce. In addition, a conceptually designed smart integrated cross-border e-commerce platform is also proposed by integrated various elements in this e-commerce context.

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# Chapter 12

## Cross–Border E–Commerce and Small Medium Enterprises (SMEs)

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### ABSTRACT

*The emergence of cross-border e-commerce (CBE) has its relevance in this digital age and thus brings about the discussion regarding the challenges and potentials of CBE on the local business especially small medium enterprises (SMEs). The wide availability of technology has made CBE possible across geographical, political, and cultural borders. It is a new driving force to promote the upgrading of industrial structure. The method used throughout the research is independent reviews from various studies and articles. Despite the dynamic development of CBE, communication in other languages, the form of payment, currency, legal, and tax conditions, as well as the delivery of products remain barriers to the CBE. The findings of the study show that there are four major drivers affecting CBE performance. These are economics, politics and policies, socio-cultural, and technology.*

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## **1. INTRODUCTION**

Over the years, the advancement of smart mobile devices (SMD) with a high speed of broadband Internet connection has been accelerating the growth of electronic commerce (E-Commerce). Due to the growth of E-Commerce, it had altered our society. Currently, there are two billion people worldwide using the Internet reached and still growing (Terzi, 2011). Most economic activities are now using the Internet to conduct their business on an online platform in order to get all the potential customers. China's electronic commerce has risen to 10.5 trillion Yuan in the first half of 2016 which makes up 30% of GDP base on the China Electronic Commerce Research Center report (Wang & Lee, 2017). Originally, eBay has more than 90 million active users where the users could buy and sell their products in this online marketplace. This has later created the CBEC which marks the beginning of a new era in international trade history where the international trade activity can take place on the Internet.

Why do sellers sell goods online? It reaches as many customers as they can and provides the part of the world something that the country or business brand has to offer. The idea behind this has made customers excited to buy goods online as for the price and quality provided is decent and at the right price. The target audience for goods usually is of all ages though there is sometimes a technological exclusion where not everyone knows how to use the Web/Apps as they might be too young or too old to know what online shopping is (Anshari et al., 2019a; Razzaq et.al. 2018; Ahad et.la. 2017; Almunawar & Anshari, 2014).

The focus of this book chapter is to investigate all the potential and challenges of CBEC, especially for small businesses. The term of Cross Border E-Commerce (CBEC), which is also known as international E-Commerce is considered to be one of the successful business channels (Ding, Huo, & Campos, 2017). The number of online shoppers across the borders has been increased over the years with the convenience of advanced technology, dominant policy, and greater demand (Polak et.al. 2019; Ahad & Anshari, 2017). Then, based on the justification of CBEC, it integrates a broad literature review of the meaning, potentials, benefits, and limitations facing by CBEC. Furthermore, the discussion section analyzes and evaluates the solutions to the problems faced by small businesses. The recommendation section elaborates on the suggestions of the improvements towards the CBEC to overcome the obstacles to its success. In conclusion, this report concludes the successfulness of the ever-growing international business chain across the country.

## **2. E-COMMERCE AND CROSS BORDER E-COMMERCE**

Since the users and applications expand and diversify internationally as the Internet evolves. There has been a steady increase in the number of Internet users around the world and this development has provided the impetus and incentives for global e-commerce. There are 4.1 billion Internet users in the world as of December 2018. This is contrasted with 3.9 billion Internet clients in mid-2018 and about 3.7 billion Internet clients in late 2017 (Internet World Statistic, 2018). Globally the number of Internet users rose from just 413 million in 2000 to over 3.4 billion in 2016 (Roser et. al., 2020). Furthermore, the Internet has changed marketing, advertising, and promotional practices. The literature describes the Internet as an essential part of the process of development (Kole, 2000). It means that E-commerce was about \$3.45 trillion in deals in 2019 (hostingfacts, 2018). E-commerce is the fastest-growing area in the digital economy, which shortens the distance between buyers and sellers. When online deals and

## ***Cross-Border E-Commerce and Small Medium Enterprises (SMEs)***

transactions are conducted in different areas or countries by using information and communication technology (ICT), it is called cross-border e-commerce (CBEC). This paper focuses on the challenges and potentials of CBEC.

### **E-Commerce**

The rapid development of the Internet and thus also E-Commerce, has created new distribution channels for many trading, service, and manufacturing companies leading to economic diversification and competitiveness. It has significant potential that may contribute to economic growth and employment. E-Commerce is commonly known as a term used to refer to electronic trading activities, such as sales, purchase, distribution, marketing activities for goods and services products such as electronic technologies used are devices such as television, the Internet, computer networks and more where transactions conducted in e-commerce such as conventional transactions can occur between fellow businessmen or between businessmen and their customers. The most popular example of E-Commerce is selling and buying goods over the internet. Sellers will create an online store or store that is used as a storefront of their product. Buyers will then search for and purchase their products with just a click. E-Commerce allows consumers to exchange goods or services electronically without the hassle of time and distance. It is also used to compare the prices of desired goods or services available on the internet and keeping up to date with the latest products or services offered (Khan, 2016).

E-Commerce has a significant impact on trade in services. The most relevant change in the trade in services is the ability of electronic commerce and information technology to make non-tradable services into tradable service. Activities that were previously non-tradable like research and development, computing, inventory management, quality control, accounting, personnel management, marketing, advertising, and distribution will be traded through the use of electronic commerce. All of that required an acceptable quality, speed, and cost of communication between the buyer and seller (Anshari et al., 2019b).

Jeff Bezos was the first American who started e-commerce. He started selling his products over the internet in 1994 and his website, Amazon was the first online shopping website opened to the public. The history of e-commerce is somehow close with the history of the internet, particularly the internet shopping was introduced in 1991 and e-commerce started in 1994 by Jeff Bezos. In 1999, India's first e-commerce was built and the founder was Vaitheeswaran who started the e-commerce website called Fabmart. A few years after, Vaitheeswaran decided to rebranded Fabmart into Indiaplaza. However, the sites had to shut down in 2013 due to competitive reasons, Bansals, one of the online websites that enter the market with their convenient prices had washed away Indiaplaza (Ranipeta, 2017). Although e-commerce is the fastest-growing retail channel by far, there are many challenges that constrain its growth. The challenges are, law and regulations in each country may make difficult for buyers and sellers, different cultures may difficult for sellers to sell their product in another country and lack trust in consumers toward Cross Border E-Commerce (CBEC).

### **Cross Border E-Commerce**

When it comes to CBEC, the term generally defines international online trade. It entails the sale or purchase of products via online shops across national borders. Buyer and seller are not located in the same country and are often not ruled by the same jurisdiction, use different currencies, and speak different languages. The differences between these two are, traditional e-commerce is only the act of displaying

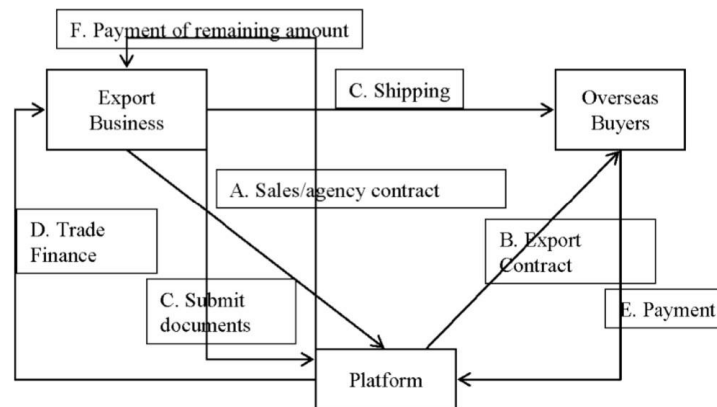
product's information through Internet platform and the process of importing and exporting goods are through the general trade where the transactions and payment link are not completed online. On the other hand, the terms CBEC and change greatly as it no longer means the "foreign trade e-commerce". It is where the e-commerce platform is used as beyond the commodity online-showroom. CBEC aid buyers and sellers to make transactions and complete payments that link directly to the e-commerce platform. Hence, CBEC is an upgrade version of e-commerce because it transforms from an information display provider to an online transaction provider. Therefore, CBEC is constituted of the international trade where it carries out the transactions and complete payment through an e-commerce platform and finally distributes the goods through the cross-border logistics (Bai & Wang, 2019). CBEC was formed after the advancement of E-Commerce throughout the world where it can connect to other countries, where it can also trade be dealt with online with one country to another. Not only do that, with the vastness of social media such as where online sellers through social media can also trade between countries. CBEC has affected how we conduct our purchasing habit, it shapes our product preferences. It promotes online transactions and literally reduces bureaucracy and marketing costs as well as improves transportation platforms. International CBEC which can be in a wide range of services, financial, legal, telecommunications, and customized software will be increasingly carried out by the electronic devices.

### **3. CROSS-BORDER E-COMMERCE FINANCING MODEL**

The reasons why businesses use CBEC are because of the low information expenses and the subsequent more extensive geographical reach that may bring about expanded cost rivalry among providers and expanded assortment of goods accessible. However, there are obstacles to e-commerce such as a lacking number of online shops ready to sell over the border, deficient installment and package conveyance systems, and an excessive number of instances of misuse and debates that are hard to settle. Another impediment for CBEC is new sources of trade costs may develop that are explicit to online cross border exchanges.

CBEC can be considered as a business ecosystem, which is a network of an organization including suppliers, customers, government agencies, competitors, members of the core business, distributors, and other stakeholders. It has reshaped the economy, providing remarkable value to its members and bringing a diverse set of capabilities and innovation to the solution quickly. Xue et al. (2016) suggest that high-tech CBEC as a platform with integrated services (payment, logistics, credit, product quality insurance) are the best means for developing CBEC. A recent International Post Corporation (2018) survey reported Amazon as the first marketplace choice (25% of CBEC digital buyers globally), followed by eBay (18%) and AliExpress (14%). 56% of all items sold cross-border was bought on Alibaba, Amazon or eBay, while 34% of parcels were purchased from China, making that country the first foreign source e-market for the majority of EU countries (exceptions are Ireland, Austria, Luxembourg, Cyprus, Belgium, for the reasons already explained). The financing of cross-border e-commerce refers to the export through credit, collection, and letters of credit. The model of financing of cross-border e-commerce is shown in Figure 1 (Terzi, 2016).

*Figure 1. Financing of cross-border e-commerce model*



#### **4. CHALLENGES OF CROSS BORDER E-COMMERCE**

Even though the CBEC has potentials but there are also challenges and disadvantages. According to Savrul et.al (2014), W. (2016), there are six categories of barriers in CBEC. Firstly, the cultural difference will be the first thing that will be encounter by the flows of information and goods once it crosses the borders. One of them is the difference in language in which the issue of miscommunication may arise. This issue will alter the way the goods are distributed in that market which then hinders the consumption of consumers from abroad. Second, marketing is common for CBEC to struggle in doing market evaluation and research of a certain region that is caused by insufficient information. These detriment brands are not well-known as they have to strategize their branding and marketing strategy which costs a lot of money. As an example were promoting their products through multi-channel; social media and TV broadcast. Third, Lack of trust - due to the rising production of fake and counterfeit goods, there is a lack of trust towards CBEC sellers. Also, the popularity and profitability of some commodities resulted in the presence of high competition among the CBEC sellers. Forth, Law and Regulation – the different laws and regulations between countries restrict the capability of cross-border businesses such as data privacy and return policy. Furthermore, purchasing goods from other countries comes with their duties such as the high tariffs and VAT thresholds. Often this is the thing that reduces the consumer’s intention to purchase a cross-border good as they have to take into account the total cost after adding those values. Fifth, Payment - several issues are surrounding the payment for cross border e-commerce, for example, the complex conversion system, exchange rate fluctuation, unavailability to use the small currency, and additional depreciation. This makes it harder for consumers to do CBEC as it increases the total cost they have to pay. Moreover, an ineffective surveillance system will cause losses to the cross border e-commerce retailers due to frauds whereas customers worry about the safety of their personal information and the misuse of payment data. Finally, Logistics - for the delivery of goods goes smoothly, there are several things to take note of under logistics. One of them is the logistics infrastructure as in some countries there are underdeveloped highways, railways as well as warehouses that will delay the delivery of certain products. Moreover, some custom systems are outdated, hence, the extra costs acquired can make the whole procedure of cross border e-commerce retailers to be unfeasible. Also, other problems that can reduce the quality of delivering items are the unavailability of citing specific

requirements from different countries such as the typing error in addressing systems. Thus, it makes it harder to track online orders of international transport due to the lack of transparency and the peculiar information systems. This inefficient process of delivering goods may result in customer dissatisfaction (Low & Anshari, 2013).

The problem is more noticeable in developing countries. Most SMEs that start out with electronic commerce or have information technologies do not use it properly. This is because they often do not realize the potential that electronic commerce can do to enrich their businesses. Another issue is that most developing countries have very limited technology literacy which can cause a shortage of skilled workers in the SME. This can cause complications for them to use information technology in their business. In some cases where SMEs are willing to use information technology, there is not enough infrastructure in the developing countries to use electronic commerce. Yousefi (2015) states that the internet and information and communication technology (ICT) related infrastructure could reduce the time, distance, and information in the marketplace. Without these infrastructures, it will be more difficult for SME to properly use information technology. The next issue that Savrul et.al (2014) mention is the cost for internet connection, adequate hardware/software, set-up, and maintenance may discourage some SMEs because of the initial investment to adopt a new technology which is expensive for them. Next is the lack of trust to use the internet to make online transactions. The consumers can be reluctant to use the internet to conduct transactions with the SME due to the uncertainty of SMEs' return policy and use of data. The EU also reveals the challenge that SME encounter. Base on the EU report, the SME operation in electronic commerce can be limited if their goods or services are not suitable for electronic commerce. Furthermore, the size of the SME can create problems related to its logistics and payments. The ICT security and legal framework can also obstruct the SME from getting into electronic commerce.

The growth of CBEC is significantly increasing every year and it is the fastest-growing retail channel but keeping up with the market trends and the advanced technology is very important in order to retain the value of the business. Strategic planning and market opportunities play a vital role in CBEC and even though with the growing rates of CBEC all over the countries. There are also barriers that avoid CBEC to step forward. Firstly, logistic, transportation and shipping cost becomes extremely pivotal for every business that intends to produce their business across the countries, the barriers include undependable and longer transit times, both domestic and foreign customers prefer their products to be shipped and delivered on time as stated on the receipts, without having to postponed or delay. Therefore, the business should set proper schedule for shipping and delivery time such as ship the parcels a day before the actual day of the shipment to avoid unforeseeable events during the shipment and the disappointment of their consumers within or outside the borders.

Furthermore, custom bottlenecks are also one of the main reasons that constrained the growth of CBEC, due to the improper and uncertainty scheduled formed by the dissonant customs can lead to the delay of the shipper items. To avoid this issue, the company should step up by implementing innovative technology to help the customs work more efficiently by setting accurate scheduled for the delivery of shipper items. The difficulty in return policy process also affects CBEC because customers prefer to track their items easily with full return policies and to prevent this from happening, online shopping websites should adapt reliable return policy processes to prevent customer's dissatisfactory. The uncertainty in international shipping cost often complicated by taxes and customs charges cause shoppers to ensure the final total price of the items, and this uncertainty discourages purchasing.

The best way to prevent CBEC from charging the tax or any other charges, including international shipping during the final process is by stating it as part of the terms and conditions before shoppers de-



cided to click the buy button. Similarly, the inconveniences of international shipping include the delivery times, which makes up of customers are not allowed to change their delivery times or locations if the items are already being shipped causing the postponement of their items. A company should hire flexible deliverer to help customers either deliver the items to their place, or customers may pick up the items at certain places. For example, Zalora is one of the successful online shopping sites in Asia whereas the company hired the second largest courier (S.F. Express) to provide express delivery to the customers by giving the customer several delivery options, either by fixed delivery or pick up at a certain point.

In terms of shipping time and cost, keeping the offer simple with choices of shipping option to allow better service, a business should improve the deal by adding well-priced shipping alternatives as to the first option of express delivery. It is encouraged to suggest faster delivery and shipping options for those keen or desperate to pay for the convenience and perhaps offer discounts or free shipping for those spending over a certain amount. Generally, the law of demand speaking as “higher prices leads to lower demand” and “lower price leads to high demand” and by applying that to e-commerce, lower-priced offer leads to more customer searching and buying the products through the Web/Apps. Suggesting loyalty rewards towards loyal followers through CBEC is one of the best marketing ways because not only the business gained customers but the company also gained some sales. For instance, creating a loyalty card can give the company new customers to produce the same amount of profit as one single customer.

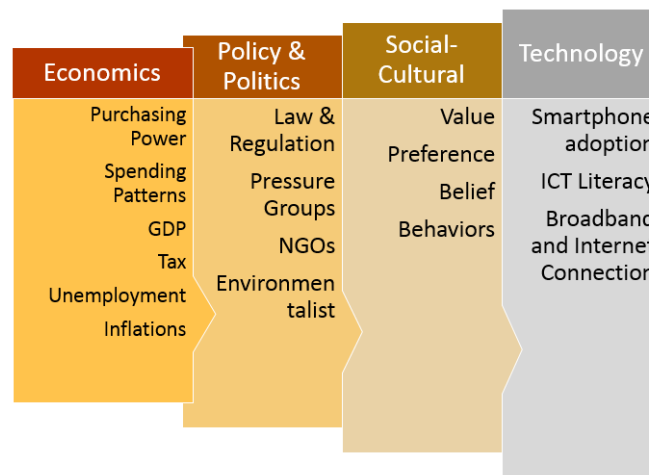
## **5. FACTORS OF AFFECTING CROSS BORDER E-COMMERCE PERFORMANCE**

Furthermore, the barriers mentioned above are not the only problems affecting CBEC but there are other factors affecting CBEC that business does not have control over these forces. There are six common factors affecting CBEC and the most common factor is economic factors, which affect customer’s purchasing power and spending patterns including GDP, Tax, unemployment, inflation, and disposable income. For instance, a company should consider exporting its goods to a specific country before having examined the willingness of consumers would spend. The second factor is political or known as the role of government, which is also affecting CBEC because any decisions the businesses made are strongly influenced and affected by the political environment such as laws, government agencies and pressure groups as the law cover the environmental protection including the safety and regulations of the products and not only security but the pricing also affected which involves the firm to adjust certain features in order to ship the items to the specific country. For example, in Brunei Darussalam, one of the rules and regulations of the law includes the prohibited or forbidden of alcohol, and any items shipped from outside the country have to go through under inspection, this is because to prevent items coming into the border are not the items that have been prohibited. The third factor is socio-cultural which is any market entering the specific country is affecting the society’s values, preferences, and behavior (Anshari, Alas, & Sulaiman, 2019). Many cultural mistakes are due to the failure of businesses in trying to familiarize and understand foreign cultures such as online websites selling a variety of inappropriate clothes to some countries without realizing their cultures and religion. This common issue could affect any online business or e-commerce, while the firms are not always responsible for the way their product is market but rather the employees who are responsible for managing the online store (Hermawan et.al, 2016).

To prevent this issue from happening, the government should act by applying rules and regulations for CBEC to understand and accept that certain products or items are not allowed to be promoted in the region’s Web/Apps due to such a product could carry a negative meaning in the culture. The fourth fac-

tor is the use of technology, emergence of new technologies replacing the older one could affect CBEC. As CBEC requires the Internet and the use of technologies in order for the business to operate and for merchants to sell their product to the customer, without technology it is impossible to have online business operating and even the exchange information is not available. When CBEC fails to adapt to the new market trend and new product, it could lead to market failure. It is important for CBEC to keep up with the market trend to prevent closure or bankruptcy in the future. Figure 2 below portrays the fourth drivers in affecting CBEC’s performance.

*Figure 2. Factors affecting CBEC’s performance*



In addition, competitive factors are also one of the few factors affecting CBEC. Competitive forces refer to having similar product brands in the same market industry. Nowadays, there are many companies selling the same products at the same price through e-commerce and when the marketers fail to adapt their effective strategies, they may lose to another competitor. To overcome this problem, the marketer should conduct market research and survey on consumers and other competitors before stating or conclude the final price on the website. Michael Porter defined two ways to gain a competitive advantage, first is by cost advantage, and secondly is a differentiation advantage. Therefore, offering the client a better and greater value can help any CBEC to gain benefits over the competitors by selling different products rather than selling similar products with affordable prices.

Finally, the sixth factor is legal and regulatory forces, which influence the trade agreements between businesses and the governments. CBEC should understand the rules and conditions of selling in certain countries to prevent many businesses from disobeying the country’s rules. In some countries, the Federal Trade Commission (FTC) monitors the rules of advertising including deceptive labeling, false or misleading information and it is essential for the company to follow the rules.

## **6. CROSS BORDER E-COMMERCE AND SMES**

CBEC can be an advantage to small businesses that use it (Savrul et.al. 2014). CBEC has the potential to lead to increased business productivity gains. Terzi (2011) states that collecting data is a costly activity since it involves getting information across the national border which can be a barrier to trade. Savrul et.al (2014) state that it can lead the business to a more efficient process and cost savings especially when it is a business to business relations. These technologies allow common business processes such as distribution, sales, after-sales service, and inventory management to be automation. Their various ways for the CBEC to be useful to the small business especially to small and medium enterprises (SMEs). Firstly, it can help to facilitate SMEs with various jobs like accessing it, artisans, and itself to the world market, promoting and developing tourism of a developing country in a global scale and marketing agriculture and tropical product in the global market (Musa & Idris, 2020; Musa et.al, 2020; (Almunawar, Anshari, & Susanto, 2013). Secondly, it provides a way for the business in the poorer countries to enter the business to B2B to government supply chains. Lastly, it can assist the service in providing business in developing countries by allowing them to operate more efficiently and directly to their customer globally.

## **7. BENEFITS FOR SMES**

The result of these actions has provided benefits for SMEs. The first benefit of these actions is it reduces the cost of a transaction, delivery cost, advertisement, and promotion. The next benefit is the removal of the physical limitation of time and space along which had also speed up the communication between a buyer and seller. The last benefit that these actions have to cause is the minimization of the obstacle that appears during transportation. SME can vary the way it uses CBEC. The start-ups have invented new ways of creating value-added, new services, and new business models. SME can use the Internet to develop its own CBEC strategies or joining any leading digital marketplace in the regions to expand its business internationally and increasing its effectiveness. In addition, there are groups of small firms are entering into electronic partnerships with larger firms which are their customers or supplies or with industry-wide associations. This could also expand their business and increase their effectiveness as a business. For many SMEs in developing countries, it is important to take advantage of the opportunity that CBEC created. Those opportunities can be either it in form of tapping into a bigger clientele, a new and often distant market, or global value chain. CBEC has allowed developing countries to compete in international trade but they will need the government to help to reach the full potential of its benefits by creating business environments that harness the power of the internet. Based on the literature review, it appears that either small business or the country international trade is similar when receiving the effect of using CBEC. Both of them have the potential to be more effective and efficient in their field while getting the opportunity to grow by using CBEC to thank the internet and the information and communication technology (ICT). Both of them also can receive the various effects of CBEC depend on whether they are in a developed country or a developing country. The only difference between them is that the effect of small businesses using CBEC is a smaller-scale version of the effect of international trade using CBEC. So, any suggestion that maximizes the potential and minimizes the challenge of CBEC on either small business or international trade will affect the other.

## **8. RECOMMENDATIONS**

The first suggestion is to create a proper CBEC environment. CBEC need a reliable Internet connection and ICT infrastructure to be a proper CBEC environment. This could benefit both small businesses and the country international trade that wanted to use CBEC to their advantage especially in the developing countries since it often lacks the proper infrastructure for CBEC. For the CBEC environment that is from a developed country, they need to take the opportunity to make the environment more effective and efficient through innovation in electronic commerce. This could maximize the potential of CBEC. The second suggestion is to encourage and support the use of CBEC by using a workshop and policies. Some countries and small businesses seem to be unfamiliar or do not know CBEC whether it refers to how to use it or the benefit of using it. So if there is a learning workshop where the country and small business will learn how to use it and also learn about its benefit, they will be able to use it more often in their field. Another way is to create a policy that supports the use of CBEC. For example, there could be a policy that makes transporting non-digital products easier and cheaper. There could also be a policy where CBEC is encouraged to use especially on a global scale. To overcome these challenges, there are few solutions which able to solve the problems. It requires support from the government, merchants need to put small characteristics into account and need service provider's assistance. The government role is crucial for CBEC as they have the ability to solve all problems which have been stated through investment in logistics' infrastructure, combating counterfeit products, and positive legislation for facilitating custom's clearance. Other than that, small characteristic is very important which sellers need to put it into consideration when designing CBEC operations. Merchants need to add small language in their Web/Apps so that the customers can easily access and buy the products. In addition, sellers need to extend online payment options in order to satisfy customers' needs. Service provider's assistances enable sellers to access an international market easily through payment service, market service, and logistic service.

## **9. CONCLUSION**

Cross-Border E-Commerce has created potential and challenges for small business and international trade. Both small business and international trade receive the similar effects of using CBEC but the CBEC effect on small business is a smaller scale version of CBEC effect on international trade. To maximize CBEC potential while minimizing its challenge is to create a proper environment for it to be accessible and is to encourage and support the use of CBEC by using a workshop and policy in order for CBEC to be used more. These suggestions could lead a small business to its full potential when using CBEC.

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# Chapter 13

## Understanding the Current Research of Cross– Border E–Commerce: A Systematic Literature Review

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### **ABSTRACT**

*Companies face more challenges when their businesses enter into the global market, especially in an online environment. This situation is also true due to the different cultures, laws, regulations, habits, languages, technological levels, and even infrastructures for any firm that plans to utilize CBEC for gaining economic benefits. This study applies a systematic review method to present a literature review on the topic of CBEC. By reviewing 26 influential journal articles, this study provides details for the features, the methodologies, and the main themes and findings of selected articles. In the end, an integrated research framework on CBEC is proposed. This framework not only contains the major research focus of CBEC researches, but also includes the overall influential factors, the research gaps, and future research foci for CBEC. The last part of this chapter summarizes the theoretical contributions of the work, the practical implications, and the limitations of CBEC researches.*

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## **INTRODUCTION**

Since the deepening of economic globalization and commerce electronization, the development of CBEC has become an irreversible trend. Under the tide of globalization and innovation, electronic global trade will usher in new opportunities for development. According to a report from eMarketer (2017), the global e-commerce will grow at twice the speed of domestic e-commerce by 2020, and it is estimated that the worldwide B2C CBEC will reach \$424 billion by 2021. In recent times, every country competes for this massive global market. In China where online buyers are growing with high penetration rates, leading CBEC companies such as AliExpress and DHgate that attract price-sensitive buyers around the globe, dominate CBEC in Asia. In 2018, China has achieved the total value of imports and exports of 134.7 billion RMB (19.9 billion dollars) with a 50% growth rate comparing to 2017 (Ebrun, 2019). In addition, China proposed the “Electronic Commerce Law” in 2018 which highlighted this development focus. In the European Union, Single Euro Payments Area have simplified bank transfers in euros, and new regulations which prevent geo-blocking to stimulate cross-border purchase. However, vendors in North America are least likely to have cross-border trade (about 62%), and the consumers in Canada buying on foreign sites are more common than the consumers in the US. In Latin America, CBEC is hindered by low credit card usage and a lack of strong infrastructure and delivery systems (eMarketer, 2018). Thus, China holds the greatest potential to transcend the USA, UK, Germany, France, and Japan in becoming the biggest cross-border market.

Previous research focuses on factors advancing or impeding the growth of CBEC (Farhoomand et al., 2000; Farhoomand and McCauley, 2001). Additionally, factors focusing on promoting buyer’s intention to use have been uncovered, such as perceived value, lower price (Mou et al., 2020a), psychological distance (Cui et al., 2020), quality of e-marketplace and alternative website (Aulkemeier et al., 2017; Mou et al., 2020b), product description (Mou et al., 2020c) good service (Lin et al., 2018), and fast delivery (Kim et al., 2017). Further, the topics of consumer feedback (Mou et al., 2019) and the success of CBEC from seller’s perspective (Cui et al., 2019) have also been studied.

CBEC has been expanding rapidly for more than 20 years, and the users of CBEC are also increasing substantially (Alhorr et al., 2010). However, CBEC research began to grow in the academic field in the last few years. As a result, knowledge associated with CBEC is insufficient, and the research framework, structure, and classification are undeveloped. Thus, most theories, research methods, and even results of e-commerce researches are expected to be transferred to CBEC. Although there are several definitions of CBEC, to comprehensively review of it, we define CBEC as transactions among different countries or customs areas through an e-commerce platform and cross-border logistics (Tmogroup, 2015). In terms of different countries or customs areas, the first difference comparing to domestic e-commerce is that CBEC involves different laws, regulations, cultures, and languages which pose complexity in communication, online payment, customs clearance, and legal issues (Farhoomand et al., 2000). In a similar vein, cross-border logistics also involves more processes than local logistics, such as laws and regulations, technology, cross-border payments, and electronic customs clearance (Ai et al., 2016). Therefore, researches focusing on CBEC do have significant contributions to the advance of global trade compared to domestic e-commerce.

As more and more influential papers start emerging due to the specific knowledge and experience required to face all the challenges raised behind the practical global business, CBES has become particularly a field of interest in the academic community. Nevertheless, the research of CBEC is still at the initial stage with relatively underdeveloped conclusions from various aspects and without a clear



## ***Understanding the Current Research of Cross-Border E-Commerce***

knowledge flow or research structures. Moreover, there is not enough literature review about CBEC so far. Therefore, a comprehensive review is imperative to summarize the current knowledge about CBEC. Specifically, this study aims to provide a research framework and main themes for a better classification.

to identify the key influential factors for making better practical applications.

to predict future research trends for academic investigation.

to propose the methods and ways for bridging the current gaps.

To achieve these goals, we firstly analyzed each selected CBEC article to obtain the data in regard to the authors, year, country, journal, research method, and key findings. According to the year and key findings, we generated a knowledge flow table pointing out the research focus along with time, and also give us some ideas for future research prediction. Through analyzing all selected articles, we can obtain the research themes and key elements that promote or inhibit the progress of CBEC. At last, we used the information found in this review to provide an overall research framework for the current status and future studies of CBEC.

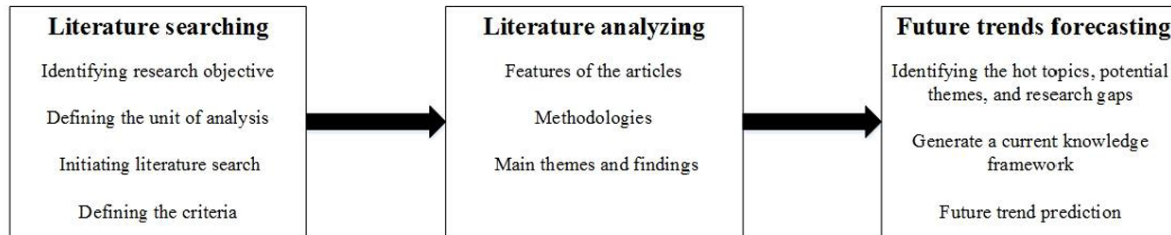
This research is organized as follows. Firstly, we present our research method for three-stage systematic literature research in detail. Secondly, the methodologies, the results of the features of articles, and main themes and findings are described. Thirdly, through the information reviewed above, we discuss all current research gaps and provide some possible solutions for bridging these gaps with future research predictions. Finally, we conclude our paper with the contributions of this research and recommendations for future works.

## **METHOD**

A systematic literature review is appropriate for learning the scopes, understanding the knowledge structure and predicting the future trends of an academic field (Briner and Walshe, 2014). Compared to a traditional literature review, a systematic literature review focuses more on specific and practical questions (Kwok et al., 2017). For this point, we are aiming to summarize the research focus of overall influential literature and integrate the current knowledge about CBEC. Since the rapid development of CBEC in recent years, especially in practical aspects rather than an academic field, a systematic literature review is imperative to direct future academic research for assisting the long-term stable development of electronic global economics. On the other hand, unlike traditional literature review, a systematic literature review requires a rigorous and sequential set of steps that can generate a more comprehensive and structural thematic framework of CBEC from our analysis. In addition, these processes can easily be replicated to update the research findings in the future when the CBEC research field becomes mature. Nowadays, this method has been widely applied by scholars to review various academic fields, such as social media research (Alalwan et al., 2017; Ahmed et al., 2019), hospitality and tourism online review (Hlee et al., 2018; Kwok et al. 2017), social commerce (Han et al., 2018); mobile marketing (Ström et al., 2014), online services (Ladhari, 2017), and CBEC logistics of China (Giuffrida et al. 2017). To gain more insights, this paper adopts a systematic literature review method to analyze literature in the CBEC field. The processes of the systematic literature review can be separated into 3 phases, including literature searching, literature analyzing, and future trends forecasting to summarize current knowledge

of CBEC researches more precisely (Giuffrida et al., 2017). The overall procedure of this research is depicted in Figure 1, and each step in detail is described as follows.

*Figure 1. Process of systemic literature review (adapted from Giuffrida et al., 2017)*



## **Phase 1: Literature Searching**

The main purpose of phase 1 is collecting suitable papers for subsequent processes. For phase 1, the collections must be relevant, complete, and influential towards our reviewing field in terms of CBEC researches. According to Srivastava (2007), phase 1 is conducted through the following steps:

First, identifying the research objective in the introduction, this paper aims to summarize and integrate the current knowledge of CBEC research. Thus, any research associated with CBEC was selected as the focus of this paper. The searching period was defined as from January 1995 (the first year of database core collection) to December 2018.

Second, defining the unit of analysis, the unit of analysis was defined as a single scientific paper published in an international peer-reviewed journal. This systematic literature review did not cover studies from conference proceedings. There were two reasons for this omission. Firstly, privileging completed researches over preliminary findings can avoid the disturbance from any insignificant or immature results. Secondly, this paper was the initial review of CBEC researches which was lacking in previous studies; thus, the most important papers need to be analyzed to generate a foundation or a framework for future expansion with fragmentary knowledge.

Third, initiating a literature search, this step requires two selections which include search keywords and search databases. As presenting the first literature review on CBEC researches, we combined the keywords from e-commerce review researches (e.g., Vaithianathan, 2010) and cross-border review researches (e.g., Giuffrida et al., 2017) to generate our search keywords. As a result, some keywords were selected for obtaining quality papers from databases. These keywords were “cross-border”, “global”, “electronic commerce”, “electronic business”, “e-commerce”, and “e-business” and “Web of Science” were used for literature searching of this study. “Web of Science” is one of the most well-known and outstanding up-to-date academic database websites. With the core collection of this database, high-quality papers can be easily obtained. Papers contain every possible combination of above keywords in their titles, author keywords, and abstracts were retrieved from the databases.

Fourth, defining the criteria, different combinations of search keywords resulted in a tremendous number of papers shown in the initial search. To obtain the target papers without any repetition and ir-

## ***Understanding the Current Research of Cross-Border E-Commerce***

relevance, inclusion and exclusion criteria need to be defined. According to the guidelines of systematic review methodology (Sussman and Siegal, 2003), the inclusion criteria were the following: (i) CBEC is the main research focus and purpose rather than a research background; (ii) Papers that published in academic journals. The exclusion process was also conducted to refine the samples of this study: (i) Papers focusing on the law and regulations of CBEC; (ii) Incomplete papers and short papers without explicit conclusion; (iii) Papers focusing on e-commerce from a global perspective such as data was collected in a specific country. All the selected papers were initially checked in order to evaluate the worthiness of further analysis. As a result, 26 studies were selected from the literature review.

### **Phase 2: Literature Analysis**

In this phase, the selected papers were carefully analyzed by the authors. As recommended by Giuffrida et al. (2017), we included 3 analytic dimensions into our literature review, which are features of the article (i.e., authors, year of publication, countries, and journal), methodologies, and main themes and findings. We displayed all the information mentioned above into one single table to provide a general overview of all selected papers and then summarized the results for each dimension.

### **Phase 3: Future Trends Forecasting**

The last phase is the key section of a systematic literature review, it discusses the main findings through reviewing the selected papers, and reveals the underlying findings from papers analysis to show where this academic field should go. In this phase, identification of the hot topics, potential themes, and research gaps is the first priority. This then follows a process of synthesizing these findings to generate a current knowledge framework and a future trend prediction contributing to CBEC research. Finally, we also illustrate the limitations of the current study that need to be supplemented in the future.

## **RESULTS OF THE LITERATURE REVIEW**

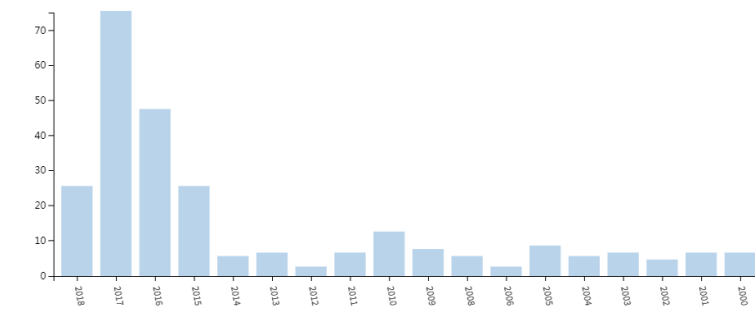
### **Features of Articles**

The general information of the literature review is reported in the Appendix for a convenient overview. All selected articles about CBEC were listed chronologically in order to show the knowledge structure of the topic over time.

Most of these papers were published in 2010 (77%). 50% of these papers are recent publications of the last two years. Given this, it seems that CBEC research is still in its early stages of formulation and conceptualization. This result may be biased by the insufficiency of the samples, thus, we also examined the whole samples of 252 articles including the conference papers and books as illustrated in Figure 2. This bar chart reveals the same information for the initial stage of the research in CBEC, however with a slightly early shift from 2015. The academic researches show a lagged development comparing to practical business. World-widely both China and the USA are the current leaders in the B2C and C2C e-commerce research (Lin et al., 2018). For China, according to a report from CECRC (2017), the overall transaction volume of China's import and export e-commerce was 3.15 trillion RMB in 2013, with a growth rate of 50 percent. This represented 12.2 percent of China's total import and export trade volume

in the same year. During 2012 and 2013, the governments of many pilot Chinese cities had approved institutional support on CBEC development (Huo et al., 2018). These economic bursts in the CBEC industry triggered a wave of academic researches. Moreover, this upgrowing trend was still emerging. It was estimated that the transaction volume would grow to 8.8 trillion RMB by 2018 (iiMedia Research, 2017) and reach to 12 trillion RMB by 2020, contributing to around 37.6 percent of China's total import and export trade volume, with over a billion customers (AliResearch, 2016). All these phenomena point that the dramatical research fever of CBEC was starting in 2015, and will continually rise up in the future.

Figure 2. Number of published papers from 2000 to 2018

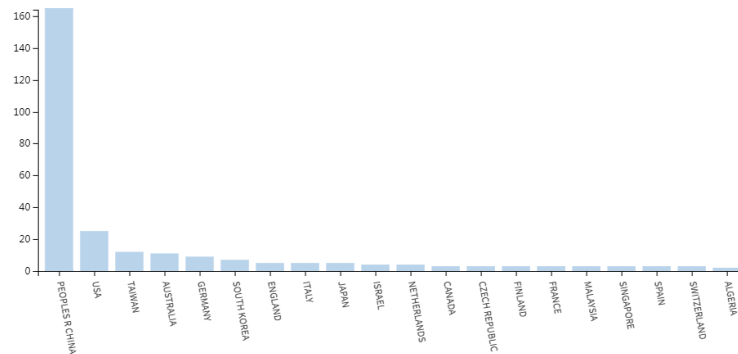


Then, we checked authors with the most contribution of these 26 core journal papers, but the result is not significant due to the lack of common authors among different papers. This is because the researches in CBEC are still immature with unclear knowledge structural and research branches. Therefore, we moved our attention to the countries of contribution. Appendix shows that China contributes the most in CBEC research with 13 papers, and the USA ranks second with 5 papers. Applying the same process of the year of publication in analysis, we used the whole 252 samples to overcome the data deficiencies. The bar chart displayed in Figure 3 shows the same information. The USA and China are the world leaders in CBEC development. Since 2014, China has surpassed the USA to become the largest country in CBEC transaction volume (Ecommerce Foundation, 2015). In addition, Asia will become the CBEC center, with 40% of the world's total CBEC revenues. Then reference should be on top by 2025 (Cho and Lee, 2017).

## Methodologies of Articles

There are several methods adopted in studying CBEC research. The most prevalent one is the empirical study shown in Table 1. Among these empirical studies, structural equation modeling (SEM) is the common method to investigate the relationship between CBEC adoption and their antecedents through either survey or secondary dataset. For example, Koh et al. (2012) proved that national integrity, legal structure, and supplier verification influenced buyer's trust which would promote CBEC purchase intention through SEM. Wang et al. (2015) showed that the independent factor, laws, and regulations affected international logistics performance with cross-border payments electronic clearance and technology application level being mediating factors in the relationship.

*Figure 3. Published papers by country*



Apart from SEM studies, some studies were also conducted to understand the mechanisms of CBEC. For instance, Farhoomand and McCauley (2001) applied a case study from TradeCard company to interpret the challenges involved in an international electronic payment system for cross-border transactions. Using the actual operating principle of the TradeCard system, the authors also introduced TradeCard's business plan and marketing strategy in building a global e-commerce trading system. Another case study was from Kim et al. (2017), they integrated a case study from a large worldwide CBEC company and gravity-based study to show that the willingness of e-customers to pay for express services was depended on the income of buyers and the relative lead-time benefits and express charges. Also, the adoption of express delivery was positively associated with repurchase rates.

Farhoomand et al. (2000) conducted field studies of 10 companies in Hong Kong and Finland by interviewing chief executive officers, executive directors, and managers. At that time, CBEC was something new not only for consumers but also for business operators. Thus, this qualitative study was to identify the major barriers of the development of CBEC including issues related to technology, organization, economy, politics, culture and law.

In addition, researchers also applied various mathematical models to study different aspects of CBEC. For example, Javalgi et al. (2005) applied the Verhulst-Pearl logistic equation and survivorship theory to propose a model showing all influential factors in the dynamics of CBEC growth. Gomez-Herrer et al. (2013) found that the standard gravity model was well adapted in explaining CBEC trade patterns and the negative relationship between geographical distance-related trade costs and transaction mode (i.e. online or offline). Further, Wang et al. (2017) updated the traditional comparative advantage model by incorporating transaction cost economics in global trade. The new model explained how CBEC increased the scale of international trade. Studies from Deng and Wang (2016) and Hsiao et al. (2017) applied the data mining technique to investigate early-mover advantages of vendors in the CBEC platform and logistics service design for CBEC respectively. From the infrastructure design perspective, Aulkemeier et al. (2017) presented a novel design to improve the pluggability of CBEC services following a design science research methodology.

Overall methods of research papers are briefly introduced above. Every scientific area has its literature review, so as CBEC, however, there is not any review on CBEC as a whole yet. The general review papers identified in this study are more dispersed and focusing on different branches of CBEC researches. For example, early research from Bingi et al. (2000) discussed that economic, technical, so-

cial, and legal issues as the four challenges facing CBEC must be considered by web-enabled enterprises before conducting e-commerce globally. This paper as early research on CBEC with practical motivation providing a general framework for subsequent CBEC researches on a specific dimension. Another normative framework of the transformation from traditional business to web-based global e-business was developed by Patel (2002). This study highlighted the importance of organizational self-recognition of the emerging IT governance and IT technology. Polanski and Johnston (2002) discussed the process and mechanism of e-custom as a new way of overcoming the legal uncertainty of an Internet environment. Recently, Giuffrida et al. (2017) reviewed scientific publications of China's CBEC logistics, and identify the current research gap and future research themes of China's CBEC logistics.

*Table 1. Methodologies of articles*

Methodology	Counts	Frequency
Empirical study	15	57%
Review	5	19%
Analytical and mathematical model	4	15%
Data mining	2	7%
Design science	1	3%

## **MAIN THEMES AND FINDINGS**

In general, the main themes identified in this paper can be classified as barriers and influential factors, CBEC design for industry, users' intention, logistics issue, strategy, CBEC service, and others. The definition of each category identified according to its scope is described in Table 2. In order to find the main themes (frequency of each category) and knowledge evolution (year of publication) of CBEC, we clustered all sample papers into Table 3 with publication timelines in chronological order.

## **BARRIERS AND INFLUENTIAL FACTORS**

The research in the first category with the most frequency is published through the first year to the last year, which means this category is the core of CBEC research. After an in-depth analysis, we summarized all identified dimensions in the progress of CBEC in terms of barriers and influential factors. These dimensions include technical, organizational, economic, political, cultural, legal, social, and linguistic issues (Farhoomand et al., 2000; Bingi et al., 2000; Javalgi et al., 2005; Gomez-Herrera et al., 2013; Alsaad et al., 2018). Apart from these common issues which hinder the progress of CBEC, more specifically, non-home bias, foreign market size, and competitive pressures can also promote the development of CBEC.

*Table 2. Definitions of identified categories*

Category	Definition	Frequency
Barriers and influential factors	Papers belonging to this category generally introduce the barriers associated with initiating CBEC from the company or country level, and highlight the influential factors in the success of CBEC. These papers provide a general research framework for academic researchers and managerial suggestions for practitioners.	19%
CBEC design for industry	Papers belonging to this category provide more specific details in the CBEC system designing for the implementation of CBEC in industries. These papers contribute to the system designers and CBEC managers with their novelties of using CBEC as a tool.	15%
Users' intention	Papers belonging to this category are generally associated with human behavioral researchers. These papers focus on the precursors which can affect either buyers' or sellers' intention to use the CBEC platform directly or indirectly.	15%
Logistics issue	Papers belonging to this category include two researches about the factors affecting international logistics performance, one is about logistics service design, and another is a literature review.	15%
Strategy	Papers belonging to this category discuss the role of CBEC as a strategy in improving either the company's or the country's financial performance. These papers provide strategies for companies and countries on how to incorporate CBEC into their traditional business modes and suggest that CBEC is imperative for the development of organizations.	19%
CBEC service	Papers belonging to this category are about CBEC service issues. These papers can direct practitioners to provide their customers with better services according to their personalization.	7%
Others	Papers in this category include two researches about cultural differences in CBEC, and constructing an index of the prosperity and risk magnitude of China's export e-commerce industry.	7%

## Strategy

The strategy is another important research focus in CBEC. Research in this category generally describes how companies or countries apply CBEC as a tool to improve their financial performance, market share, and what factors may accelerate or hinder this process. From companies' perspectives, early mover advantage (Deng and Wang, 2016), government supportive policies (Chen and Yang, 2017), and corporate CBEC initiatives (Chen and Yang, 2017) can improve firm performance, moreover, four strategies are highlighted to overcome the localization-standardization issues (Alhorr et al., 2010). From a country' perspective, CBEC has a positive net effect on export trade in China, also, paid in FDI, general industrial output, added value of industrial output, coastal position of cities, and the province capital and municipal identity all have positive effects on export trade (Huo et al., 2017). Nevertheless, other scholars doubt the net effect of CBEC on international trade due to the fact that CBEC can increase tariff cost and transportation cost of international trade (Wang et al., 2017).

## CBEC Design for Industry

Research on the designs for industry provides a general framework to improve the efficiency and user experience. These designs are mainly focusing on payment design (Farhoomand and McCauley, 2001), e-custom design (Polanski and Johnston, 2002), a pluggable system of platform design (Aulkemeier et al., 2017), and how a company can incorporate the Internet into its international business (Patel, 2002).

## **User's Intention**

Papers focusing on users' intentions can be categorized as sellers and buyers. As a path of human behavior research, the user's intention has been well studied in e-commerce, and the research focus is more partial to the buyer's side. It is the same in CBEC research. Factors such as perceptions of national integrity, legal structure, supplier verifications (Koh et al., 2012), and express delivery (Kim et al., 2017) can increase buyer's trust in CBEC, hence promote buyer's intention to purchase through a CBEC platform. In addition, some general demographic factors can also affect buyer's intention, for example, males, rather use the word "youths" young people, PC skilled users, and online opinion seekers are more likely to use CBEC (Valarezo et al., 2018). From the seller's perspective, perceived effectiveness of feedback mechanism, perceived effectiveness of seller protection, perceived the effectiveness of cross-border delivery and perceived national integrity of buyers affect sellers' intention to trade (Guo et al., 2018).

## **Logistic Issues**

Logistic issues are more influential in the context of global trade, compared to domestic e-commerce. For CBEC, the major barriers for logistics are laws and regulations, cross-border payments, electronic clearance, and technology application level (Wang et al., 2015; Ai et al., 2016). From users' perception, cross-border logistics needs to be convenient, diverse, practical, efficient, flexible, comprehensive, accurate, caring, timely, concessional, safe, immediate, professional, high-quality, active, modern, reliable, and innovative (Hsiao et al., 2017).

## **CBEC Services**

Researchers associated with service are relatively new to CBEC research. Service justice can reduce negative emotion and service dissatisfaction; thus, avoid dysfunctional customer behavior such as negative word of mouth, blaming, opportunistic behavior, and malicious return. This phenomenon is also existent in domestic e-commerce (Lin et al., 2018). However, in CBEC, the effect of service varies between different cultures. For example, Eastern customers feel more value from a manager's apology than Western customers in an offline retailing context comparing to online trade. In the online context, Eastern customers rather than Western customers perceive higher levels of informational justice and recovery satisfaction when offered an apology from high-status service personnel as compared to low-status service personnel in public (Sengupta et al., 2018).

Table 3 demonstrates the timespan of each research focus in CBEC. The barriers and influential factors are running through the whole period of CBEC research. However, with the change in times and technological advancements, new challenges are emerging too. Further, research focus in this category is moving from general to specific, and from fundamental to advance. For example, barriers were thought to be technical, legal, and policy, but have now extended to language, delivery, and the managing of overseas markets. Looking at the end user's intention, CBEC strategy, and CBEC service become popular in current years and potentially form future research hotspots.



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Table 3. Papers within each category aligning with published time

Year	2000	2001	2002	2005	2010	2012	2014	2015	2016	2017	2018
Barriers and influential factors	1, 2			6			10				26
CBEC design for industry		3	4, 5							14	
Users' intention						9				15, 19	21
Logistics issue								11	13	16, 20	
Strategy					7				12	17, 18	23
CBEC Service											22, 25
Others					8						24

Note: The number in this table represents the paper ID in the Appendix.

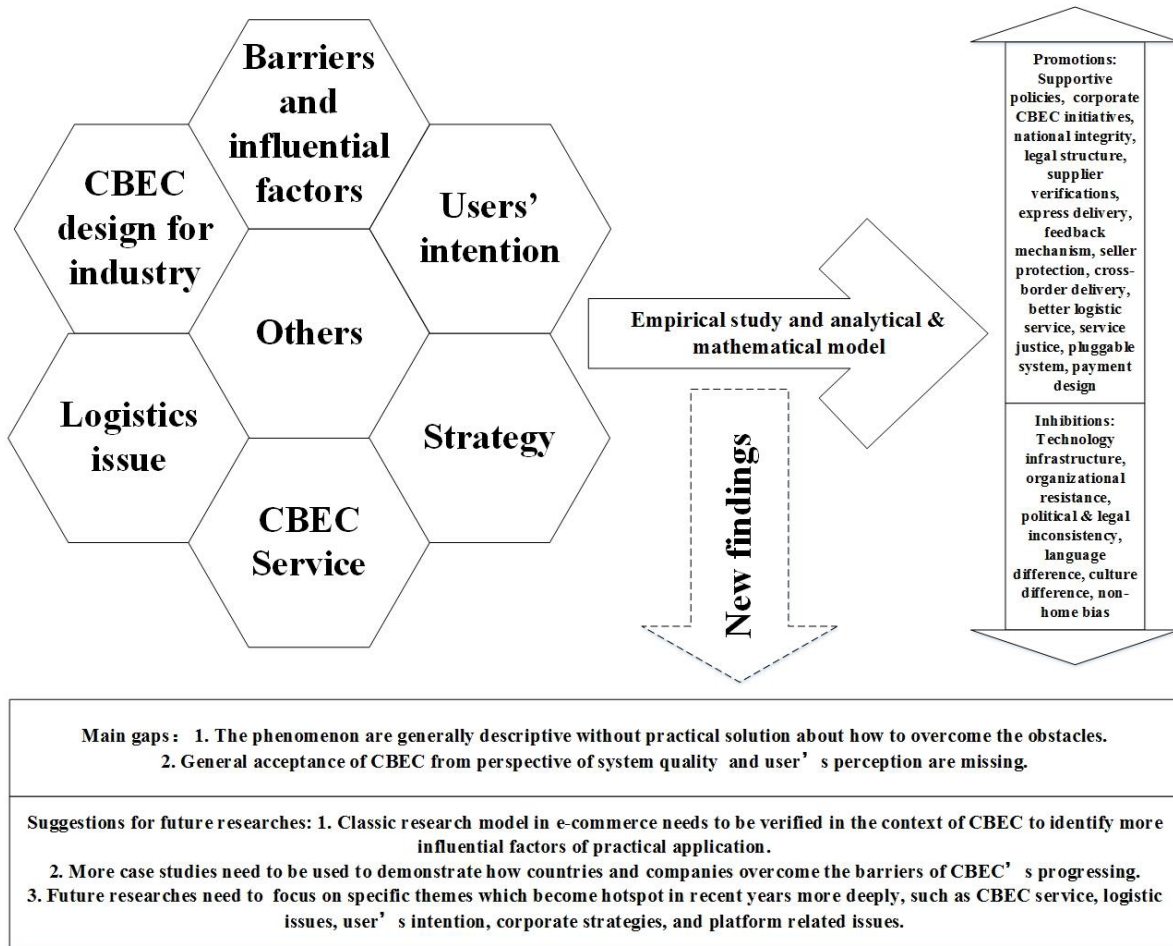
## DISCUSSION

Because CBEC is newly emerging with global trade and IT technology, the presented review provides a general research framework for the convenience of tracking future research themes. Since CBEC research gained momentum from 2015, academic research with high quality is limited, and therefore, presents a gap in the academic literature of CBEC. From the results of this review on 26 papers, 6 major research themes with 2 main research methods were identified for contributing to new findings (Figure 4).

Six major research themes that emerge namely barriers and influential factors. These themes are CBEC design for industry, users' intention, logistics issue, strategy and CBEC Service. It seems that these themes are independent. However, the main findings of this paper can be grouped into two categories if the contribution of CBEC on companies' and countries' economic performance (Chen and Yang, 2017; Deng and Wang, 2016; Huo et al., 2017). To make all the contributions brief and explicit, we synthesized previous findings into groups namely promotions and inhibitions. The factors belonging to these groups are either promoting the progress of CBEC or inhibiting the development of CBEC, and future researches in regard to influential factors of progress CBEC are required to plump up these two groups.

Overall, the currently published papers about CBEC are still in the early stages, and there is room for further research. There are two main gaps identified through this systematic review. Firstly, papers focusing on the barriers, and logistics issues do provide some solutions to overcome the obstacles. However, there are not enough cases for practical measures about specific barriers such as culture differences, organizational resistance, and legal issues since CBEC involves cross-country issues. Secondly, CBEC as an emerging field many traditional elements to reflect individual perceptions is a lack of investigations such as information quality, system quality, trust, risk perceptions. Even though these elements have been proved valid in e-commerce, the difference between cross-border and domestic environment can still alter or reduce the effects. Three methods are proposed to bridge these two gaps. By confirming classic theories/models such as the technology acceptance model, the theory of planned behavior and the information system success model in e-commerce, research can provide the emphasis in two circumstances powered by theoretical foundations. In addition, important factors in e-commerce may not be influential in the context of CBEC which can mislead the practitioners without investigation. As a result, constructive suggestions are generated to direct the development of practical management for CBEC. Then, more case studies are needed to demonstrate how companies can solve the problems encountered in the operation of CBEC. Studies focusing on specific cross-border obstacles using resolved cases, for

Figure 4. CBEC research framework and future suggestions



example, cross-border payment study from Farhoomand and McCauley (2001) and pluggable platform design study from Aulkemeier et al. (2017) and other unstudied problems such as culture, language, and logistics issues are imperative. Future research needs to apply new techniques to solve obstinate problems in the cross-border context. For example, how to incorporate blockchain techniques to online currency exchange and payment, e-custom, logistic tracking issues, and prevention of fraudulent behaviors.

Finally, the research themes about CBEC in recent years shown in Table 3 give some insight into future research directions. As CBEC becomes more and more pervasive, service quality emerges as a key element between different CBEC platforms and vendors. In the global market, similar products from the whole world with similar quality, features and prices make customers dazzled. As a result, research associated with service quality may help vendors and even platforms to gain competitive advantage. Apart from service quality, logistic service can also help vendors to obtain large user volume. Kim et al. (2017) pointed out that fast logistics promote buyer's intention to purchase, and buyers are willing to pay an extra charge for faster logistics if they are time-sensitive. This phenomenon is also true in domestic markets. In China, JD.com and TaoBao are the two largest competitive enterprises. Customers

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prefer using JD.com over Taobao if the prices are the same on both platforms. This is because customers often receive their items the next morning through JD.com's logistics system rather than three or four days through traditional third party logistic companies in TaoBao. For the global market, overseas inventory is the best solution for fast logistics problem, however, many questions associated with this topic have not been understood yet such as dispatch problems, and prediction of customer's purchase intention using big data which have been well studied in domestic e-commerce. Research about user's intention for both buyers and sellers can also contribute to the case studies for CBEC barriers. This is because the user's intentions are various among different countries with respect to cultures and habits, and are always associated with solving questions of reality in CBEC. Thus, understanding what aspects are more important in which culture is conducive to the advancement of CBEC. Seeing the significance of CBEC in increasing the financial benefits for countries and companies, more and more governmental supportive policies and corporate innovation strategies are formulated (Chen and Yang, 2017). Taking all potential future research themes highlighted above together, CBEC as a strategy for economic gaining needs to integrate knowledge and practical measures from various aspects to success. The last important future research theme is platform associated issues. Even though Aulkemeier et al. (2017) have focused on the system design of the CBEC platform, more research with regard to platform strategies from an operational aspect rather than the technological aspect is valuable. For example, the pricing strategy is more complicated than domestic e-commerce since CBEC involves products from the whole world, and price and quality play important roles in consumers' switching behaviors. Advertising strategy among platforms may also differ from domestic e-commerce due to the different national cultures. Thus, researches on CBEC platform strategies can provide practitioners with measures of attracting new users and enhancing user or customer loyalty.

## **CONCLUSION**

Given the practical significance of CBEC globally since a decade ago, academic researchers have gradually caught up with the speed of CBEC progressing from 2015. However, CBEC research is disordered and the knowledge is unstructured, therefore, a systematic literature review is necessary to summarize the current findings, propose a research framework, and to direct future research themes for CBEC research. This paper focuses on core academic researches of CBEC published from 1995 to 2018 in journals. 26 selected papers were analyzed from features of methodology, content theme, and publication time. Since CBEC researches have just grabbed scholars' attention about 4 years ago, and there is not any literature review about CBEC research. We believed that the number of contributions reviewed in this study is adequate to generate a comprehensive review. In addition, similar studies have been done with around 30 papers, such as CBEC logistic review from Giuffrida et al. (2017) with 32 papers which focused more on China containing Chinese journal publications, and economic evaluation of occupational safety and health review from Cagno et al. (2013) with 30 papers.

This review was carried out mainly through three analytical lenses namely the features of articles, the methodologies of articles, and the main themes and future trend predictions. The detail features of 26 selected papers are illustrated in the Appendix which included the title, author, year, country, journal, research method, and key findings. The articles are relatively recent that 77% were starting from 2010 which shows the start of CBEC research grabbing the scholars' attention. In this research area, China

contributed the most with 50% influential papers in this analysis. The main methods in CBEC research are empirical study and mathematical modeling approach.

Regarding the research content, this review has classified 6 core research themes namely barriers and influential factors, CBEC design for industry, users' intention, logistics issue, strategy, and CBEC Service. Each theme reflects a knowledge structure with a certain period aligned in Table 3. Taking all the information and details analyzed in this review, this paper has established some academic and practical implications.

From an academic point of view, this paper has firstly summarized the current knowledge about CBEC researches from core journal papers. Furthermore, based on the current knowledge, we proposed a research framework for CBEC with major themes, main methodologies, and influential factors. All the information will help scholars better classify their research foci and find the research gaps in their foci. Secondly, this paper not only observes the selected 26 papers but also includes conference papers and books associated with CBEC to see the general trends of CBEC researches which makes up for the insufficient analysis samples. Thirdly, the main research gaps highlighted are practical solutions for overcoming the barriers of CBEC progressing and fundamental elements identifying for the acceptance of CBEC. The three potential measures to bridge these gaps are discussed in the previous section. Therefore, the research gaps of CBEC researches together with six research themes can direct future research hotspots.

From a managerial perspective, the major contribution is revealing the promotions and inhibitions of CBEC. For both CBEC platform managers and their vendors, these elements are important to adopt or avoid in their business practices. For example, supportive policies can promote the development of CBEC initiatives. For platforms, companies must follow national policies and make use of political convenience; for vendors, it is a good time to expand their businesses to an online global context with innovative actions that can bring them more economic benefits within a relatively short period of time. CBEC logistics are more complicated and significant in affecting the purchase intentions comparing to the logistics of the domestic e-commerce. Express service and fast delivery are positively correlated to the purchase intention; thus, both platforms and vendors need to design their logistics service carefully. For instance, platforms provide various logistics options with different shipping times and prices including their own logistics system service (i.e. JD.com in China), whereas vendors could include the freight in the price of products and set the freight for free. Legal inconsistency is one major problem of CBEC barriers. For platforms managers, they need to know that how to design the transactional rules, what type of products are prohibitive in which country, the tax issues, and the compensation for fraud behaviors; whereas for vendors, they need to be vigilant for infringements. All promotions and inhibitions noted in Figure 4 are believed to play important roles in the progressing of CBEC and corporate businesses and have different meanings in different ways for platforms and vendors. Here, we do not say keeping these influential elements in mind can lead to success, but at least these are the current drivers for CBEC with powerful support.

This paper has uncovered several shortfalls and open research areas in this field by reviewing selected samples. However, some limitations exist. Firstly, this literature review is generated by only analyzing the core journal published papers, meanwhile ignore conference papers and books. At the current stage, the results of the academic materials that we did not include in this study may not be fully supported by academia that is why we did not include those into our analysis. But it is not to say that those materials are less important than selected papers. Some of these may become future research themes and the results may be provided in the future, especially for important conference papers and academic books. Secondly, the research framework proposed in this paper needs to be further enriched since the current

framework is simple with no branches and deeper extensions for each of six themes. Stemming from these limitations, the present paper can be seen as a starting point to produce more research on this still largely unexplored topic.

## **ACKNOWLEDGMENT**

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APPENDIX: ARTICLES IN LITERATURE REVIEW

No.	Author	Country	Journal	Research method	Key findings
1	Farhoomand et al. (2000)	China and Finland	Journal of Organizational Computing and Electronic Commerce	Field study	This paper conducted field studies of 10 companies in Hong Kong and Finland to identify the major barriers that have hindered or slowed down the acceptance of CBEC. The results showed that six types of barriers existed including technical barriers, organizational barriers, economic barriers, political barriers, cultural barriers, and legal barriers.
2	Bingi et al. (2000)	USA	Information Systems Management Journal	General review	This paper presented that when the web-enabled enterprises were planning to go beyond the global, they must consider an array of international economic, technological, social, and legal issues associated with the global environment. For example, cost justification, Internet access, telecom infrastructure, and skill-shortage were the major issues associated with the economic dimension.
3	Farhoomand and McCauley (2001)	China	Communications of AIS	Case study	This paper utilized a case study to discuss major challenges involved in creating an international electronic payment system for cross-border transactions; the impact of this new online payment method in the international trade environment; the systems security requirements for keeping electronic payments safe for B2B e-commerce; and TRADECARD's business plan and marketing strategy in building a global e-commerce trading system. Comparing to the traditional payment method in CBEC, TRADECARD proposed an initial cross-border online payment model for the foundation of future payment technology.
4	Patel (2002)	UK	Journal of Information Technology Theory and Application	General review	This paper introduced the importance of IT governance and global e-business governance and compared their difference. A normative framework for global e-business IT governance was proposed in this paper draws on research evidence from information systems development and organization study.
5	Polanski and Johnston (2002)	Australia	Journal of Information Technology Theory and Application	General review	This paper offered a deep insight into the possibility and feasibility of employing international commercial custom namely e-custom as a source of law, as a potential solution to legal disputes in contractual global electronic commerce.
6	Javalgi et al. (2005)	USA	International Marketing Review	Analytic model	This paper applied the Verhulst-Pearl equation to the global online environment. This equation contained the number of domain names or host counts, the rate at which there is an increase or decrease in the number of domain names, and the availability of information technology infrastructure as its factors. The authors suggested that the next evolution of firms about e-commerce should follow the path characterized as low-cost producers with a focus on meeting the needs of the consumers in an online environment.
7	Alhorr et al. (2010)	USA	Journal of Electronic Commerce Research	General review	This paper presented strategic insights about the localization-standardization issue in e-business and its strategic implications on CBEC strategies. These strategies included global strategy, multinational strategy, international strategy, and transnational strategy. The differences among these four strategies were discussed, and companies' strategies depended on the kind of industry environment they operate in and to what extent the industry environment demands standardization or localization.
8	Gupta (2010)	USA	Journal of Electronic Commerce Research	Survey	This paper proved that cultural differences played an important role in affecting the customers' willingness to disclose personal information and their online privacy protection behavior. That is Indian consumers are more willing to disclose potentially sensitive personal information such as date of birth, work address and phone number, home phone number, medical history and financial history than the consumers from the USA. These findings have implications for companies to consider cultural differences when conducting global e-commerce, indicating a need for a localization approach.
9	Koh et al. (2012)	China and the USA	Journal of the Association for Information Systems	Survey	This paper utilized survey research to confirm the positive relationship between trust and purchase intention. Perceptions of national integrity, legal structure, and supplier verifications are all positively related to buyers' trust as antecedents. In between, the number of prior transactions could moderate the relationship between legal structure and the buyer's trust negatively.
10	Gomez-Herrera et al. (2014)	Spain	Information Economics and Policy	Survey and analytic model	This paper showed that even though the importance of geographical distance was strongly reduced in online trade, compared to offline trade, the language was still the biggest barrier in CBEC. The results failed to confirm the statistical significance of the legal governance quality, the logistic cost and the efficiency of online payment systems in explaining CBEC in the EU. However, the coefficients for these variables gave some hints that policymakers with little regulatory margin to boost CBEC.
11	Wang et al. (2015)	China	International Journal of Mobile Communications	Survey	This paper analyzed the factors that affect international logistics performance. These factors included laws and regulations, cross-border payments, electronic clearance and technology application level. While cross-border payments, electronic clearance, and technology application levels also played a mediated role in affecting international logistics performance. The results implied that the government should establish laws and regulations to facilitate CBEC order under the condition of the virtual market.
12	Deng and Wang (2016)	China	Journal of Business Research	Web search and mining techniques	This paper explained the early-mover advantages for exporters in B2B CBEC, and after a certain period of time, the early-mover advantages would diminish. After three to five years, early-mover disadvantages would counterbalance the early-mover advantages. These advantages included technological leadership (i.e., learning curve and R&D), preemption of resources (i.e., key input factors and locations), and switching costs and buyer choice under uncertainty; whereas disadvantages included free-rider effects, resolution of technological or market uncertainty, shifts in technology or customer needs, and incumbent inertia after six to seven years, such disadvantages would even completely negate the early-mover advantages.
13	Ai et al. (2016)	China	International Journal of Mobile Communications	Survey	This paper showed that cross-border payment was a bottleneck in developing CBEC in the manufacturing industry, and the coordination between countries' legal systems affected the implementation of electronic customs clearance procedures. Further, the different effects of laws and regulations, technology, cross-border payments, electronic customs clearance, and cross-border logistics in the manufacturing, circulation, and services sectors were compared.
14	Aulkemeier et al. (2017)	Netherlands	Journal of Organizational Computing and Electronic Commerce	Design Science Research Methodology	This study designed a novel platform architecture to improve the pluggability of e-commerce services. The authors suggested that cloud services could significantly improve pluggability, particularly during service deployment and operation processes.

continued on following page

Table 4. Continued

No.	Author	Country	Journal	Research method	Key findings
15	Kim et al. (2017)	Netherlands	International Journal of Electronic Commerce	Case study	This study separated the distance effect on CBEC into four dimensions which were geographical distance, delivery time, delivery cost, and trade barriers. The willingness of e-customers to pay for express services was depended on the income of buyers and the relative lead-time benefits and express charges. Furthermore, the adoption of express delivery was positively associated with repurchase rates. The results confirmed the significance for e-sellers of carefully designed delivery services to reduce the distance in order to attract online customers across borders.
16	Hsiao et al. (2017)	China	Telematics and Informatics	Test mining	This study applied a Kansei engineering-based approach to analyze the associations between service design elements (attributes) of cross-border logistics services and customers' affective or emotional perceptions (Kansei). The results suggested that logistics providers should maintain or further reinforce their capability of providing positive service attributes; meanwhile, the negative service attributes should be reformed or even eliminated.
17	Chen and Yang (2017)	China	International Journal of Mobile Communications	Survey	This paper proposed and validated that CBEC as enterprise innovative strategy should include business model innovation, not just institutional innovation or technological innovation. Also, the government should also provide supportive policies for corporate innovation. According to the results, enterprise innovation played a mediating role between the government's pro-innovation supportive policy and firm performance, in addition, institutional innovation and business-model innovation were full mediating components.
18	Wang et al. (2017)	China and the UK	Sustainability	Analytic model	This paper researched the impact of CBEC on international trade from the perspective of costs related to information, negotiation, transportation, tariffs, and middlemen. These low transaction costs facilitated the growth of international trade. However, CBEC could increase tariffs cost and transportation costs, which caused the net change in total transaction costs to remain unknown. Therefore, the growth of CBEC would not necessarily increase international trade in theory. Overall, the relationship between the growth rate of CBEC and the scale of international trade was positive. Even though this positive relationship could not offset the negative impact of other factors, CBEC was still an effective way of generating new comparative advantage.
19	Guo et al. (2017)	China	Information Systems Journal	Survey	This study investigated the inflectional factors of the seller's intention to sell. These factors were from the platform's perspective (perceived effectiveness of feedback mechanism and perceived effectiveness of seller protection) and the country's perspective (perceived effectiveness of cross-border delivery and perceived national integrity of buyers). While the sellers' trust in buyers and perceived risk of chargeback fraud played mediated roles in affecting sellers' intention to trade.
20	Giuffrida et al. (2017)	Italy	International Journal of Physical Distribution & Logistics Management	Literature review	This literature review on China's CBEC logistics provided a general perspective on the research theme. The three main topics were the development of the logistics industry in China, CBEC logistics in China, and Taiwan and Hong Kong as logistics "supporters" of Mainland China. The future core research areas were identified as distribution network design and outsourcing.
21	Valarezo et al. (2018)	Spain	Telecommunications Policy	Survey	This paper investigated the determinants of the individual's decision to CBEC in the European Union. It had been found that being a male, age as younger, PC skills, trust on the Internet, being online opinions seekers are all positively related to the probability of practicing CBEC.
22	Lin et al. (2018)	China	Journal of Electronic Commerce Research	Survey	This paper investigated the impacts of service justice on dysfunctional customer behaviors and how it influenced by negative emotion and service dissatisfaction in CBEC. The results suggested that the service justice had a negative relationship with negative emotion, and the negative emotion would subsequently induce service dissatisfaction. Finally, both negative emotion and service dissatisfaction were positively correlated with dysfunctional customer behaviors, such as a bad review.
23	Huo et al. (2018)	China	Emerging Markets Finance and Trade	Analytic model	This paper examined the effects of CBEC policy on the export trade of Chinese pilot cities. Applying the difference-in-difference model, this study suggested that the intuitional policy of CBEC had a positive net effect on the export trade of pilot Chinese cities. It was also highlighted that the paid-in foreign direct investment, general industrial output, added value of industrial output, the coastal position of cities, and the province capital and municipal identity all had positive effects on export trade. In addition, intuitional support of CBEC should be further enhanced by innovations of regulatory policies and integrated management information system to provide supports to export trade.
24	Ma et al. (2018)	China	China & World Economy	Secondary dataset	This study analyzed the current status of Chinese CBEC exports and constructed two indexes for China's export e-commerce prosperity and magnitude of risk to examine the industry scale, characteristics, seasonal trends, and the risk level of the cross-border e-commerce export process in China. The indexes showed that a tendency of solid growth of CBEC industry emerges; the industry had a stable situation for logistics facilitation but a drastic fluctuation in customs facilitation; the industry had progressively shifted to competing for cheaper and more efficient marketing techniques as well as channels, and the industry had passed a remarkable amelioration of risk magnitude.
25	Sengupta et al. (2018)	France	International Journal of Electronic Commerce	Survey	This study showed the different effects of apologies for service failures in different countries. The eastern customers sensed more value to a manager offering an apology than western customers in an offline retailing context, but not in an online retailing context. In an online context, eastern customers perceived higher levels of informational justice and recovery satisfaction when offered an apology from high-status service personnel as compared to low-status service personnel in public, but not in private. Western customers were indifferent to the apology status of service personnel in public or private mode.
26	Alsaad et al. (2018)	Malaysia	Technology Analysis & Strategic Management	Survey and secondary dataset	This paper investigated the effects of the complexity of the trading system and competition pressure on the intensity of B2B CBEC. The results showed that greater the complexity of trading relationships with the global economy and the higher level of pressure from the competition were the main drivers for B2B CBEC. The authors suggested that having a strong trade relationship with developed countries with matured B2B e-commerce was helpful in B2B CBEC's sustainable development.

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