BRICS PLUS E-COMMERCE DEVELOPMENT REPORT IN 2018

United Nations Industrial Development Organization (UNIDO)
Shanghai Academy of Social Sciences (SASS)

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PART I:

OVERVIEW OF GLOBAL E-COMMERCE

1. CURRENT STATUS OF GLOBAL E-COMMERCE

1.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

In recent years, the use of information and communication technology (ICT) has brought about huge changes and gains in employment, consumption, lifestyle and gender equality in global e-commerce. ICT reduces the cost of consumption for buyers and allows them to conveniently buy anything, at any time, from anywhere. From the perspective of firms, ICT enables them to reach out to consumers and communicate with upstream and downstream customers, reducing procurement costs, sales and production costs. Proven correctly and efficiently by many e-commerce activities in developing countries, making good use of ICT-generated opportunities has contributed to their increased participation in international supply chains. Nowadays, with the use of ICT, artificial intelligence and other modern information technologies, e-commerce has become a powerful tool for changing international trade and consumer life.

FIGURE 1. Number of global Internet users from 2000 to 2017 (100 million)
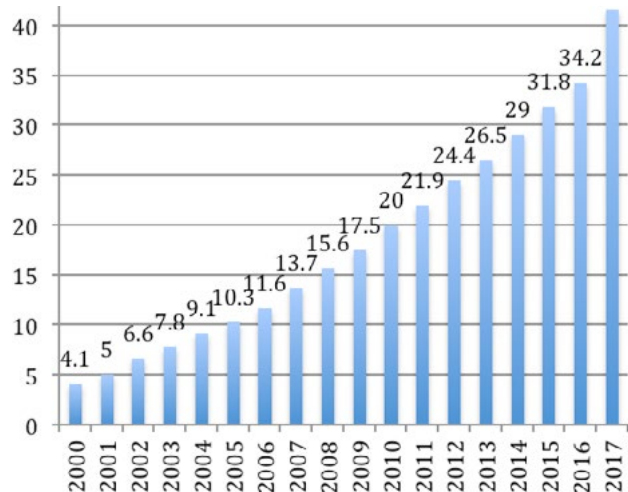
Source: Global E-Commerce Report, published by CIECC in 2017[3.]

FIGURE 2. Population and Internet users globally and by region in 2017 (100 million)
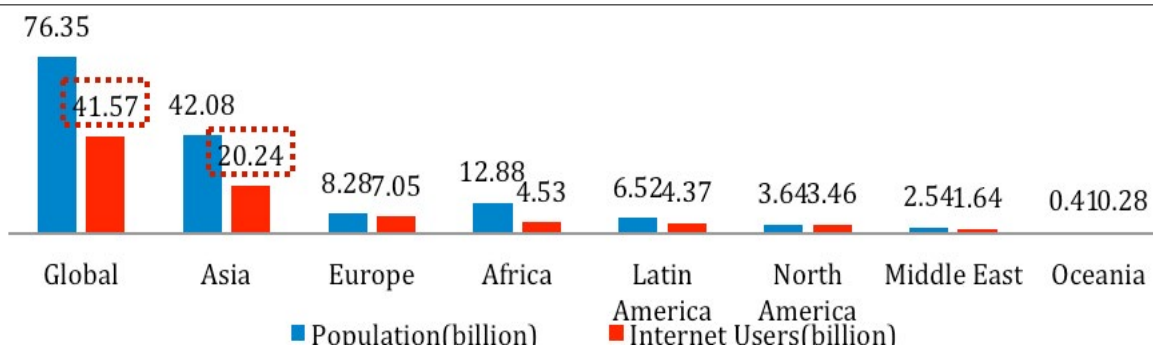
Source: www.internetworldstats.com.

1.1.1 Current status of connectivity

The global Internet experienced rapid growth in the 1990s and steady growth since the millennia. It has evolved in the last decades and its speed and accessibility have increased dramatically. In 2014, approximately 110,000 e-commerce websites generated revenue worldwide[1], while in 2016 the number reached more than 1 million. At present, the number of global Internet users is 4.157 billion and the Internet penetration rate has reached 54.4%[2].

Figures 1 and 2 show the scale of global Internet users from 2000 to 2017, highlighting that connectivity has steadily increased.

By region, the number of Internet users in Asia accounts for the highest proportion of global Internet users, reaching 48.7%. The Internet coverage rate in developed countries and regions is relatively high, but its growth rate of Internet users is relatively low. For example, China is the world's largest Internet market with about 772 million Internet users and an Internet penetration rate of 55.8%[4]. The number of Internet users in India has reached 462 million, making it the second largest Internet market in the world.

A global trend that has been observed is the falling costs of smartphones, and other end-user devices,

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[1] CIECC(Institute of China International Electronic Commerce Center): Global E-commerce report in 2017, http://img.ec.com.cn/article/201804/1523353479115.pdf, pp50.
[2] CIECC (Institute of China International Electronic Commerce Center): Global E-commerce report in 2017, http://img.ec.com.cn/article/201804/1523353479115.pdf, pp8.&pp.6.

[3] Source: Global E-Commerce Report, published by CIECC in 2017. http://www.100ec.cn/detail--6444577.html

[4] CIECC(Institute of China International Electronic Commerce Center): Global E-commerce report in 2017, http://img.ec.com.cn/article/201804/1523353479115.pdf

which has facilitated greater access to broadband internet worldwide, resulting in the birth of new, disruptive business models. A decade ago, few would have imagined that within seven years a technology firm would be able to become the largest hotelier in the world without building a hotel or guesthouse, or that in six years a technology start-up could use a single smartphone application to build a US $40 billion taxi business without owning a car.

At the same time, as an increasingly affluent generation of consumers and citizens around the world become fluent with digital technology, even able to co-create their own solutions, it is evident that ICT can improve lives and empower citizens from megacities to some of the most remote locations on Earth.

According to the 'Connected' series of reports published by Vodafone and Accenture, even workers in the area of agriculture and farming are being connected. The role of mobile in driving efficiency and sustainability in the food and agriculture value chain is shown by the $138 billion increase in agricultural incomes across 26 countries. Moreover, it is reported that in India, 70 million farmers could benefit from an additional US $9 billion annual income, highlighting how mobile can support farmers' livelihoods. In fact, Accenture reported that by 2020 new mobile services could create potential livelihood benefits of US $7.7 billion to workers annually, while enabling a further US $30.6 billion in benefits to organizations through improved productivity[5].

1.1.2 Current status of ICT infrastructure

Measuring progress towards the information society is a complex task that entails striking a balance between different dimensions of ICT experience in different countries. The International Telecommunication Union (ITU) documents the pervasiveness of ICTs and the extent of digital divides between regions and countries through its annual ICT Development Index (IDI). It aggregates quantitative indicators in the large majority of world economies and pulls together 11 indicators concerned with ICT access, ICT use and ICT skills into a composite index which reflects the diversity and complexity of that experience[6].

According to ITU's Measuring the Information Society Report 2017, since 2005, the long-term trend in penetration rates for various ICTs shows that the steep rise in mobile-cellular subscriptions worldwide is now tailing off as the global penetration rate is approaching 100 subscriptions per 100 inhabitants. At the same time, there has been a gradual decline in the penetration rate for fixed-telephone subscriptions, owing to fixed-mobile substitution and the tendency for new users to prefer mobile over fixed lines.

The growth in mobile-broadband subscriptions worldwide has also been marked and has paralleled that of mobile-cellular subscriptions in the last five years, albeit at a lower level, rising from one fifth to one half of the penetration rate for mobile-cellular subscriptions between 2011 and 2016. This has helped to drive steady growth in the percentage of individuals using the Internet (defined as those who have used the Internet at least once in the last three months) and of households with Internet access. The latter indicator has now overtaken the percentage of households with a computer.

However, the differences between countries in different regions and at different levels of development are remarkable. By comparing the figures for the continued and significant digital divide between regions, between developed and developing countries, and between the majority of developing countries and the Least Developed Countries (LDCs), it can be seen that while penetration rates for mobile-cellular subscriptions are now high in all regions, exceeding 100 subscriptions per 100 inhabitants in four of them, they are still significantly lower in the Asia-Pacific and African regions, and in LDCs. Internet and computer access as well as penetration rates for broadband networks are also higher in Europe, the Commonwealth of Independent States (CIS) and the Americas, which are predominantly composed of developed countries and middle-income developing countries.

The results for LDCs on these ICT indicators are particularly poor, especially where fixed-telephone and fixed-broadband subscriptions are concerned. The low position of LDCs reflects the substantial digital divide between them and other countries, which remains an important issue and has particular significance for efforts to use ICTs to support the achievement of the sustainable development goals (SDGs) adopted by the UN General Assembly in 2015.

1.2 CURRENT STATUS OF E-COMMERCE

According to the definition of e-commerce made by the United Nations Conference on Trade and Development (UNCTAD)[7], and from the tools, channels, and infrastructure for the continuous evolution, expansion and enrichment of the economy, the development of e-commerce has continued a process of ecological evolution. The vigorous development of online retailing has promoted the development of a productive service industry (including: broadband; cloud computing; IT outsourcing; online third-party payment; network marketing; online store operations; logistics; express delivery; consulting services, etc.), which forms a huge e-commerce ecosystem. The e-commerce infrastructure has gradually improved and the impact of e-commerce on the economy and society has grown continuously.

E-commerce not only stimulates new commercial ecology and new business landscapes, but also further influences and accelerates the transformation process of e-commerce in traditional industries and promotes and drives the overall economic transformation and upgrading.

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[5] Accenture Strategy, Global e-sustainability initiative, ICT Solutions for 21st century challenges.
https://kxdocuments.accenture.com/?k=ICT&page=1&0248=Yes
[6] International Telecommunication Union, Measuring the Information Society Report, Volume 1, 2017.

[7] Sources: UNCTAD: INFORMATION ECONOMY REPORT 2015, CHAPTER I: REVISITING THE DEVELOPMENT POTENTIAL OF E-COMMERCE, PP 3.; E-commerce Development Report of the Small and Medium Sized Enterprises of BRICS Countries (2017), pp.9.

The role of e-commerce has also gradually come into play in promoting economic growth, expanding employment, smoothing the transformation and upgrading of traditional industries and fostering strategic emerging industries. At the same time, the reverse release of e-commerce also meets a large number of consumer demands that have not been effectively met. Online consumption has gradually replaced offline retail. Different from the industrial organization model, in which the linear and vertical supply chain is the main form in the industrial era, the platform model of the information age comes out as a kind of industrial organization model with "large platform + small front-end + rich ecology" as the prototype structure and network. Today, the "cloud + end", "shared platform + multi-application", "large platform + small front-end" and "basic platform + value-added business" models that have been implemented are typical representatives of the platform model. In many Internet commercial platforms, corporate giants have also integrated numerous service processes, modules and service providers, including IT, finance, logistics, credit systems, commodity systems, consulting and marketing. Over the past 10 years, these have become the most important driving force for business development.

E-commerce has gradually penetrated into the real economy. Through being networked, the physical industry has been absorbed into the economic category of the Internet, which ultimately constitutes a new economic form, the Internet economy. With the development of the Internet economy, e-commerce has also presented a variety of forms of expression in order to meet the needs of different periods and different groups. As we know, e-commerce has presented a variety of marketing models, including business-to-business transactions (B2B), business-to-consumer e-commerce transactions (B2C), consumer-to-consumer transactions (C2C), online to drive offline consumption (O2O) and customer-to-factory transactions (C2M).

Finally, due to the lack of official statistics on the value of domestic and cross-border e-commerce, only a few countries have collected information on e-commerce revenue, and most of the available data about the development of global e-commerce now comes from private consultancy surveys or estimates from relevant agencies.

1.2.1 Business-to-business (B2B)

B2B accounts for the greatest value of e-commerce. It can involve online versions of traditional transactions related to goods that are subsequently sold to consumers via retail outlets. It can also involve the provision of goods and services to support other businesses, for example outsourcing and offshoring. There are various specialized B2B platforms that typically cater to certain industries or value chains.

In 2017[8], global B2B e-commerce sales reached $7.7 trillion, and the global transactions indicate that it is still

the main force. According to data from many research institutes and organizations[9], it has been estimated that the global B2B sales are approximately twice or thrice as much as B2C.

1.2.2 Online retail market (B2C and C2C)

With the booming development of the Internet, the emerging e-commerce enterprise activities have gradually been dominated by B2C e-commerce. As mentioned in the E-Commerce Development Report of the Small and Medium Sized Enterprises of BRICS Countries (2017), the rise of online shopping has not only changed the business model of global retailing, but also led to an unprecedented growth of B2C e-commerce.

During 2011 – 2013, global B2C e-commerce maintained an annual growth rate of over 20%[10]. While there was a decline in growth during 2014 – 2016, in 2017, global B2C e-commerce returned to a growth rate of more than 20% and it was faster than the past three years (see Figure 3).

FIGURE 3. Global B2C e-commerce growth rate (%) by year during 2011-2017
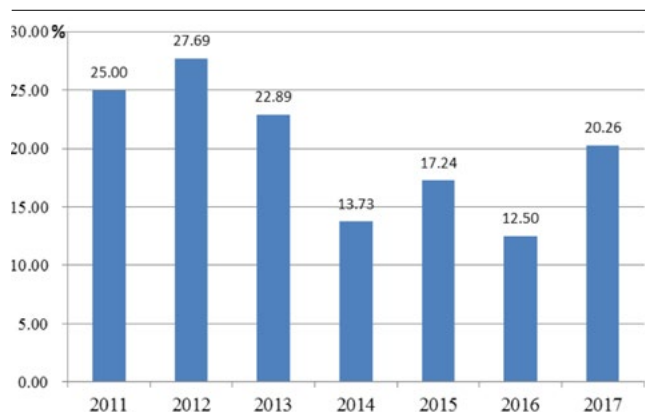
Sources: Shanghai Academy of Social Sciences; Economic Foundation, Global Ecommerce Report 2017.

By region, B2C e-commerce has grown faster in the Asia-Pacific region and Latin America than in others, especially in China. China's B2C growth rate, at more than 35 % in 2015, surpassed the United States as the world's largest B2C country that year[11] and remains the largest and fastest-growing e-commerce market to date. According to the research conducted by China Internet Watch[12] in 2018, China's B2C online retail market reached US $187.74 billion with an increase of 43.2% in 2017. In terms of current online sales, Europe and North America follow them.

On the country level, the top 5 global countries in B2C

[8]Ksenia Dobreva: Global E-commerce Trends and Statistics [2017-2018], copyright by 2018 Amasty Ltd., pp.16. https://amasty.com/blog/wp-content/uploads/2018/02/GLOBAL-E-COMMERCE-TRENDS-AND-STATISTICS.pdf

[9]2018 Amasty Ltd.: Global E-commerce Trends and Statistics [2017-2018]; Shopify Inc. [CA]: What Is the Future of Ecommerce in 2018 and Beyond? 10 Trends, by Herbert Lui, Apri.24, 2018, https://www.shopify.com/enterprise/the-future-of-ecommerce
[10]E-commerce Foundation: Global B2C E-commerce Report 2016, September 2016.
[11]E-Commerce Development Report of the Small and Medium Sized Enterprises of BRICS Countries (2017).
[12]China Internet Watch: "China B2C online retail market overview 2017, led by T-mall and JD", February 28, 2018, https://www.chinainternetwatch.com/23369/retail-b2c-q4-2017/

sales are China, the USA, the UK, Japan and Germany which together account for more than three-quarters of global digital commerce. In 2017, the leading shopping platforms gained or re-gained booming growth and it is estimated that at present Alibaba, Amazon, and eBay account for close to 50% of worldwide B2C e-commerce.

According to the 2018 B2C E-Commerce Research Report published on the Research and Market Store[13], the emerging markets in the Middle East, Africa and Latin America are expected to experience the highest growth rates in B2C e-commerce sales of all the global regions.

In 2017, the most remarkable feature of B2C e-commerce was that the worldwide mobile payment in online and offline shopping was led by the Asia-Pacific region, especially China and South Korea.[14] Mobile payment makes payments easier and more accessible thus stimulating B2C e-commerce development. Today, the most widely used mobile payment services are Paypal, Apple pay, Alipay and WeChat Pay, through which consumers can buy anything they want, at any time, from anywhere.

According to the Global Cross-Border B2C Electronic Trade Market, jointly published by Accenture and Ali Research Institute, the global B2C e-commerce market has enjoyed a rapid increase in recent years, which may retain the annual growth rate of nearly 14% in the coming years. In addition, the transaction scale is also expected to grow from US $1.6 trillion in 2014 to US $3.4 trillion in 2020. The growth of global cross-border B2C e-commerce is particularly fast and the annual growth of 27% is expected to raise the global market scale from US $230 billion in 2014 to nearly US $1 trillion in 2020. According to a rough estimation, the total number of cross-border B2C e-commerce consumers will increase from 309 million in 2014 to over 900 million in 2020, at an annual growth of over 21%, forming a powerful group of digital consumption.

Although the C2C model was the starting point for the rapid growth of the online retail market, after years of development, it is gradually moving towards standardization, quality and diversification. In this trend, the proportion of B2C transactions has increased during these years and in 2015 even exceeded the C2C transaction scale for the first time in China.

1.2.3 Online-to-offline (O2O)

2017 saw an explosion of development in O2O commerce activities. O2O is an online-to-offline e-commerce model, which combines online payment and customer guidance. As a kind of e-commerce, O2O makes full use of the universality and rapidity of the electronic information network in information transmission. However, unlike other kinds of e-commerce, the O2O model is characterized by its offline consumption and offline experience. E-commerce includes information flow, capital flow, logistics and consumption flow and the O2O model is consistent with other models in its information flow and capital flow, which all occur online.

[13]Research and Markets: Global B2C E-Commerce Market 2018, ResearchAndMarkets.com.
[14]Global B2C E-Commerce Market 2018, from Report linker.

Yet, in terms of logistics and consumption flow, where in other models, goods are delivered to consumers through express delivery, consumers go to physical stores for direct consumption in the O2O model, namely logistics and consumer flows occurring offline. By combining online with offline, traditional business activities can be merged with e-commerce organically.

The O2O model has driven the development of traditional enterprises offline, changing its relationship with traditional enterprises from competition to cooperation. Firstly, the O2O model adopts the operation of physical stores, where consumers screen and pay online while actually consuming offline. Under this model, the rapidity of online information resources transmission has greatly promoted the expansion of the offline operation scale. Secondly, as a kind of experience marketing, the O2O model is more in line with the current consumption status and consumption psychology of consumers. Consumers can still screen information and pay on the Internet but can also feel the quality of goods or services through actual experience offline, thus helping to expand the scale of consumption. The O2O model combines online payment with offline experience, forming a complementary consumption chain. Online screening can help offline enterprises to transmit information about their goods or services in a larger area, and online payment can provide a basis for the accurate prediction of sales for offline enterprises so as to reduce the cost of inventory. Meanwhile, offline consumption can provide the reference and basis for online information transmission, so that enterprises can understand the key factors of consumers and enhance the market competitiveness of their products.

As a new trend, the development of O2O e-commerce needs to take different kinds of factors into consideration, including political, economic, technological, legal and cultural aspects. Furthermore, as a business model, O2O e-commerce model needs to pay attention to the impact of market competition, including the overall market supply, demand and benefits of the current model, etc. The O2O model development of a single enterprise is also affected by the management of the enterprise itself, including corporate reputation, talent management, quality of goods and services, information platform, information security, etc.

The integration of emerging technologies and O2O facilitates the integration of online and offline resources and guides the transition of traditional industries. For instance, Airbnb, Apple's retailing outlets, Macy's and Walgreen all adopt indoor positioning, big data and mobile visual searches. Such application provides product information, product position, mobile coupons, self-checkout and self-guide services to consumers.

1.2.4 C2M (customer-to-manufacturer) and M2C (manufacturer-to-consumer)

With e-commerce becoming more popular these days, new changes have been brought to business and production. Consumer-to-manufacturer (C2M) and manufacturer-to-consumer (M2C) are going to be the next trends and frontiers of e-commerce.

C2M refers to a brand-new e-commerce model that occurred in the context of the industrial Internet and is also known as short-circuiting the economy. It connects manufactories and consumers directly and eliminates the intermediate links of product distribution. By producing based on order, it achieves zero product inventories and can meet consumers' individualized demands.

The reason why an increasing number of enterprises accept the C2M e-commerce model is that it has some unique advantages over traditional e-commerce models, including individualized customization, consumer participation in manufacturing, low inventory, low costs, low prices, sufficient supply of goods and efficient logistics systems.

The online shopping environment is constantly improving, and online services have become increasingly mature, providing favorable conditions for smooth C2M transactions. Nowadays, the diverse systematic tools essential to e-commerce have been modularized and corresponding solutions are increasingly procedure-based, which lowers thresholds for the transition of the C2M model. In the meantime, the constant improvement of the automation and information level of traditional manufacturing enterprises has laid a solid technologic foundation for C2M transition.

1.2.5 New emerging E-business activities

The application of emerging technology always energetically facilitates the emergence of new businesses and models, such as mobile, smart and interactive technology, which have fostered mobile e-commerce, embedded interactive shopping, virtual stores and smart self-service stores.

With the integration of mobile search, location-based service (LBS) and mobile payment technology, the local market provides a richer variety of services. Thanks to LBS, clients identify surrounding service facilities, including stores, hotels and cinemas, and receive valuable information more conveniently. In addition, every link from booking to payment can be conducted via mobile terminals. Generally speaking, mobile e-commerce has achieved the maximum utilization of broken demands and time.

Some new business models, including social-networking e-commerce, positional consumption, cross-border e-commerce, group shopping and flash shopping have been created by the integration of online and offline resources and the integration of domestic and overseas resources.

Nowadays, it is easier to find that the application of e-commerce to traditional industries is further deepened, and the emerging vertical e-commerce enjoys prosperous development. For instance, agricultural e-commerce, industrial e-commerce, Internet finance, fresh product e-commerce and luxury e-commerce have emerged in succession. Fintech, describing a business that aims at providing financial services by making use of software and modern technology[15] is a new emerging

e-business and there are many other new emerging e-businesses growing, such as crowdfunding, P2P, Sharing Economy, etc.[16]

1.3 CROSS-BORDER E-COMMERCE

Cross-border e-commerce, a new activity and pattern of cross-border trade in which all parties conduct the transaction by modern information and computer and network technology, covers a variety of commercial activities including marketing, transaction, payment, services and so on. With the popularization of the Internet, the advancement of cross-border logistics and the improvement of online payment, the global cross-border e-commerce B2C market is constantly growing. As the product of a consumer era, cross-border e-commerce is not only a new model of foreign trade but an effective pattern to broaden marketing channels overseas and achieve the transformation and upgrading of foreign trade. Besides breaking the barriers between states and developing international trade into non-boundary trade, cross-border e-commerce also brings about a tremendous change in global trade.

1.3.1 Market size

Keeping pace with the development of people's living conditions, the international purchasing power of the individual is constantly rising. Stronger consumer demand on high-quality, cost-effective and more diversified merchandise as well as overseas goods result in overseas commerce players expanding business all over the world. To seize these market opportunities, many brands have started actively exploiting overseas markets.

According to the Global Cross-Border B2C E-Commerce Market Outlook report, published by Accenture and Ali Research Institute, the size of the cross-border e-commerce market has exceeded 230 billion, with 3090 million consumers in 2014; it is estimated that the market size will reach 994 billion in 2020, growing by an average rate of 27%. Furthermore, it is expected that the number of consumers will be up to 943 million, with more than half of online consumers engaging in cross-border e-commerce activities and growing by an average rate of 21%[17].

According to the estimation of the United Nations Conference on Trade and Development (UNCTAD), in 2015 cross-border B2C e-commerce totaled US $189 billion, equaling 7% of the total value of B2C e-commerce, and about 380 million consumers purchased on overseas websites. In the ten countries with the most developed e-commerce business, the size of B2C e-commerce accounts for 1.4% of the total imported goods and 7%

[15]https://www.fintechweekly.com/fintech-definition

[16]Most of them appears in China in recent years, for example the MEITUAN, MOBIKE, LUJINSUO, and so on.
[17]Accenture Strategy, Global Cross-Border B2C E-Commerce Market Outlook - Digital Consumption Reshapes Business Globalization, www.aliresearch.com, Ali Research Institute – Accenture, Global Cross Border e-Commerce Market 2020, Jun. 2015. https://unctad.org/meetings/en/Presentation/dtl_eweek2016_AlibabaResearch_en.pdf

of the total B2C turnover, indicating that the market of cross-border e-commerce is a significant business at present.

1.3.2 Regional distribution

From a regional perspective, the global cross-border e-commerce market can mainly be divided into three regions: developed regions in Europe and North America, the Asia-Pacific region and other emerging regions, among which the former two are currently market leaders. Developed regions in Europe and North America are not only the leading consumer markets but also dominant source supply locations. In a high-speed stage of development at the moment, the cross-border e-commerce market in North America has one third of cross-border digital buyers from all around the world. Realizing the great development potential in emerging markets, exporting cross-border e-commerce players have started transferring their targeted market towards developing countries with minority languages.

Taking Australia for example, it can be found that 70% of people take part in B2C e-commerce at least once a year, and 48% when it comes to B2C cross-border e-commerce (see Figure 4). We can therefore conclude that more than half of online shoppers take part in cross-border e-commerce in Australia. Although the circumstances differ in other countries like the UK and France lots of people still tend to take part in cross-border e-commerce.

1.3.3 Key players

In 2015, the ten countries with the most developed cross-border e-commerce included: the United States of America, China, Germany, Japan, the UK, France, the Netherlands, Korea, Canada and Italy. In China, the number of consumers engaging in cross-border online shopping reached 70 million, with cross-border B2C e-commerce players accounting for 6% of the total B2C e-commerce players. In the United States, the number engaging in cross-border online shopping is up to 34 million, with the merchandise of cross-border B2C accounting for 1.7% of the total imported merchandise and cross-border B2C e-commerce players accounting for 7% of the total B2C e-commerce players. Among these ten countries, Italy has the largest proportion of cross-border B2C players in its total B2C e-commerce players, up to 12%, followed by Canada, with cross-border B2C e-commerce players accounting for 16% of the total B2C e-commerce players (see Table 1).

1.3.4 Challenges

While developing cross-border businesses, enterprises encounter challenges posed by policy, technology, culture, the market and so on. The following exist in present cross-border businesses:

Firstly, enterprises' understanding of cross-border e-commerce can be insufficient. Many small and medium-sized enterprises do not pay enough attention

FIGURE 4 Cross-border B2C e-commerce shopper penetration rate in 2015
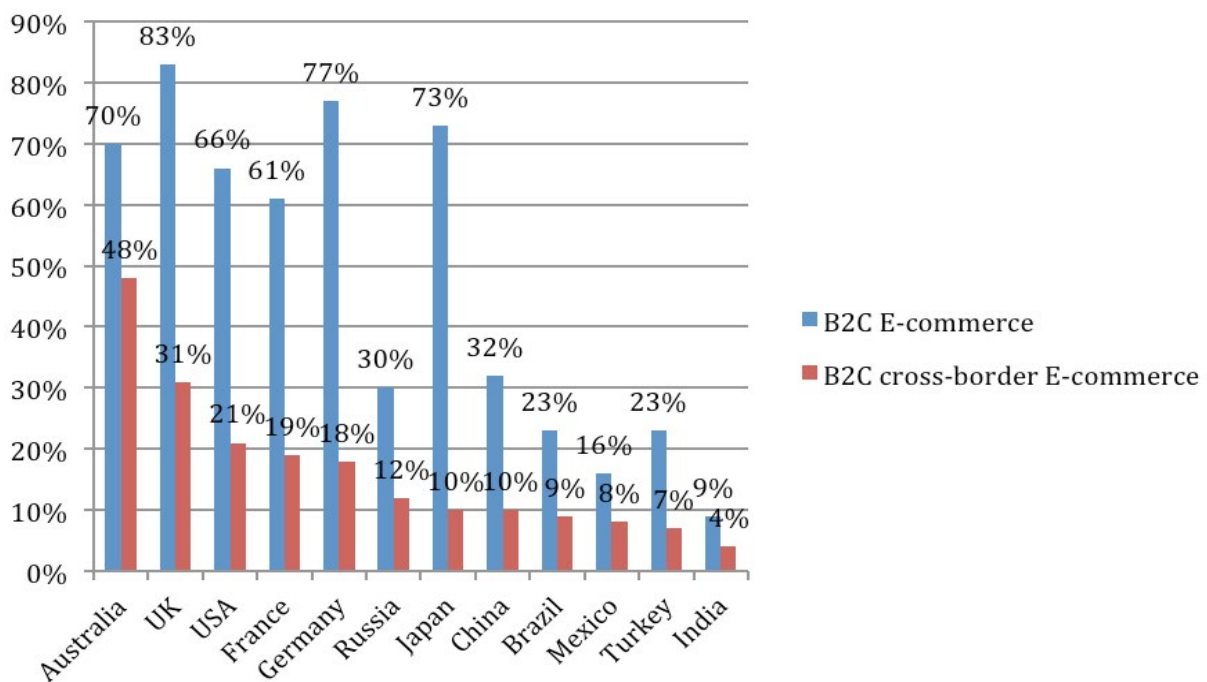
Source: Consumer Barometer.

TABLE 1. Top 10 countries in cross-border e-commerce transactions in 2015.

	Cross-border B2C				Cross-border customers online
	Total	% of	% of B2C	Total B2C	Number of
	Transactions (100M USD)	Imports of Goods	E-commerce	Transactions (100M USD)	Customers (10 thousand)
USA	400	1.7%	7%	6120	3400
China	390	2.3%	6%	6170	7000
Germany	90	0.8%	10%	930	1200
Japan	20	0.3%	2%	1140	900
UK	120	1.9%	7%	2000	1400
France	40	0.7%	6%	730	1200
Netherlands	4	0.1%	2%	190	400
Korea	30	0.6%	5%	480	1000
Canada	70	1.7%	16%	480	1100
Italy	30	0.8%	19%	170	600
Top 10 in total	1200	1.4%	7%	18390	18100
Global	1890	1.1%	7%	29040	38000

Source: UNCTAD estimates[18].

[18]UNCTAD Estimates: http://www.100ec.cn/detail--6444577.html

to business law systems, trade policy, government interventions, economy and the cultural environment of the trading partners or get familiar with international trade rules. Due to their lack of knowledge about cross-border e-commerce, most small and medium-sized e-commerce players only follow the trend of building their cross-border e-commerce platform. As a result, they do not have any experience building and promoting their enterprise image and brand.

Secondly, a lack of cross-border e-commerce logistics is a common problem. Small and medium-sized enterprises are often overwhelmed by the high cost of international logistics. Lacking a complete system and poor infrastructure can also seriously affect the development of cross-border logistics and inefficient logistics services can no longer satisfy the increasing demand of cross-border e-commerce enterprises on logistics systems.

Thirdly, differences in language, customs and cultures are also obstacles that are often neglected. As the development of e-commerce business is closely related to culture, social customs, consumption habits and individual incomes, when facing clients from all around the world, small and medium sized enterprises should fully understand the cultural environment of the target market before making corresponding goal-setting strategies.

Furthermore, often the credit is not enough to support the cross-border e-commerce transactions, which are mainly displayed in the sellers' descriptions of a particular good's quality, buyers' comments on transactions, third-party settlement institutions' protection of money and so on. Besides the language and freight issues, laws, regulations and policies related to e-commerce as well as credit standards also vary from country to country. Their credit management systems are separated.

Moreover, the absence of an interconnected payment system for cross-border payment is not good for the development of cross-border e-commerce. Cross-border network payment technology has not been perfected yet and thus safety and convenience improvements are still required. Sellers may find it hard to solve online payment issues.

Nevertheless, what sellers are most concerned about is the barrier caused by relative laws and regulations. For sellers, every target country has their own law regarding product returns, consumer protection, labels, discounts etc. which not only greatly increase the compliance costs, but, also add uncertainties to the cross-border transaction. Most sellers still fail to provide a complete quote of the landed cost (net price + freight + tax) while trading, which directly affects business.

2. GLOBAL TRENDS IN E-COMMERCE

2.1 CHALLENGES TO GLOBAL E-COMMERCE

2.1.1 Safety has become the main problem of e-commerce

Due to the fast growth of e-commerce, more and more people can benefit from its convenience, but it is not without its problems. The most serious one is the infringement of intellectual property rights and malicious falsehood in competition between e-commerce companies, which has brought social attention.

Internet security contains the usability, confidentiality, integrity and facticity of information. Most networks ensure the payment and personal information by setting security protocols. The use of security servers can reduce online security problems to a certain degree as they use encryption technology to avoid being wiretapped during the data transmission of online business.

2.1.2 The investment activity in Global E-commerce shows a downward trend

According to CB Insights, in 2014 the number of initial public offerings (IPOs) in global e-commerce peaked at 402, while the number was 260 in 2013 and 336 in 2012. There are 17 companies that are listed successfully in that year. Take the financing frequency of the unlisted companies as index to measure the activity of e-commerce investment. In 2016 the global e-commerce investment activity fell to the lowest level since 2012 with only 332. Among the three biggest markets, while the market in India grew, the activity of business in China and America was in a downtrend.

2.2 ANALYSIS OF GLOBAL E-COMMERCE DEVELOPMENT TRENDS

2.2.1 The global e-commerce development growth trend is at a turning point.

As Figure 5 indicates, we can calculate that the growth rate of global e-commerce began declining in 2016 from 25.6%. This also happened in developed countries like the United States as well as developing countries like China. The global e-commerce development growth trend is reaching a turning point and the main reason is due to new changes in the development environment. The growth space and potential of the industry are limited, while the development of e-commerce will change, grow and refine extensively.

As seen in Figure 5, through statistical analysis, it has been calculated that the growth rate of global e-commerce has been declining since 2016 (where the growth reached a peak of 25.60%). This "peak – fall" (and eventual return to peak) in the global e-commerce growth has occurred in the past at the country level as evidenced by similar observations in the United States and China (which are global e-commerce development drivers). Given these prior occurrences and current observations, it can be stated that e-commerce development will soon be at an inflection point where the growth of this sector can either accelerate or decelerate (which largely depends on the actions the international community and countries undertake from here-on). From an industrial perspective, it is important to note that global industrial growth has been slow recently, but the changes in the global e-commerce sector can alter these industrial development trends.

FIGURE 5. The global online retail market trade volume and growth rate 2012-2018 (US$ trillion)
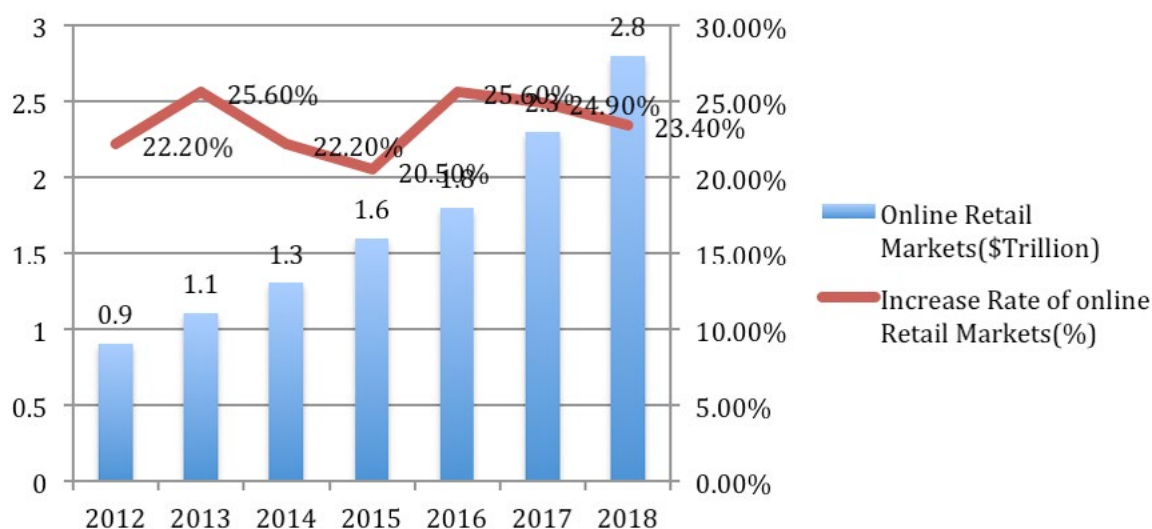
Source: data published by CIECC[19].
[19]Retrieved from data published by CIECC: http://www.100ec.cn/detail--6444577.html

2.2.2 E-commerce has become increasingly unbounded

There are clear differences between various industries with various links such as the industry chain, including production, wholesale, retailing, logistics, payment, media and so on, functioning in obviously different fields. However, with the development of emerging technologies and globalization such differentiation has gradually been blurred, and boundless features are becoming increasingly prominent among enterprises, industries and regions.

Firstly, because of the emergence of non-boundary enterprises, enterprises not only have greater aspirations in increasing their market shares but also in expanding the scope of their business interests. At present, Alibaba has started distribution in multiple fields including financing, logistics, medical care and cloud computing; Amazon, besides its retail business, has led the world in hardware and enterprise services; eBay's revenue from the businesses of financial payments and e-commerce solutions has been just under half of the total profit.

Secondly, due to the indistinctness of industrial boundary, e-commerce enterprises can be built in two ways- self-establishment and acquisition. For example, Walmart, has developed its online business through its acquisition of various e-commerce platforms including Jett, ShoeBuy and Moosejaw, achieving win-win result. Other enterprises, like Carrefour, Yonghui, H&M, etc.,

chose to open up online channels by building their own platforms and keeping the unity of the brand and control as their core competitiveness.

Thirdly, cross-border e-commerce has been a new trend of global e-commerce and was built on the Internet as a global platform. Cross-border e-commerce platforms like Amazon and eBay provide opportunities for numerous small and medium- sized enterprises around the world to participate in global trade. Since Alibaba acquired Southeast Asian e-commerce platform Lazada and invested in Indian e-commerce platform Paytm, and Amazon acquired Souq, all e-commerce giants are moving into the overseas markets.

2.2.3 The global e-commerce will gradually shift to emerging regional markets

The E-Commerce Development Report of the Small and Medium Sized Enterprises of BRICS Countries in 2017, highlights that in recent years e-commerce in emerging economies such as Asia-Pacific, central and eastern Europe, Latin America, the Middle East and Africa, have grown rapidly, with much higher growth rates than in North America and Western Europe. In these emerging economics the share of Internet population and innovation capacity is growing. The proportion of e-commerce in emerging countries and regions will continue to rise, and the focus of global e-commerce is shifting gradually, as Table 2 indicates.

TABLE 2. Global B2C e-commerce market share 2013-2017(US $100 million).

Region	2013	2014	2015	2016	2017
Emerging Region					
Asia-Pacific	3839	5252	6812	8557	10529
Speed Increase	27.46%	36.81%	29.70%	25.62%	23.05%
Proportion	30.75%	35.03%	38.65%	41.89%	44.90%
Central and Eastern Europe	495	580	644	689	731
Speed Increase	19.28%	17.17%	11.03%	6.99%	6.10%
Proportion	3.97%	3.87%	3.65%	3.37%	3.12%
Latin America	481	577	649	706	746
Speed Increase	27.93%	19.96%	12.48%	8.78%	5.67%
Proportion	3.85%	3.85%	3.68%	3.46%	3.18%
MEA	270	338	396	455	514
Speed Increase	31.07%	25.19%	17.16%	14.90%	12.97%
Proportion	2.16%	2.25%	2.25%	2.23%	2.19%
Proportion in Total	40.74%	45%	48.21%	50.95%	53.39%
Developed Region					
North America	4310	4826	5383	5979	6604
Speed Increase	13.48%	11.97%	11.54%	11.07%	10.45%
Proportion	34.52%	32.19%	30.54%	29.27%	28.16%
Western Europe	3089	3420	3745	4040	4326
Speed Increase	11.60%	10.72%	9.50%	7.88%	7.08%
Proportion	24.74%	22.81%	21.25%	19.78%	18.45%
Proportion in Total	59.26%	55%	51.79%	49.05%	46.61%

Source: eMarketer, Global B2C Ecommerce Sales to Hit US $1.5 Trillion This Year Driven by Growth in Emerging Markets.

China grew the fastest among the emerging regional markets and in recent years, its e-commerce market has not only become the biggest in the world (see Figure 6), but also has a growing proportion in the global market. Its market size will reach US $1.422 trillion by 2020, far exceeding the United States.

FIGURE 6. Online retail market trade volume 2016 and 2020
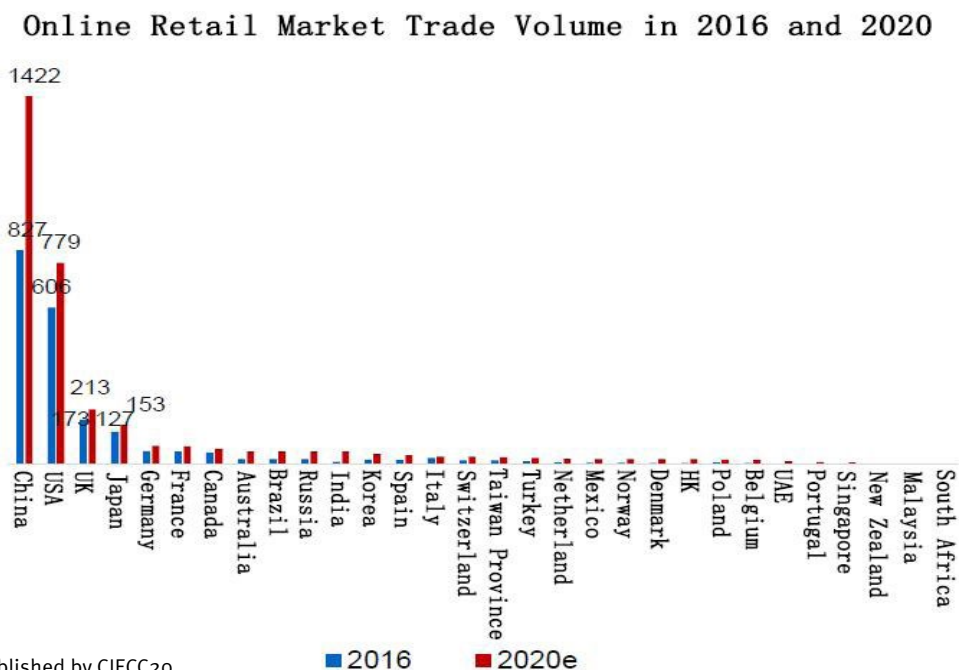
Source: Data published by CIECC20.

Enterprises in emerging regions have increasingly prominent innovation capacities. Nowadays, the vast differences between emerging regions and developed regions are not only reflected in consumption demands, but also in the development environment of e-commerce, including incomplete information infrastructure, weak logistics support systems, deficient financial payment means, a high reliance on mobile terminals like mobile phones and incomplete laws on consumer protection. Due to these problems, the e-commerce model, which originated from developed regions, may not be suitable in emerging regions. It is also one major reason why e-commerce giants, including Amazon, have poor performances in emerging regions. As a result, the e-commerce enterprises in emerging regions should be based on localized innovations and should facilitate the development of local commerce.

Current innovations are reflected in the following three aspects:

1. **Innovations of the financial payment methods brought by e-commerce.** Shopping and trading online have brought great challenges and threats to the traditional cash and on-the-spot transactions. Quick, safe, convenient and efficient trading and payment methods are important key factors in the e-commerce process and in order to adapt to its rapid development we have to change and innovate

accordingly. For example, mobile payment methods such as Apple pay, Paypal, Alipay, NFC, and Pay TM are not only technically progressive, but have also bought about technological innovations in the electronic payment process itself, such as security encryption, block chain technology, etc.

2. **Innovations in the logistics system**. The third-party logistics system is highly undeveloped in most emerging regions and particularly in remote regions. In this context, the e-commerce enterprises of many emerging regions all start to set up a logistics system, which turns companies into heavy-asset companies. Typical examples include JD.com in China and Kilimall, a large African e-commerce company.

3. **Innovations in mobile e-commerce and O2O**. Gartner Group, a market research company, believes that the integration of mobile payment and smart mobile phones is a new indicator and consumption infrastructure in Asia and Africa that guides the growth of economic activities. Nowadays, mobile e-commerce and O2O have seen diverse innovations, such as QR code, WeChat merchants and diverse apps. It shows that the development of e-commerce in emerging regions may shift towards the model of joint development (computer terminals and mobile terminals) as well as a faster growth in mobile terminals.

[20]Data published by CIECC: http://www.100ec.cn/detail--6444577.html

2.2.4 Combining emerging technology, data drive and O2O to set up future models

Nowadays, great changes have taken place in the environment of industrial development. Firstly, the consumption preference of a new generation of consumers has substantially changed and is reflected in the increased emphasis on high-quality experience, inner satisfaction and service convenience. Secondly, e-commerce has been an emerging technology-intensive industry. Emerging technology is widely applied to the diverse management and service links of e-commerce. Classified by trading links, e-commerce includes e-commerce information, e-payment, e-commerce management and services, e-commerce logistics and supply chain management. These links have widely applied emerging technology, including: mobile communication technology; cloud computing; virtual technology; smart interaction; indoor positioning; network of things; low-temperature distribution logistics technology; biological recognition technology; smart storage lockers and UAV. For instance, the virtual technology is applied to set up virtual stores and provide new embedded and interactive services; NPC, HCE, biological recognition payment and emerging payment technology jointly facilitate the development of mobile payment; low-temperature distribution logistics technology, smart locker and UAV technology form a new distribution system. Thirdly, data technology speeds up the innovations in e-commerce. Thanks to the application of big data technology, smart decision-making, smart navigation and individual services enjoy constant development. Correspondingly, it helps to set up individualized information services, individualized marketing, individualized shopping and individualized post-sales services, real-time services and point-to-point systems.

Further integration of production and consumption will occur when information (data) is put as a flexible resource. It shortens roundabout and inefficient product chains, which makes production and consumption more integrated. The business models of the information era are centered on consumers and clients, driven by demand, conduct mass customization based on first consumption and subsequent production and even provide individualized customization. The corner stone of mass customization is a flexible production socialized logistic service network and efficient individualized marketing, which makes the individualized customization model possible regarding the economy.

2.2.5 Cross-border e-commerce will be greatly developed

Nowadays, cross-border e-commerce has been an important impetus for developing foreign trade, which is reflected in four aspects. Firstly, it facilitates the transition of manufacturing enterprises; secondly, it increases the benefits to B2B bulk commodity orders; thirdly, it shortens the purchase process, decreases the participatory links of intermediary business and

maximizes the benefits of trading partners; and fourthly it promotes direct purchases from overseas sellers and necessitates the upgrading of local infrastructure and services- overseas direct purchases and overseas location upgrade localized services. The globalization of cross-border e-commerce operation is obvious to all. For instance, Alibaba entered the local market by purchasing overseas platforms. Europe is the largest cross-border e-commerce market across the world and over half of online retailers have provided cross-border services. Similarly, the United States is the most popular cross-border market and e-commerce giants, including eBay and Amazon, have set up overseas networks across the world.

2.3 BRICS E-COMMERCE MARKETS

2.3.1 BRICS countries are playing an increasingly important role in global e-commerce development

BRICS countries, as emerging developing countries, are playing an increasingly important role in global e-commerce development. E-commerce is doing more help to promote trade growth, industrial transformation and upgrading, and is becoming one of the most dynamic economic activities throughout BRICS countries. It creates new employment opportunities, helps BRICS countries fit into the global value chain, brings significant opportunities to their economic and social developments and becomes a new engine for their development.

2.3.2 BRICS e-commerce will benefit from the increasing number of Internet users

BRICS countries, such as China, India, Brazil and Russia, have been gaining rapid growth in the number of Internet users since 2000 (see Table 3). Among BRICS countries, China is the largest online retail market, which has 470 million online consumers. In Russia, cross-border e-commerce has developed rapidly and has become an important impetus for the development of e-commerce. India has a demographic dividend with enormous potential (similar to China's), and the compound annual growth rate of its online retail market has grown to 39% in the past seven years. Brazil is the largest e-commerce market in Latin America, with an online shopping usage rate of 43%. Although e-commerce in South Africa is still in the initial stages, it is growing quickly (see Table 4).

TABLE 3. Top 20 countries with highest number of Internet users.

#	Country or Region	Population, 2018 Est.	Population 2000 Est.	Internet Users 31 Dec 2017	Internet Users 31 Dec 2000	Internet Growth
1	China	1,415,045,928	1,283,198,970	772,000,000	22,500,000	3,331 %
2	India	1,354,051,854	1,053,050,912	462,124,989	5,000,000	9,142 %
3	United States	326,766,748	281,982,778	312,322,257	95,354,000	227 %
4	Brazil	210,867,954	175,287,587	149,057,635	5,000,000	2,881 %
5	Indonesia	266,794,980	211,540,429	143,260,000	2,000,000	7,063 %
6	Japan	127,185,332	127,533,934	118,626,672	47,080,000	152 %
7	Russia	143,964,709	146,396,514	109,552,842	3,100,000	3,434 %
8	Nigeria	195,875,237	122,352,009	98,391,456	200,000	49,095 %
9	Mexico	130,759,074	101,719,673	85,000,000	2,712,400	3,033 %
10	Bangladesh	166,368,149	131,581,243	80,483,000	100,000	80,383 %
11	Germany	82,293,457	81,487,757	79,127,551	24,000,000	229 %
12	Philippines	106,512,074	77,991,569	67,000,000	2,000,000	3,250 %
13	Vietnam	96,491,146	80,285,562	64,000,000	200,000	31,900 %
14	United Kingdom	66,573,504	58,950,848	63,061,419	15,400,000	309 %
15	France	65,233,271	59,608,201	60,421,689	8,500,000	610 %
16	Thailand	69,183,173	62,958,021	57,000,000	2,300,000	2,378 %
17	Iran	82,011,735	66,131,854	56,700,000	250,000	22,580 %
18	Turkey	81,916,871	63,240,121	56,000,000	2,000,000	2,700 %
19	Italy	59,290,969	57,293,721	54,798,299	13,200,000	315 %
20	Egypt	99,375,741	69,905,988	48,211,493	450,000	10,613 %

Source: this table and data is from Internet World Stat[21.]

Table 4 indicates that the penetration of Russia is the highest, exceeding 70%. Furthermore, as shown in Figure 7, the total number of Internet users in BRICS countries exceeded 1.46 billion in 2016, accounting for 42.7% of the global Internet users. Among them, Internet users in China accounted for 21.4%, India accounted for 13.5%, and Brazil accounted for 4%. Internet users in Russia accounted for 3% and South Africa accounted for 0.8%. The total number of online shoppers exceeds 720 million, accounting for 47.2% of the global online shopping consumers. The proportions of Internet users and online shopping consumers in BRICS countries are all higher than the proportion of the world's population (41.8%).

TABLE 4. Statistics on the Internet penetration in BRICS countries in 2016

Country	Internet penetration
China	52.9%
India	34.8%
Brazil	63.6%
Russia	71.3%
South Africa	44.5%

Source: The World Bank, CNNIC, Internet Live Stats.

FIGURE 7. Proportion of Internet users in BRICS countries in 2016
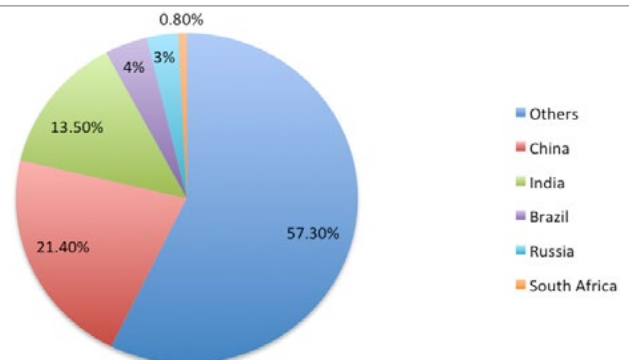
Source: BRICS National E-commerce Development Report, 2017[22]

[21] www.internetworldstats.com. Copyright © 2018, Miniwatts Marketing Group. (2) Growth percentage represents the increase in the number of Internet users between the years 2000 and 2017. (3) The most recent user information comes from data published by Facebook, International Telecommunications Union, official country telecom reports, and other trustworthy research sources.

[22] BRICS National E-commerce Development Report, 2017: http://www.199it.com/archives/628881.html.

2.3.3 The online retail transaction volume in BRICS countries is booming

As is shown in Figure 8, the online retail transaction volume in BRICS countries reached US $876.1 billion in 2016, accounting for 47% of the total online retail sales volume. Meanwhile the cross-border network retail transaction volume in BRICS countries reached US $92 billion, accounting for 23% of the global cross-border network retail sales volume. The proportion of online retail sales in BRICS countries (47%) was higher than that of the GDP (21%), and the proportion of cross-border network retail sales volume (23%) was higher than that of the trade volume (16%).

It can be seen from the above data that the development prospects of e-commerce in BRICS countries are very broad. In the context of the rapid development of the global digital economy and e-commerce, BRICS countries fully grasp the historic opportunities brought by e-commerce, optimize policy systems and business environments required for the development of domestic e-commerce, and actively innovate in supervision modes and improve services (especially for new technologies and new business formats). At the same time, in multilateral trading systems, regional trade arrangements and bilateral mechanisms, dialogues and coordination on e-commerce policies have promoted the mutually beneficial opening, exchange and cooperation of e-commerce-related industries, thus injecting new impetus to economic and trade cooperation among BRICS countries.

FIGURE 8. BRICS' online retail market (trillion dollars) and % in global 2016-2022

Source: BRICS National E-commerce Development Report 2017[23].

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[23] RICS National E-commerce Development Report, 2017: http://www.199it.com/archives/628881.html

PART II:

COUNTRY-SPECIFIC ANALYSIS ON E-COMMERCE DEVELOPMENT IN BRICS PLUS COUNTRIES

1. BRAZIL E-COMMERCE DEVELOPMENT REPORT 2018

1.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

1.1.1 Internet penetration

FIGURE 1. Brazilian Internet penetration
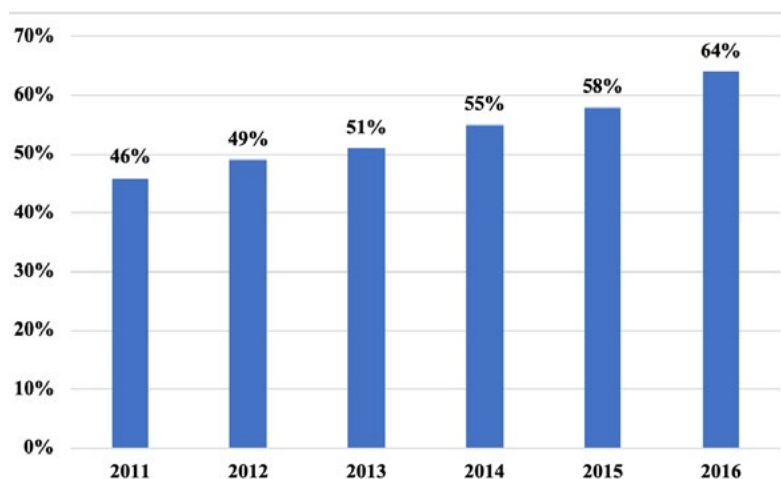
Source: TIC Domicilios/IBGE.

During the last 5 years, Internet access penetration in Brazilian households has risen sharply, increasing 18pp from 2011 to 2016 and in 2014 the country surpassed the mark of 50% of households with connection to the network. Mobile phones are mainly responsible for this expansion, highlighted by the results of a 2016 national survey that revealed that the Internet was present in 63.6% of households, and 94.8% of them used cell phones to connect to the network.

1.1.2 Connectivity and connection speed

Although still ranked as 79th on Akamai's global Internet speed rank, Brazil has shown an improvement in recent years and has enjoyed an increase of 376% in average internet connection speed from 2010 to 2016 (see Figure 2).

FIGURE 2. Brazilian connectivity and connection speed
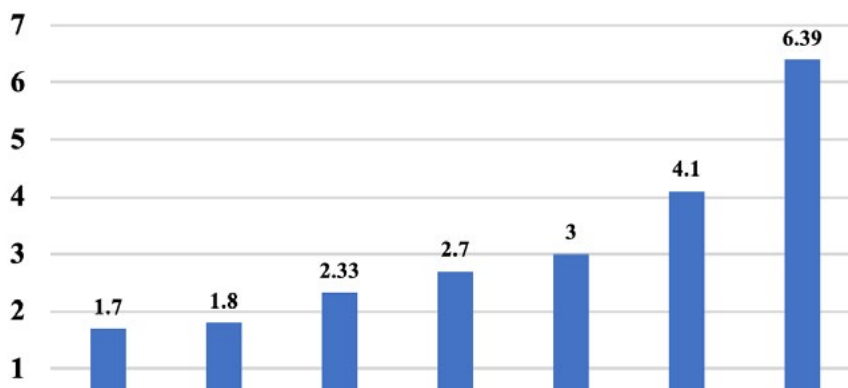
Source: Akamai.

In 2017, the average speed in urban areas reached 17.8Mbps and in rural 25.7Mbps. This improvement was especially boosted by small local Internet providers that act in the countryside, where the large providers are not present. This has also led to a large regional disparity, as seen in the heatmap below, where red areas represent the high concentration of Internet in the region.

The average cost of Internet in Brazil is also one of the limiters of its growth. The graph below shows the evolution of the average Mbps cost by the main Internet providers in the country.

FIGURE 3. Heat map of Internet connection in Brazil
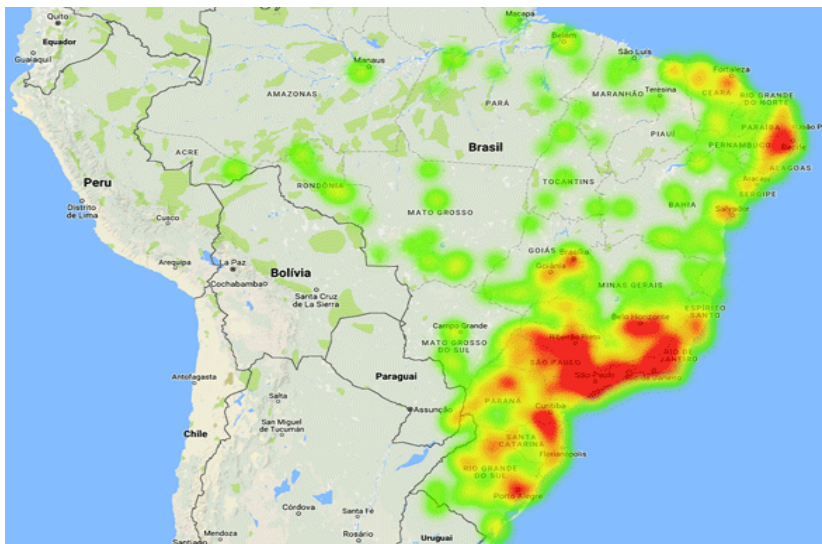
Source: Akamai.

FIGURE 4. The average Mbps cost in Brazil by different providers

Source: Tudo Celular.

1.1.3 Fixed-broadband subscription

FIGURE 5. Fixed-broadband
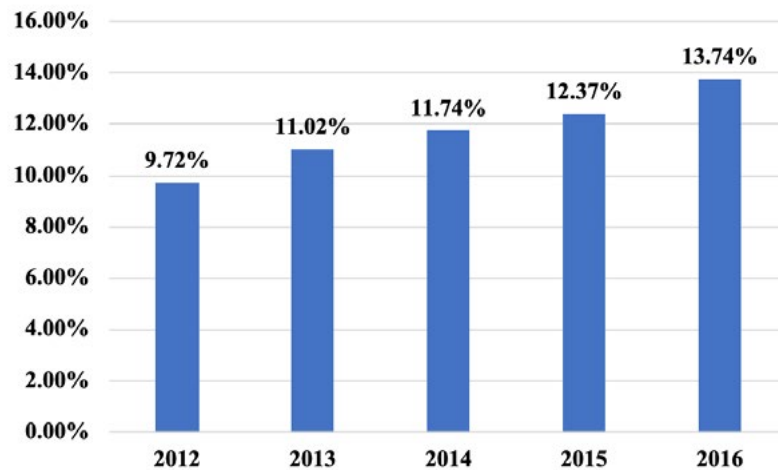
Source: Anatel

Fixed-broadband in Brazil has been especially boosted by small providers catering to rural areas. These smaller carriers serve more than 4 million subscribers and focus their activities on different niches of the public. They contribute largely to the local economy, generating employment and income. Despite network expansion, the demand of Internet services could not be met completely and has led to overload/speed problems. Furthermore, the broadband costs are very high ~ R$59.90 (current US $15.51)[24], which is strongly associated with taxes.

1.1.4 Mobile broadband subscription

FIGURE 6. Mobile broadband subscription
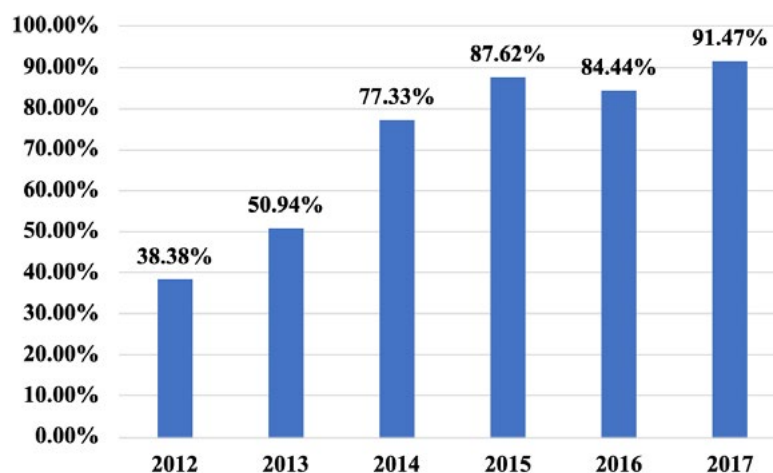
Source: Anatel

Currently there is a penetration of 91.47% of broadband through mobile devices (on average there are 115 smartphones/100 people). This high penetration can be ascribed to the low costs of mobile devices and introduction of new data services such as 5G. These trends (the increasing number of mobile phones and coverage in urban areas) can be seen in the figures below.

[24] service costs should be ~R$37 - R$40 (current US $9.58 - current US$10.36)according to UN calculations

[25] Anatel:https://cloud.anatel.gov.br/index.php/s/TpaFAwSw7RPf-Ba8?path=%2FMovel_Pessoal%2FPor_Banda%2Fcsv

FIGURE 7. Number of mobile phones (millions) in Brazil between 2001-2017
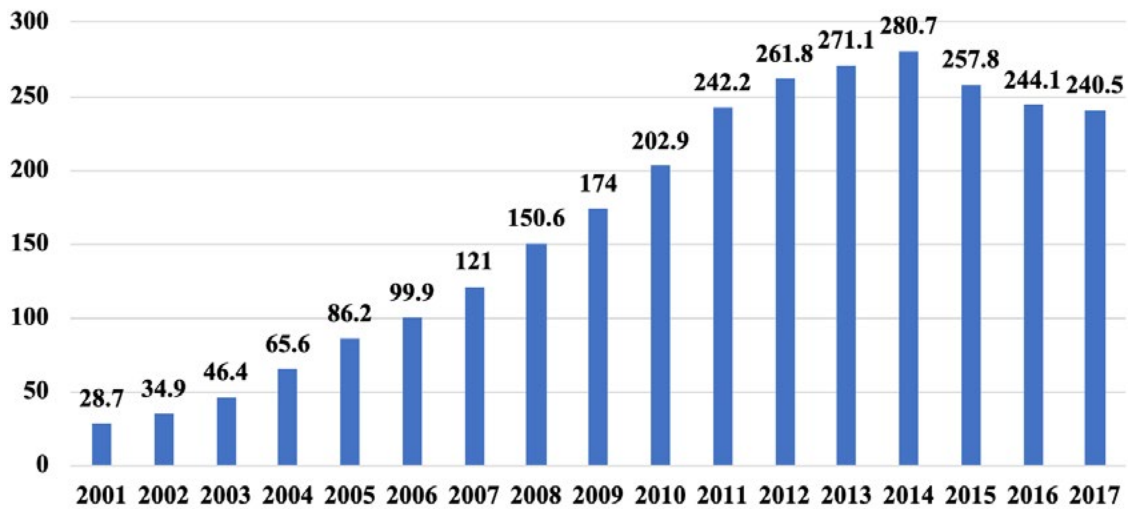
Source: Anatel [26]

FIGURE 8. Mobile operators in Brazil and their coverage between 2015-2017

Mobile Coverage - Cities & Population		
Region	% Cities	% Population
SP	97,2%	99,9%
RJ / ES	100,0%	100,0%
MG	57,4%	89,3%
PR / SC	91,4%	98,2%
RS	73,3%	96,0%
C. OESTE	49,1%	87,5%
NORTE	59,9%	85,2%
BA / SE	61,2%	86,3%
NORDESTE	60,9%	89,9%
Total	69,2%	93,1%

Mobile Coverage - Operators				
Operator	2015	2016	2017	2018
TIM	51,5%	66,6%	86,7%	86,9%
Vivo	46,6%	60,2%	84,5%	84,7%
Claro	48,0%	59,6%	76,2%	77,0%
Oi	45,7%	55,1%	55,1%	55,1%
Algar	0,0%	0,4%	1,1%	1,1%
Nextel	5,1%	5,1%	11,3%	11,3%
Total	55,0%	71,3%	92,9%	93,1%

Source: Anatel [27]

[26] Anatel:https://cloud.anatel.gov.br/index.php/s/TpaFAwSw7RPf-Ba8?path=%2FMovel_Pessoal%2FPor_Tecnologia%2Fcsv
[27] Anatel:https://cloud.anatel.gov.br/index.php/s/TpaFAwSw7RPf-Ba8?path=%2FMovel_Pessoal%2FPor_Empresa%2Fcsv

1.2 DOMESTIC E-COMMERCE MARKET

Despite political instability in 2017, the Brazilian economy has shown a small positive reaction with the fall in inflation and the reduction of interest rates, thus generating an economic recovery with a slight growth of GDP + 0.7% - recovering from a consecutive two years of decline.

On the other hand, the e-commerce market continues to grow at a high rate, achieving a revenue of R$47.7 billion (current US $12.35 billion) with a growth rate of 8% in 2017.

FIGURE 9. Brazilian GDP growth rate 2009-2016
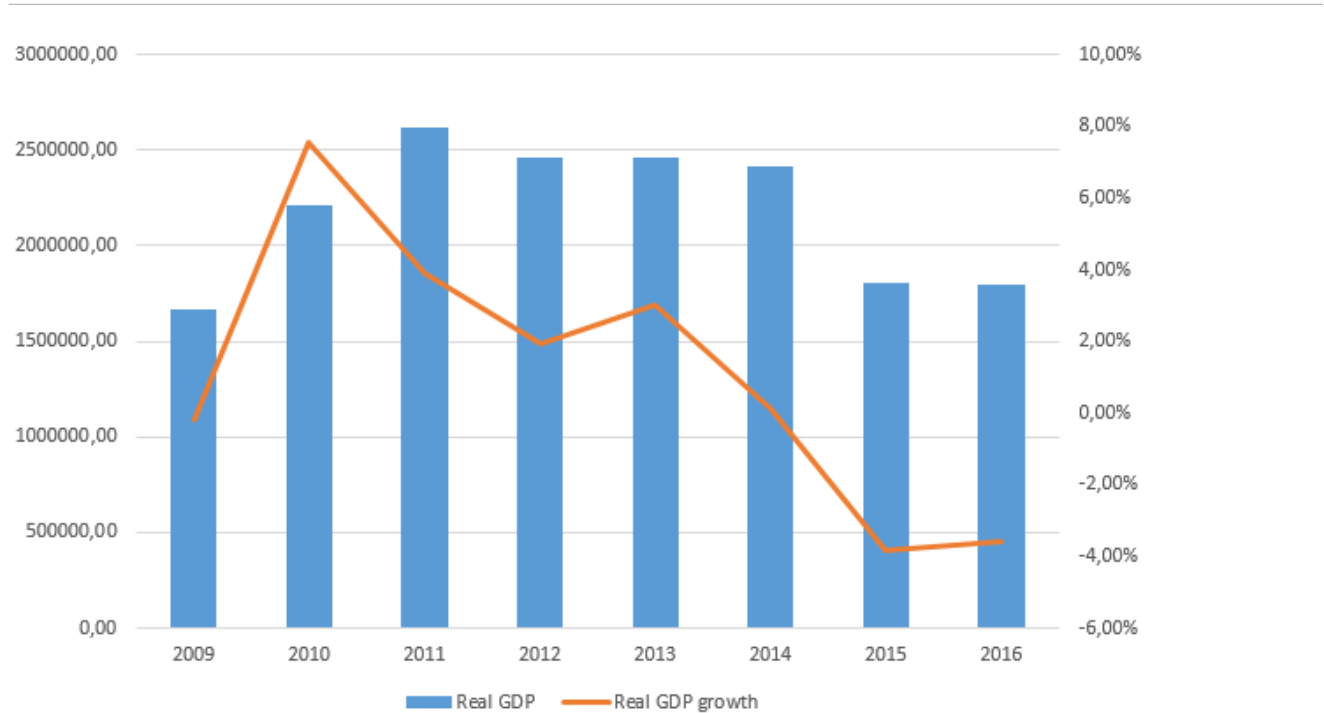
Source: World Bank.

FIGURE 10. Brazilian e-commerce revenues 2011-2017
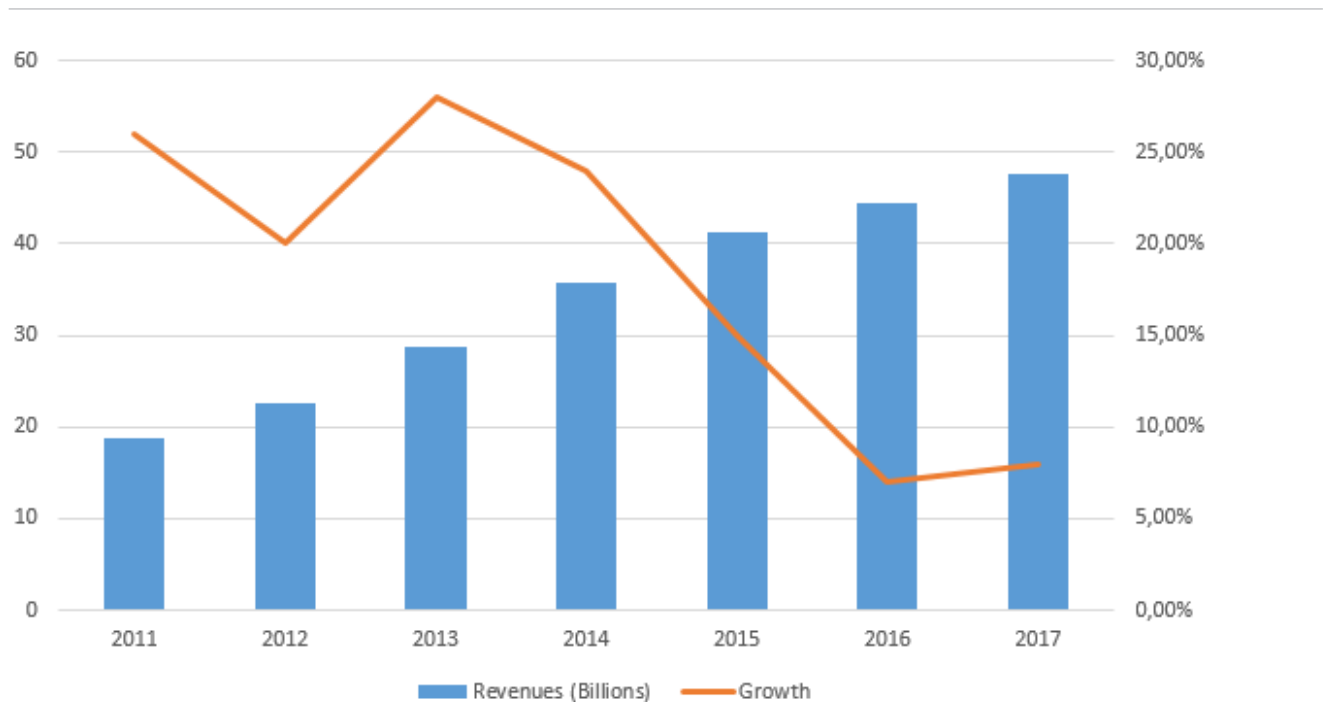
Source: Webshoppers 37º.

The revenue chart above (Figure 10) shows how national e-commerce has developed in recent years. The volume of orders was flat before 2014, however, there has been an increase in revenue due to customers' growing confidence in online purchases.

1.2.1 Trend analysis of sub-market in domestic e-commerce

1. **Business-to-business (B2B)**

    The B2B online market represents 4.7% of the total B2B market. There is a trend of digital development of B2B approaches, especially by the saturation of traditional approaches and market demand that seeks simpler and more direct ways of doing business. However, there is still a lack of operational structure in many companies that prevents them from offering online services.

2. **Online retail market (B2C and C2C)**

    Geography plays a major role when evaluating the country's market potential. Consumers in the southeast region of the country account for 72.1% of online purchases, which reflects Brazil's concentration of wealth and education. The southern region accounts for 11.3%, northeast 9.3 %, center 5.2 %, and north 2.1

%. The majority of e-commerce firms are based in Brazil's business capital, São Paulo. The one factor enabling the development of the business-to-consumer (B2C) is the "long-tail" effect, which allows a wider range of product offerings in niche areas compared to that found in physical storefronts.

3. **Online-to-offline (O2O)**

    The O2O approach, in addition to facilitating payments, aims to generate an increasingly complete customer experience with a focus on convenience and speed. This approach has gained a lot of relevance in global markets and according to data from the Brazilian O2O Association, companies' business activities in this sector grew more than 30% in 2016 compared to 2015. Projections made by the Brazilian O2O Association point out that Brazil will have an O2O market value of R$1 trillion (current US$ 0.259 trillion) by 2020 if it keeps developing at the same pace.

4. **New emerging e-business activities**

    According to the Inter-American Development Bank (IDB) data, there are 230 Fintech companies in Brazil. The recent decline in Brazil's interest rates, reaching 6.75% in 2018, will help facilitate access to credit.

FIGURE 11. Evolution of the basic interest rate in Brasil 2012-2018

Source: Banco Central do Brasil[28]

[28] Banco Central do Brasil : https://www.bcb.gov.br/pec/copom/port/taxaselic.asp

FIGURE 12. Major online marketplace platform

Source: LinkedIn.

Content marketing is one of the most profitable models in the online market and already 71% of businesses in Brazil have adopted it, while 68.9% of the companies that have not intend to in the foreseeable future.

Companies that have launched digital channels using traditional infrastructure are frustrated, as budgets and the time of implementation are always insufficient to meet new consumer demands. Therefore, cloud services have become attractive and according to International Data Corporation (IDC), contracting infrastructure platforms and software as a cloud service will increase revenues of R$ 1.7 billion in 2018.

1.2.2 Key players in the e-commerce eco-system

1. MAJOR ONLINE MARKETPLACE PLATFORM

In Brazil, the online marketplaces are very fragmented, and this channel has been a gamble for many retailers in recent years. This can be seen by the increase in the number of online stores that have adopted the marketplace model. Above is a list of the main national marketplaces.

B2W Digital is the leader in e-commerce in Latin America. The company operates through a digital platform with businesses that have strong synergies and a unique, multi-channel, multi-brand and multi-business model. It has a portfolio of brands and offers more than 38 categories of products and services. As seen in the table below, in 2014 sales in the marketplace model accounted for only 1.7% of its total revenue, rising to an astounding 42.8% in 2017. It is expected that the marketplace model will represent more than 50% of the B2W´s total revenue in 2018.

TABLE 1. B2W marketplace development.

B2W Marketplace Development	
Year	Marketplace (% of GMV)
2014	1,7%
2015	9,5%
2016	19,4%
2017	42,8%

The second leading player in Internet retailing in 2016 was MercadoLibre, which held a share of 18% in total revenues. The company benefits from a strong infrastructure, enabling third party merchants to easily launch their own stores.

Magazine Luiza began its ecommerce operations in 1999 and remains one of Brazil's largest retailers. Currently the company has more than 786 stores distributed in 16 Brazilian states. The group has a wide range of services ranging from provisions of credit to insurance.

2. E-PAYMENT GATEWAY

FIGURE 13. E-payment gateway

Source: Internet and Companies Websites.

Pagar.me is a technology company specialized in payment technology, offering a unique solution to leverage and scale up businesses. They focus on increasing conversion and receivables management.

PagSeguro is a Brazilian company that acts as a multiband seller and is responsible for the capture, transmission and settlement of transactions with credit and debit cards, both physically and digitally.

Moip is part of the Wirecard AG group, which creates trends to facilitate online, offline and mobile payments in all sales channels.

3. Logistics and delivery

Among all the challenges in the Brazilian e-commerce market, one of the most critical is logistics, where problems such as poor highways and cargo thefts are very frequent. Government institutions present minimal efforts to improve this situation. There are also fiscal challenges (such as varying state tax rates) that companies have to face.

FIGURE 14. Logistics and delivery

Source: Internet and Companies Websites

The Brazilian Postal and Telegraph Company (ECT) is the federal public company responsible for the execution of the mailing system in Brazil. ECT faces problems and passes them on to the consumer in the form of price increases and taxation. The companies thereafter pass these extra costs on to the final consumer, which curbs the potential of sales.

Direct express was founded in 2003 when it focused solely in express deliveries, and today it has a range of services that cover storage to delivery. With a structure of distribution centers at strategic cities, they now offer one of the best services in the sector.

Rapiddo, is an online service that provides express deliveries using motorcycles, cars and bikes. Though it is a new and small company, it has shown some interesting developments and has great potential.

1.3 CROSS-BORDER E-COMMERCE

The research published by eBit shows that in 2017 Brazilian e-consumers spent US $2.7 billion in cross-border websites, which represents an increase of 15% compared to 2016 and 39% compared to 2015. It highlights that 48% of Brazilian buyers purchased on international websites in 2017. The research also shows that despite the stabilization of the Brazilian currency compared to the dollar in 2017 (R$3.2 – US $1), each e-consumer made 3.7 purchases in cross-border sites, while in 2016 the rate was 3.8. This could be due to several possible reasons, including

the increases of international purchases by Brazilians overseas. On domestic sites, the average was 2.2 purchases. The average ticket price on cross-border sites increased by 3.1% during 2016-2017[29]

Studies demonstrate that 5 out of 10 Brazilians completed a purchase on an international website in the last year and the figures continue to grow. Chinese websites are very popular among Brazilian shoppers, and according to eBit the top five most used international websites are AliExpress (54%), Amazon (26%), eBay (19%), Apple (8%) and Lightinthebox (6%). Popular categories include electronics, fashion accessories and toys.

The challenges to importing products include:

1. Taxation: companies operating within Brazil are obligated to follow a horde of taxation norms and legal procedures and all items that are worth more than US $50 are heavily taxed and have to go through stringent checks. The import duty and taxes payable are assessed on the sum of the value of the imported goods, the cost of freight and insurance. Additional costs include state sales and excise taxes.

2. Barriers to import: imported goods are often held in the port for at least 17 days, during which documentation is prepared. Furthermore, several permits and licenses have to be presented and the foreign parties participating in the trade have to provide a letter in Portuguese proving that they are doing business with a Brazilian company.

3. Potential solutions & recommendations with case studies: it's important to approach the market with the proper preparation, knowledge of the rules, and ideally with proper legal advice from an experienced set of advisors with local knowledge and experience.

Challenges to exporting products include:

1. Financial: in Brazil, every taxpayer is issued an 11-digit identification code by the Brazilian Federal Revenue Agency. It is also a local anti-fraud tool to identify each individual in Brazil. This code is not compatible in other nations and therefore new anti-fraud mechanisms will be required.

2. Logistics: merchants will most likely face issues with various complex logistics and customs bureaucracy in Brazil. There is an unfriendly ecosystem that is bound to be a challenge for distribution and deliveries.

3. Technology: in many cases merchants' platforms are solely focused on the Brazilian market and hence all related information is only available in Portuguese.

4. Fiscal: Brazil's complex tax structure in conjunction with the regulatory differences between the countries can lead to time-consuming processes and red stripes.

5. Communication: due to the current confinement of activities in Portuguese, merchants will experience communication difficulties in a cross-border environment.

Potential solutions & recommendations with case studies:

Given the complex tax environment, the best advice to companies considering entering this market is to commit for the long-term rather than short-term – recognizing Brazil's potential.

About external issues, merchants would have to invest time and effort into ensuring that all domains are well-taken care of while embarking on the cross-border challenge. Merchants would have to be able to find alternate ways of validating users, accept international transactions and review the refund processes.

Logistics-wise, merchants can engage a cross-docking strategy; appoint agents to facilitate the bureaucracy and logistics of export procedures, and processes of exchange and return. Forming commercial partnerships with major markets can also provide easier clearance.

Merchants can also look into adopting management systems for issuing invoices that follow the CFOP export standards to improve productivity by ensuring proper export documentation and customs clearance.

A marketing strategy that is aligned with the target market culture and interests would greatly improve merchants' chances to communicate with new target consumers. Merchants can consider integrating with key global marketplaces to reach new audiences.

1.4 E-COMMERCE REGULATION AND LAW

In 2013, the Consumer Defense Code was published, which came into effect in May of that year, being valid for all companies, regardless of size. The law covers basic aspects, and basically forces companies to follow three guidelines:

Clear and visible information: all company and marketing information (i.e. address, telephone, cnpj, product description, prices, payment methods, etc.) must be highlighted within the website to provide the customers with complete information.

Agile and effective service: refers to giving a customer support 24 hours a day, 7 days a week. However, since this is only possible for large companies, the law allows for the creation of support pages.

Right of regret: according to the Brazilian law, the customer has up to seven business days after receiving the product to request the cancellation of the purchase with no intervention from the merchant.

The latest international agreement for e-commerce made by Brazilian authorities was in September 2017. Representatives from Brazil and China signed a series of agreements about various subjects and one of them was a memo about e-commerce cooperation.

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[29] https://www.ebit.com.br/webshoppers

1.5 CHALLENGES AND RECOMMENDATIONS

1.5.1 Problems and challenges

Taxation issues: it is estimated that when opening a company, entrepreneurs spend 67% of its profit on taxation matters. This is the highest tax burden of all BRICS countries. Besides the cost, which is already a major problem, Brazilian entrepreneurs also have to deal with the fact that the country has 275.000 norms (varying) regarding when, how and how much tax needs to be paid. The major complaint by merchants is that there is no logic in the definition of which product has the tax collected and who should be responsible for collecting it. Furthermore, smaller companies need to have at least one employee to handle taxation matters. If mistakes are present in the taxation documentation fines have to be paid.

Barriers to imports: significant patience is required to conduct business in Brazil. Imported goods are held in the port for at least 17 days of which 8 days are allocated to prepare documents. Several permits, licenses and a certified "doing business letter" in Portuguese must be provided to authorities. Imported medication and health products can only be commercialized in Brazil after the inspection of the supplier's plant by officials. Brazilian companies often pay an advance of R$37.000 (current US $9605.64) and a waiting time of eight months.

Barriers to export: it takes at least 13 days for goods to leave Brazil and companies have to deal with bureaucratic procedures that may cause serious problems between them and foreign trade partners. For example, Brazilian companies that have the benefit of tax exemption when exporting to the US and to EU countries have to complete repetitive and ambiguous documentation, leading to delays and operational complications.

Poor logistical infrastructure: the country's weak and immature infrastructure has a negative impact on shipping orders. Brazil is a country with vast territory and the majority of transportation is done by road. The country's road infrastructure is in poor condition and many of them are unpaved impacting safety, delivery time and damage to vehicles. Brazil's national postal system is very ineffective, and they have terminated many services (e.g. express mail) that were beneficial to SMEs. Utilization of dedicated delivery companies proves to be very expensive for SMEs. Overall, receiving a delivery package by a customer located outside of the major Brazilian cities stretches to a week at a minimum, with frequent cases of customer complaints about packages not arriving within two weeks or more.

Insufficient talent availability: even in times of crisis and unemployment reaching historic highs (IBGE, 2016), the e-commerce market faces the challenge of finding qualified people to fill the vacancies offered. The main reasons are the lack of academic training, leaving companies in charge of professional training, the emergence of new roles such as specialists in sponsored links and social media, and the high salaries required by qualified professionals.

1.5.2 Strategies and recommendations

With these challenges in mind it is important to understand consumers' difficulties and requirements to ensure new products/services are sufficiently different from existing ones. In a complex tax and regulatory environment, it may be best to form partnerships with businesses that can facilitate navigation through crucial operations.

1.6 MICRO AND SMES (MSMES) AND E-COMMERCE

1.6.1 MSME landscape in the country

The slowdown in economic growth during recent years did not prevent SMEs from expanding. SMEs in Brazil are factors of great importance, because they represent employment for more than 17 million people. During 2003-2013, there was an increase of 33.8% in the number of SMEs establishments, doubling the number of formal employments generated, and providing 52% of all formal employment posts in the country[30]. SMEs represent 99% of Brazilian enterprises and are responsible for more than 27% of the GDP.

SMEs in Brazil are characterized by a multitude of definitions depending on the institutions or banks considered. The general law defines the enterprise category of micro and small but does not consider medium-sized enterprises.

The criteria for SMEs in the trade and services sector are as follows:

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[30] (SEBRAE, 2015)

TABLE 2. Classification of companies

CLASSIFICATION OF COMPANIES		
Categories	Annual Gross Income	No. of Employees in Trade and Services
Individual Entrepreneurs (MEI)	Below R$60 thousand *(US$18.9 thousand equivalent)*	-
Micro Enterprise (ME)	Between R$240 thousand to R$360 thousand *(US$75.6 thousand to US$113 thousand equivalent)*	Up to 9 employees
Small Businesses (EPP)	Between R$360 thousand to R$3.6 million *(US$113 thousand to US$1.13 million equivalent)*	10 to 49 employees
Medium and Large Businesses (MGE)	Above R$3.6 million *(US$1.13 million equivalent)*	More than 50 employees

Another important institution is the Brazilian Development Bank (BNDES)[31] that adopts the size classification of enterprises by another set of annual turnover guidelines, applicable to all sectors:

TABLE 3. Classification of companies by annual turnover

Enterprise Categories	Annual Turnover
Micro Enterprise (ME)	≤ R$ 2,400,000 *(US$757,000 equivalent)*
Small Businesses (EPP)	> R$ 2,400,000 to ≤ R$ 16,000,000 *(US$757,000 to US$5,050,000 equivalent)*
Medium-sized Businesses (EMP)	> R$ 16,000,000 to ≤ R$ 90,000,000 *(US$5,050,000 to US$28,400,000 equivalent)*
Medium and Large Businesses (MGE)	> R$ 90,000,000 to ≤ R$ 300,000,000 *(US$28,400,000 to US$94,700,000 equivalent)*
Large Businesses (GE)	> R$ 300,000,000 *(US$94,700,000 equivalent)*

Source: Sebrae.

APEX-Brazil, a private agency linked to the Ministry of Development, Industry and Foreign Trade, provides not only financial support to SMEs but also market analysis and export consultancy. The Brazilian Micro and Small Business Support Service also assists SMEs in building export capabilities and facilitates their participation in foreign business meetings. SMEs are eligible to participate in an optional taxation regime (Simples National) that allows unified collection of municipal, state and federal taxes.

E-commerce has also been hailed by many as an opportunity to gain a stronger foothold in the multilateral trading systems. To take advantage of the young middle class and growing internet connectivity, many SMEs retailers have engaged in e-commerce operations with 71,000 existing stores as of 2016 and 718,000 jobs generated.[32]

1.6.2 E-commerce challenges for MSMEs

The MSMEs involved in e-commerce and digital endeavors don't receive much support from the government and skills development is only accessible to a few communities. As previously mentioned, taxation is another great barrier for entrepreneurs wishing to start a business. These factors all amount to an extremely challenging environment and explain why most attempts to open a business in the country result in failure and debt.

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[31] BNDES - the main financing agent for development in Brazil
[32] (ABComm, 2016)

1.6.3. Existing support for MSMEs e-commerce activities

The SMEs and e-commerce landscapes in Brazil involve a broad range of various organizations from different domains, namely public and private sectors. Each division plays a unique role in the ecosystem. Below are some of the key organizations and a brief description.

Ministério da Indústria, Comércio Exterior e Serviços (MDIC) helps to formulate policies to support SMEs and is the main entity for registration of trade activities.

Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (SEBRAE) is a non-profit autonomous social institution with the mission of promoting the sustainable and competitive development of small businesses in the country.

Associação Brasileira de Comércio Eletrônico (ABComm) is a non-profit enterprise that defends the interests of digital business with public agencies and gathers representatives from the ICT sector to participate in discussions about the Brazilian digital market.

Câmara Brasileira de Comércio Eletrônico (Camara-e. net) is a leading multi-sector entity in Latin America and promotes security in electronic transactions and the formulation of public policies.

E-Commerce Brazil is a private entity to promote the e-commerce market in Brazil, offering specialized content and training for professionals in the sector.

Reclame Aqui is an open access website where unsatisfied customers can post their complaints and it provides answers that are ranked on the platform.

E-bit has been providing competitive intelligence, delivering value to companies and helping consumers in choosing reputed stores. It is also an important source of knowledge about the e-commerce landscape in Brazil, contributing to the development and growth of the industry.

2. RUSSIA E-COMMERCE DEVELOPMENT REPORT 2018

2.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

According to information from the Russian Federal State Statistics Service, fixed-Internet access composes 26,944 units of connected equipment in total, of which 26,756 units of broadband is Internet access. Wireless Internet access contains in total 111,937 units of connected equipment, of which 109,926 units is mobile wireless Internet access, and 99,793 units is broadband wireless Internet access.[33]

2.1.1 Internet penetration

Different organizations quote different Internet penetration rates in Russia:

» Rosstat: 76.3%

» International Telecommunication Union (ITU): 73% in 2016,[34]

» World Bank: 57.5%

» Statista: 76.1% [35]

The quarterly report from the Ministry of Communications estimated that in the 4th quarter of 2017 the number of active fixed-line subscribers increased to 30.86 million users.[36] The average subscription fee cost for accessing the Internet, according to the Federal State Statistics Service, amounted to 559.44 rubles (current US $8.84) per month in 2016.

2.1.2 Connectivity and connection speed

According to the Internet resource speedtest.net, in April 2018 the mobile broadband download speeds reached 17.46 Mbps, speeds of upload-7.95 Mbps, while fixed-broadband speeds of download speed reached 40.72 Mbps, speeds of upload-40.32 Mbps.[37]

2.1.3 Fixed-broadband subscription

Statistics on fixed-broadband subscriptions are as follows:

1. Rosstat: in 2017 the number of fixed-broadband Internet subscribers per 100 people in Russia amounted to 18.6 subscribers[38]. The share of households with broadband Internet access amounted to 72.6%.

2. "International Telecommunication Union (ITU) and the World Bank: in 2016 the number of fixed-broadband subscriptions was 32,276,615, while the share of fixed-broadband subscriptions per 100 people was 19.47.

3. Minkomsvyaz: in the fourth quarter of 2017, the number of fixed-broadband subscribers amounted to 30,649,407[39]

According to the World Bank, in comparison with the BRICS countries, the largest share of fixed-broadband subscriptions per 100 population was in China with 22.99, followed by Russia with 19.47, and lastly Brazil with 12.88[40]

2.1.4 Mobile cellular subscription

Statistics on mobile subscriptions are as follows:

Rosstat: the number of mobile broadband Internet subscribers per 100 people was 71.1 subscribers in 2016.[41]

ITU and the World Bank: the total number of mobile cellular subscriptions in 2016 was 231,393,994; and the number of mobile cellular subscriptions for 100 people amounted to 163.[42]

Minkomsvyaz: in the 4th quarter of 2017 the number of subscribers of vehicular mobile telephones using Internet access services amounted to 116,310,880.[43]

According to the World Bank, in comparison with the other BRICS countries, Russia has the largest share of subscriptions per 100 people with 159, followed by South Africa with 147, and lastly Brazil with 117.5[44].

2.2 DOMESTIC E-COMMERCE MARKET

According to Rosstat, in 2017 the share of population who used the Internet to order goods and (or) services in the total population accounted to 29.1%. This suggests that in Russia one third of the population benefits from e-commerce opportunities.[45]

According to the Central Bank of Russia, in 2016 the volume of retail for electronic trade of goods and services on the domestic market amounted to 1.95 billion rubles (current US $28.37 million).[46]

At present, according to some experts, about 40,000 online stores are operating in the Russian domestic market[47], and about 200,000 online stores, estimated by other experts[48]. At the same time, only 5% of online stores generate 90% of the sales turnover and fulfil more than 10 orders a day[49].

The Russian Association of Internet Trade Companies (AITC) calculated that at the end of 2017, Russian consumers received more than 400 million international postal parcels with goods ordered on foreign online stores in the amount of 498 billion rubles (current US $7.87 billion), an increase of 22% than 2016[50.].

Online retail market (B2C and C2C)

In 2017, according to the Ecommerce Foundation, B2C trade accounted for 1.39% of GDP, the number of people who bought goods via the Internet was 62,500,000[53]. In 2017, the average purchase amount in Russian online stores was 5,370 rubles (current US $84.62), and in foreign online stores 3,400 rubles (current US $53.58). 90% of Russian purchases in foreign online stores fall on Chinese sites, the main one of which is AliExpress. The most popular product categories were electronics and household appliances, clothing and footwear -with the latter category having a local market share of 26% and a cross-border share of 38%.

FIGURE 1. Russian Internet market by segments

	2013	2014	2015	2016	2017
cross-border trade	131	187	221	303.6	402.5
domestic commerce	413	506	539	616.4	747.5
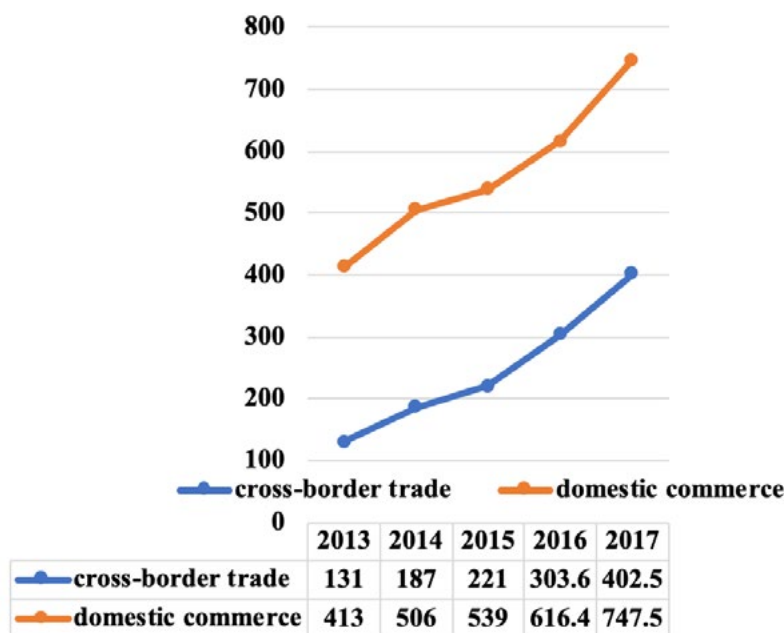
From 2013 to 2017, domestic Internet trade grew from 413 billion rubles (current US $6.53 billion) to 747.5 billion (current US $11.81billion). In 2017, cross-border Internet trade grew twice as much as in 2013: from 131 billion rubles (current US $2.07 billion) to 402.5 billion rubles (current US $6.36 billion).[51]

2.2.1 Trend analysis of sub-market in domestic e-commerce

Business-to-business (B2B)

In 2016, about 160 electronic trade platforms carried out transactions between entrepreneurs. The main sectors are: communication; production and distribution of electricity; water and natural gas; wholesale and retail trade; and repair of motor vehicles, motorcycles, and household products.[52]

Online-to-offline (O2O)

The Chongqing World Association of Internet Commerce (O-connect) organized the first international e-trade O2O fair in Moscow in 2016, wherein 500 orders amounting to 4 billion rubles (current US $63.03 million) were made.[54]

New emerging e-business activities (such as fintech, crowdfunding, P2P, sharing economy, etc)

In Russia, the crowdfunding market started to take shape during 2008-2010 and Planeta. RU and Boomstarter are currently the largest platforms. About 1 billion rubles (current US $15.76 million) were raised on the largest Russian crowdfunding platforms over several years. Now, there are more than 30 crowdfunding platforms in Russia and according to Planeta.ru, the total volume of crowdfunding in Russia are growing by more than 200% per year.

47 According to the analytical agency J'son &Partners Consulting
48 According to the analytical agency Data Insight
49 According to the analytical agency J'son &Partners Consulting
50 https://wek.ru/v-rossii-bolee-40-tysyach-internet-magazinov
51 http://www.akit.ru/оборот-российского-рынка-интернет-ри/
52 https://www.hse.ru/data/2017/08/02/1173493120/IIO%20 2017.%208.%20Jelektronnaja%20torgovlja.pdf

53https://www.arvato.com/content/dam/arvato/documents/reports/russia-reports/Russian_Country%20Report_2017_%20Ecommerce%20Foundation_Arvato_Rus.pdf
54http://ru.siluxgc.com/html/R1673/201604/020275978959.shtml

2.2.2 Key players in the e-commerce eco-system

Major online marketplace platforms

In 2015, according to the National Association of Distance Trade (NADT), the volume of online purchases abroad was 227 billion rubles (current US $3.58 billion), while in Russia the domestic volume was 554 billion rubles (current US $8.736 billion). In 2017, online trade increased by 20%. Currently in Russia, the leading electronic platforms are GlobalRusTrade, LAMODA.RU, OZON.RU, KUPIVIP and ULMART.

E-payment gateway

WebMoney: is a convenient tool for all types of payments on the Web and a full-fledged environment of financial relationships on the Internet. WebMoney services allow you to automate receipt of funds and payments, attract financing, keep records, exchange settlement funds, resolve disputes and enter into safe transactions.

QIWI: offers an integrated payment network allowing payments on physical, Internet and mobile communication channels. It includes over 15.8 million virtual wallets and more than 171,000 kiosks and terminals.

Yandex Money: is the most popular e-wallet that allows mobile payment on different mobile operating systems. Cards can be added to the wallet and the mobile device can make contactless payments. In early 2017, Yandex Money registered about 30 million users, and about 15 thousand new wallets are opened daily.

In Russia, the Association of Electronic Money and the Money Transfer Market Participants were established, which comprise 13 companies[55].

Logistics and delivery

In Russia, the regulation of transport and logistics services is guided by several laws. According to Article 71 of the Constitution of the Russian Federation,[56] federal transport and the means of communication are the responsibility of the Russian Federation. The Russian Civil Code defines the fundamental rules concerning: the carriage of cargo, passengers, baggage; other transport obligations; the main provisions related to carrier liability; the procedure for presenting claims, etc. (Chapters 40 and 41) [57]. The main regulation of transport relations is carried out by special federal laws. Such laws include: the Federal Law "On Transport Security" [58]; "On Rail Transport in the Russian Federation" [59]; the Air Code [60], etc. Also, there is a special Federal Law "On Transport and Forwarding Activities"[61] in Russia.

Russia has not adopted legislation on multimodal transport, which hinders the development of this direction in transportation and logistics. The key problem is the lack of a single transport documents for multimodal transport and the legislation of the Russian Federation does not fix the provisions on the recognition of FIATA documents.

For the B2B sector, the key logistics companies are JSC Russian Railways, JSC First Freight Company, PJSC Transcontainer, and the group of companies "Business Lines". In B2C, more than half of deliveries in e-commerce are carried out by the Russian Post. In addition to the Russian Post, companies such as CDEK, DPD, SPSR, FedEx, etc. are also on the market.

2.3 CROSS-BORDER E-COMMERCE

Russia aims to ensure that e-commerce accounts for 20% of the total trade volume and aims to increase the sale of products through online channels to 70%. According to the Association of E-Commerce Companies (ACIT), the share of foreign segment (companies or online stores) in the total e-commerce market increased to 36% in 2017[62].

2.3.1 Import/ Export Statistics

According to the Central Bank of Russia, in 2016 the volume of cross-border electronic commerce in goods and services was 308.9 billion rubles (current US $4.89 billion)[63]. In 2015, the Russians made 260 million online orders (in 2014, 235 million orders), according to the National Association of Distance Trade (NADT), of which more than 50% are purchases on foreign online stores[64]. According to AECP, about 23% of the expenses of Russians fell on foreign online stores [65]. AECP calculated that by the end of 2017, Russia received more than 400 million international shipments of goods, ordered from foreign online stores, amounting to 498 billion rubles (current US $7.88 billion). According to the Russian Post, in the first quarter of 2017, the share of parcels in e-commerce amounted to 66% of the total number of parcels[66].

[55] http://www.npaed.ru/RU/2014-09-05-08-19-53
[56] http://www.constitution.ru
[57] http://www.consultant.ru/document/cons_doc_LAW_9027/84989 d 331874be7730e1c99b836fbe639a8efe6d/
[58] http://www.consultant.ru/document/cons_doc_LAW_66069/
[59] http://www.consultant.ru/document/cons_doc_LAW_40443/
[60] http://www.consultant.ru/document/cons_doc_LAW_13744/
[61] http://www.consultant.ru/document/cons_doc_LAW_43006/

[62] http://www.akit.ru/%D0%BE%D0%B1%D0%BE%D1%80%D0%BE%D1%82-%D1%80%D0%BE%D1%81%D1%81%D0%B8%D0%B9%D1%81%D0%BA%D0%BE%D0%B3%D0%BE-%D1%80%D1%8B%D0%BD%D0%BA%D0%B0-%D0%B8%D0%BD%D1%82%D0%B5%D1%80%D0%BD%D0%B5%D1%82-%D1%80%D0%B8/

[63] https://www.google.com/url?sa=t&rct=j&q=&esrc=s&-source=web&cd=2&cad=rja&uact=8&ved=2ahUKEwjZwYWDsoreAh-WthKYKHXVKBeEQFjABegQICBAC&url=http%3A%2F%2Fminpromtorg. gov.ru%2Fcommon%2Fupload%2FdocVersions%2F5a941a3a65222%-2Factual%2Fstrat_torg.doc&usg=AOvVaw13ZIcaxNPOIz5CGVpe3N4t

[64] http://www.namo.ru/assets/files/research/nadt-e-com-import-re-search-2016.pdf

[65] http://www.akit.ru/%D0%BE%D0%B1%D0%BE%D1%8 0%D0%BE%D1%82-%D1%80%D0%BE%D1%81%D1%81 %D0%B8%D0%B9%D1%81%D0%BA%D0%BE%D0%B3 %D0%BE-%D1%80%D1%8B%D0%BD%D0%BA%D0%B0-%D0%B8%D0%BD%D1%82%D0%B5%D1%80%D0%BD-D%D0%B5%D1%82-%D1%80%D0%B8/

[66] https://www.google.com/url?sa=t&rct=j&q=&esrc=s&-source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwiaideFs4reAhUCk-SwKHdCoD5EQFjACegQIBxAB&url=https%3A%2F%2Fwww.pochta. ru%2Fnews-list%2Fitem%2F1342973327&usg=AOvVaw3BK17i-GN-QDRfzuZ6Bny03

2.3.2 Major trade partners

According to the Russian Post, the largest number of parcels were sent from China and the United States. NADT estimated that in 2015, the volume of online purchases in the Russian Internet-shops (in China) was about 50% in cash and 90% of the total parcels (pieces). The United States followed, with the share of retail online trading accounting for 13 % in terms of value and about 2% in terms of volume of parcels (pieces) the same year. The total volume of online purchases in foreign online stores amounted to 227 billion rubles (current US $3.59 billion).

2.3.3 Business category and model

According to the Expert-RA, in 2015 the share of the largest customers in the B2B sector, using e-procurement, reached 77.4% of all B2B purchases. In 2015, one of the largest sites was the auto parts store EXIST with a turnover of 35.7 billion rubles (current US $565.1 million).

In the framework of B2C in 2016, the Russian Post and Biglion made a pilot project in which approximately 200,000 B2C orders were made, mainly purchasing toys, machinery and cosmetics, and the average order value was 600 rubles (current US $ 9.50)

In 2017, Ulmart presented a business model of an e-commerce platform with an all-Russian network of logistics centers for order execution.

According to the e-commerce foundation, in 2015 online sales of goods and services in the Russian B2C sector amounted to US $22.8 billion, which is about 1% of the total world trade.

2.3.4 Cross-border-related issues and challenges

The following aspects are important for the development of cross-border e-commerce:

1. Support the openness of the Internet, which leads to the growth of cross-border trade and contributes to the country's inclusion in the global value chains (GVCs).

2. Freedom of payment: e-commerce is impossible without fast payments. The barriers to payments include repatriation of foreign revenue into Russian bank accounts, restrictions on the use of foreign accounts and the prohibition of e-money transfer in the B2B sector.

3. Provide a practical opportunity to export all goods in the framework of world postal organization (WPO) and value added tax (VAT) refunded by any exporters.

4. Trust in e-commerce through the introduction of consumer protection standards.

5. Acknowledge the special role of e-commerce platforms as a conductor of trade. E-commerce platforms reduce transaction costs, provide a range of tools that facilitate sales and promote entry into the market of small players.

6. Ensure involving companies, especially SMEs in e-commerce, in the implementation of special support measures for SMEs by SME support institutions (in Russia, it is the SME Corporation), and export development (a Russian export center) is required.

2.4 E-COMMERCE REGULATION AND LAW

2.4.1 Domestic e-commerce laws and regulations

In Russia there is currently no legal definition of e-commerce, which in itself does not affect its development, but it does create some difficulties in identifying and subsequently reducing existing barriers in certain areas of legislation. For example, the rules on the sale of goods by remote means do not cover all cases of sales in e-commerce (for example, the rules do not cover the issue of trade in services).

The main law regulating relations related to the use of information is the Federal law «About Information, Information Technologies and Information Protection» 2003, which replaced the 1995 law «About Information, Informatization and Information Protection». The key importance for the development of e-commerce is the expansion of the scope of electronic document circulation. The basis for the requirements to the forms of transactions, including those that made use of electronic documents, is defined in the civil legislation. Article 434 of the Russian Civil Code defined as one of the ways of concluding a contract in written form - the exchange of documents by mail, telegraph, teletype, telephone, electronic or other communication - which allows verification that the document comes from the party involved in the contract. The civil code also regulates the protection of intellectual property and establishes a regime of responsible information intermediaries. In Russia, the federal government supervises communication, information technology and mass communication and can block sites without a court decision.

Special legislation was adopted with respect to electronic signatures. According to Article 2 of the Federal Law "About Electronic Signature", here, electronic signature means information in electronic form that is attached to other information in electronic form (signed information) or connected with such information and can be used to determine the person signing the information.

Another key aspect of e-commerce development is the processing of personal data. In Russia, the requirements for the rules of collection, processing and storage of personal data are reflected in the Federal Law "About Personal Data", while the legal uncertainty regarding the status of impersonal data (the need to comply with all the rules of processing personal data after their depersonalization).

The fight against cybercrime is carried out through

the determination of sanctions in the Criminal Code for committing a cybercrime (Articles 272-274 of the Criminal Code). Russia is not a part of the Council of Europe Convention regarding computer crime.

In Russia, within the framework of the "Digital Economy" programme, it is envisaged to pass bills aimed to regulate crowd funding and digital financial assets. At present, these draft laws have been submitted to the Russian Parliament. The draft law "On Digital Financial Assets" is an unsettled issue regarding using crypto-currency as a means of payment, and has set strict restrictions on the possibility of exchanging digital assets for rubles and dollars, etc. In 2011, the Federal Law "On the National Payment System" was adopted, which established regulation on the use of electronic funds.

2.4.2 Government policies and initiatives to support e-commerce

The Ministry of Industry and Trade developed a draft strategy for the development of electronic commerce through 2025, which involves but is not confined to the development of technical infrastructure, the development of statistical accounting, improving B2B legislation, promoting digital payments and the protection of consumers' and sellers' rights.

In the context of the project «Systemic Development of International Cooperation and Exports» the First Deputy Chairman of the Russian Federation, I. Shuvalov, instructed the Russia OECD center to draw up proposals for legislative provisions regarding the regulation of e-commerce, taking into account the OECD standards, and including the protection of consumer rights. The center has prepared proposals in the fields of export control, B2B e-payments and the liberalization of currency legislation.

2.4.3 International trade agreement

In 2015, the Eurasian Economic Union (EAEU) and Vietnam signed a regional trade agreement (RTA). The agreement contains Chapter 13 "Electronic Technologies in Trade", which defines the tasks of development of electronic authentication, recognition of electronic documents, etc. In planning to the conclusion of RTAs with India, Iran, China and other countries with the participation of Russia, provisions should be included and aimed at the development of paperless trading and electronic authentication cooperation for consumer protection in e-commerce in order to eliminate barriers to cross-border trade between the signatories.

2.5 CHALLENGES AND RECOMMENDATIONS

2.5.1 Problems and challenges

Challenges for ICT infrastructure

In order to improve the ICT infrastructure, the development of Internet access should be based on the principles of fair competition. The state should assess the market access and the prevalence of broadband Internet access. A key aspect of ICT infrastructure development is the establishment of a limited regime for Internet intermediaries.

Challenges for domestic e-commerce development

For domestic e-commerce development, it would be necessary to remove existing barriers in the following areas:

» B2B e-payment prohibition

» Pass consumer protection legislation

» Increase e-commerce awareness among businesses

» Legal uncertainty regarding the utilization of crypto-currency

Challenges for cross-border e-commerce development

For cross-border e-commerce development, it would be necessary to remove existing barriers in the following areas:

» Absence of customs administration system

» High logistical costs

» Repatriation of currency proceeds

» Barriers for cross-border transfer and localization of data flows

Challenges for government regulation

In Russia, for the development of e-commerce platforms, it is necessary to:

» Define an important role of e-commerce platforms in promoting international trade and SMEs development

» Implement the support measures for e-commerce platforms such as information sharing with exporters and subsidizing e-commerce accounts

» Develop cooperation between e-commerce platforms, public authorities and export support institutions

2.5.2 Strategies and recommendations

In order to improve customs procedures for export, it is necessary to simplify the filling in of documents by the Universal Postal Union by adopting the rules by the Russian Post. These rules should clarify that exporters will be required to indicate the HS code of the foreign economic activities at the level of the first 6 digits (not 10) in order to simplify the procedure for determining the HS code for the exporter. It is also necessary to compile the practice of the Federal Service for Technical and Export Control's conclusions and issue a document aimed at clarifying which goods can be determined as dual-use goods. To reduce the cost of logistics,

the Russian Post and the Russian Export Center need to prepare a list of countries which are interested in exporting the framework of e-commerce and to conclude agreements with them.

It would be necessary to provide liberalization of foreign exchange regulation by eliminating the repatriation requirement, taking into account strengthening the framework of anti-money laundering legislation, and eliminating restrictions to use foreign accounts. It is important to allow e-money to be used in B2B transactions and to reduce limits for personalized e-wallets.

Legal uncertainty of the status of virtual money limits the possibility of their use. Business and individuals meet difficulties in determining the consequences of transactions with virtual money, as well as the risks of liability. It is necessary for Russia to extend the requirements of the Federal Law "On Combating Money Laundering and the Financing of Terrorism" regarding the activities of platforms for exchanging virtual currencies. It will provide legal basis for the free use of crypto-currencies.

In order to create fair conditions for retail export by Russian exporters, it is necessary to allow the use of the CN23 declaration to confirm the 0% VAT rate on exports, and to provide the possibility for the exporter to receive a copy of declarations marked by customs authorities   through information exchange between the Federal Custom Service and the Federal Tax Service.

Rospotrebnadzor and the Russia-OECD Center are developing guidelines for e-commerce platforms aimed at stimulating adopting standards to protect consumers' rights and strengthening trust in e-commerce. Guidelines will include (but are not limited to): informing consumers about their rights and ways to protect them; improving identification and verification of sellers; and adopting measures to prevent the sale of counterfeit products.

It is also important to define incentive measures for the development of e-commerce platforms as important drivers of promoting national goods and services through e-commerce channels. E-commerce platforms reduce transaction costs, provide a range of tools that facilitate sales and simplify entry of small players into the market.

2.6 MICRO AND SMES (MSMES) AND E-COMMERCE

2.6.1 MSME landscape in Russia

There are more than 6.2 million MSMEs in Russia. SMEs account for 20% of the country's GDP and employ 30% of the country's labor force. Approximately half of SMEs (48%) are engaged in wholesale and retail sales, 15% in real estate (sale, rent), and 10% are engaged in transport. In Russia less than 10% of the populations are involved in their own business, but at the same time, there are probably a large number of unregistered enterprises in Russia (the informal economy reaches 40% of the total economy). Russian SMEs do not invest in innovation as 94% of SMEs do not use new technologies in their

entrepreneurial activities. Since 2014, there has been a decrease in the number of SME loan applications due to the increase in the cost of lending.

2.6.2 E-commerce challenges for MSMEs

There are no particular barriers to the development of e-commerce for SMEs. At the same time, there is a gap in the participation of companies in e-commerce - SMEs participate in e-commerce to a much lesser extent. SMEs continue to be poorly informed about the possibility of using e-commerce for export and there is also a low level of knowledge of foreign languages among the population, which reduces their export competitiveness. Furthermore, there is skepticism from the government on the utilization of digital and crypto-currencies.

2.6.3 Existing support for MSMEs e-commerce activities

In 2015 the State created the "Federal Corporation for the Development of Small and Medium-Sized Enterprises" (SME Corporation) for the purpose of developing and supporting SMEs. In accordance with the Federal Law "On the Development of Small and Medium-sized Enterprises in the Russian Federation", the objectives of the SME Corporation are to support SMEs financially, ensure their access to public procurement/loans, develop business plans and provide legal support.

2.7 OUTLOOK AND POLICY RECOMMENDATIONS OF E-COMMERCE COOPERATION AMONG BRICS PLUS COUNTRIES

2.7.1 Common problems and challenges for BRICS Plus countries

E-commerce has great potential to promote exports, however, common challenges include low awareness of e-commerce opportunities, the complexity of cross-border payments and a lack of trust in e-commerce.

Challenges for ICT infrastructure

Broadband opportunities remain extremely uneven in BRICS countries. It is necessary to create conditions for the development of competition between providers of telecommunications services, as well as the development of public-private partnership in this area.

Challenges for domestic e-commerce development

National institutions should co-ordinate with other institutions to actively assist SMEs to develop business strategies in electronic and mobile commerce.

Challenges for cross-border e-commerce development

For cross-border e-commerce development in BRICS countries, it is necessary to:

» Eliminate barriers for free cross-border payments using cashless payments, such as e-money and virtual currencies

» Improve the procedures for customs control and refunding VAT

» Develop cooperation in order to improve the logistics of goods in the B2C and B2B areas

» Support e-commerce platforms which create an infrastructure for e-commerce

Challenges for government regulation

BRICS countries can improve their legislation to create conditions for growth of cross-border e-commerce. In particular, legislation is required in increasing freedom for cross-border payments, authentication of digital signatures, simplification of the process of VAT refund and strengthening of consumer protection.

2.7.2 Potential of e-commerce cooperation among BRICS Plus countries

For the development of cross-border e-commerce, BRICS Plus countries can:

» Determine the standards for activities of e-commerce platforms (consumer protection, utilization of labels, improvement of information exchange with government sector, payment modalities, etc.)

» Provide conditions for non-discrimination of SMEs access to trade on e-commerce platforms

» Establish cooperation mechanisms between e-commerce platforms to identify priority areas for trade development and problems faced by SMEs

2.7.3 Promotion of dialogue to improve the business environment

Including simplification and regulation on standards, and harmonization of taxes

For the development of cross-border e-commerce, the business climate and the transparency of regulation play a key role and significantly affect the trade and investment. The countries are developing mechanisms of assessment of the regulatory impact, which take into account businesses' opinions before adopting regulation. It is important to ensure equal access to mechanisms of assessment of regulatory impact for stakeholders from BRICS countries, to create conditions for providing up-to-date information on e-commerce regulations in the member country's language.

2.7.4 Facilitation of cross-border e-trade and the digital economy

Cross-border e-commerce can be facilitated through the development of an e-trade infrastructure and the adoption of best practices such as the Electronic World Trade Platform (eWTP), EPEC, Digital Free Trade Zone (DFTZ), Electronic Hub (eHub), APEC Cross-Border E-commerce Training (CBET), etc.

2.7.5 Cooperation with international organizations to prioritize e-commerce development needs

It is important to:

» Formulate the standards for cross-border cooperation of e-commerce platforms to improve cross-border e-commerce and ensure conditions for healthy competition between e-commerce platforms in OECD countries and the partners of the organization.

» Provide recommendations for countries to develop the mechanisms for improving cooperation and information exchange between public authorities and e-commerce platforms

3. INDIA E-COMMERCE DEVELOPMENT REPORT 2018

2018 will be another crucial year for the development of the e-commerce sector as players penetrate into new markets and acquire new customers. This will be supported by innovation, technology-led solutions and rising government initiatives. Companies will continue to harness both enterprise technology and financial technology to provide a unique customer experience. Over the last few years, players have been toying with the idea of leveraging technologies such as AI and machine learning and 2018 could be the year when these ideas start taking shape, albeit on a smaller scale.

3.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

3.1.1 Internet economy statistics- present and future

With approximately 465 million Internet users in 2017, India is the second largest online market, ranked only behind China. The Internet contributed 5% to the economy in 2016 and is expected to reach 7.5% by 2020. In 2021, there will be over 750 million Internet users in the country, and the trend to prefer Internet access through mobile devices will continue. Figure 2 shows the growing digital infrastructure in India.

FIGURE 1. . Indian Market 2017

Sources: IAMAI, IMRB Kantar, I-Cube, NASSCOM Analysis

Sources: eMarketer, Economic Times, Livemint, IMRB Kantar, I-Cube 2016, IAMAI, NASSCOM Analysis
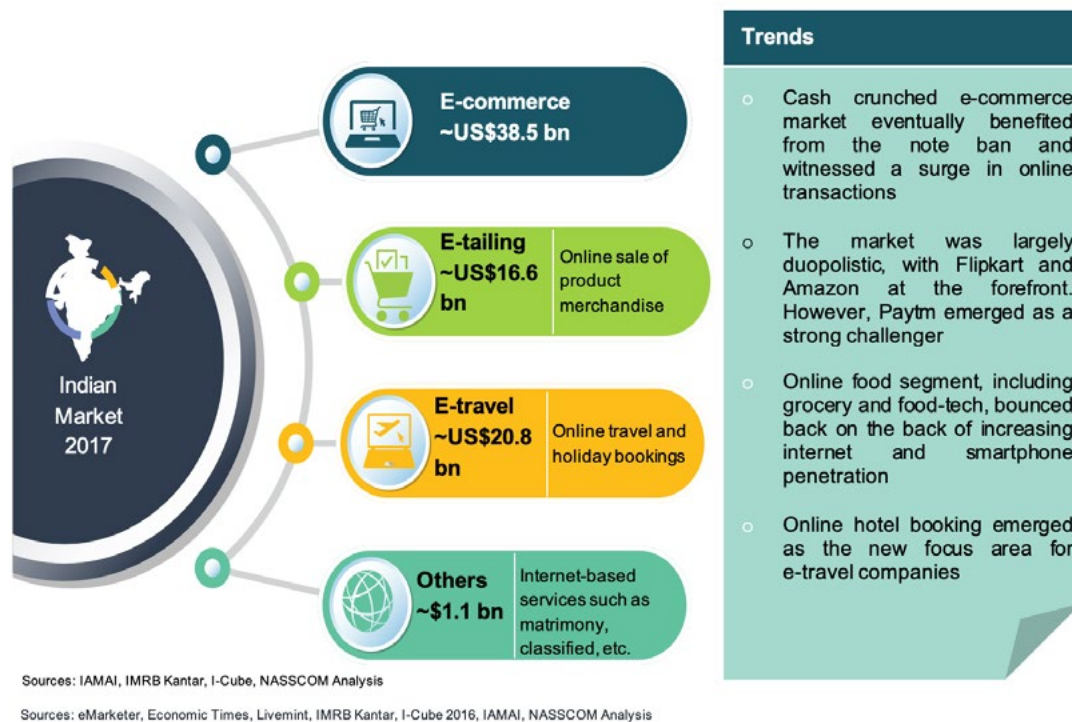
FIGURE 2. Growing Digital Infrastructure
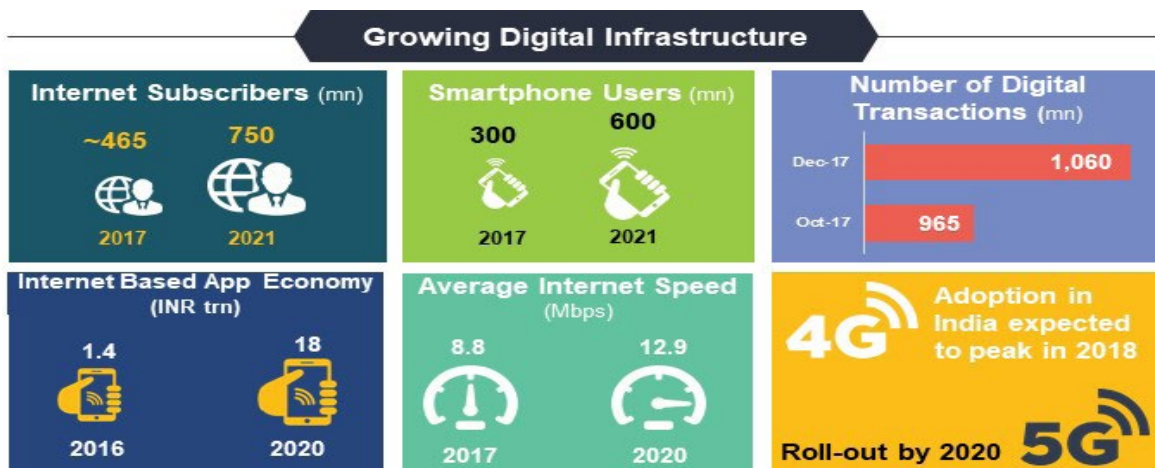
Source: KMPG, Akamai, Ookla, RBI

3.1.2 India's drive for a cashless economy [67]

The government has a strong focus on transforming the country into a cashless economy through examples such as:

» The mobile-wallet transaction value stood at INR 793 billion (current US $11.59 billion) during Q1 FY 2018

» Digital transactions as % of GDP are expected to increase from 5% in FY 2017 to 20% in FY 2027

» There were 35 million e-governance transactions per day in 2017

» eHealth – 881 government hospitals have become eHospitals

» eNam – an e-trading portal for agricultural commodities includes 100,000 buyers and 600,000 sellers

3.1.3 Subscription data (as on September, 2017) [68]

» The overall tele-density in India was 93.42% - 56.78% rural and 172.86% urban

» Total subscribers stood at 1207.04 million - 501.99 million rural and 705.05 million urban

» Wireless telephony constitutes 98.04 % of all subscriptions whereas the share of landline telephones stands at 1.96 %

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[67] NASSCOM Strategic Review
[68] Economic Survey of India

FIGURE 3. E-commerce in India accelerating growth

3.1.4 Connectivity and connection speed

» The total number of mobile subscribers is 988.49 million [69]

» Segment-wise broadband subscribers – Dec 2017

TABLE 1. Broadband subscribers

Segment	Broadband subscribers (million)
Wired subscribers	17.86
Mobile	344.57
Fixed-wireless subscribers	0.44
Total	350.07

Source: Telecom Regulatory Authority of India and NASSCOM Strategic Review, 2018.

3.2 DOMESTIC E-COMMERCE MARKET

3.2.1 Indian e-commerce landscape

The Indian e-commerce industry witnessed a dull start to 2017 due to the demonetization that was announced in November 2016. This hampered online sales as it impacted the most popular payment method, i.e., cash on delivery. However, with the government pushing for a cashless society, the sector survived the initial slowdown and rather benefitted from the note ban, as it spurred online transactions. It also benefitted mobile wallet and fintech firms as they also started gaining traction.

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[69] COAI as of Jan 2018

Source: NASSCOM Strategic Review, PwC report on Accelerating in India .[70]

[70] NASSCOM Strategic Review, PwC report on Accelerating in India:https://www.pwc.in/assets/pdfs/publications/2015/ecommerce-in-india-accelerating-growth.pdf

The year 2017 witnessed the advent of grocery retail and food-tech as leading players such as Amazon and Flipkart entered the market. These players also strengthened their foothold in tier 2 and 3 cities, with Amazon reporting 66% increase in sales volume from these markets. The year also saw the highly talked-about US $950 million merger between Flipkart and Snapdeal falling apart, after entering advanced-stage discussions.

In the future, the sector is set to demonstrate strong growth due to an increase in Internet and smartphone penetration besides the government's initiatives for a cashless society. In addition, regulatory changes such as the introduction of Goods and Services Tax (GST), which replaced several indirect taxes are expected to reduce product costs, the benefit of which will be passed on to the end-customers.

FIGURE 4. India c-commerce landscape

Indian E-commerce Landscape 2017

Indian E-commerce Market (in USD bn)

Growth 17%

	FY2017	FY2018 (F)
Others	2.0	1.1
e-tail	12.9	16.6
e-travel	18.2	20.8
Total	33.0	38.5

Segmentation of Indian E-Commerce Market
- Others 3%
- e-Tailing 43%
- e-Travel 54%

Breakdown of Online Shoppers – Based on Gender and Age Group
- 45-60 yr. 2%
- 26-35 yr. 42%
- 18-25 yr. 28%
- 36-45 yr. 28%
- Male 65%
- Female 35%

Source: The Economic Times, IAMAI, IMRB, NASSCOM Analysis

According to The Economic Times, the number of online shoppers is expected to cross 100 million by the end of 2017 as compared with 69 million in 2016

Key Drivers

Supply
- Rising no. of Internet and smartphone users fueling m-commerce, especially from semi-urban areas
- Increase in funding by investors, which stood at ~US $8.5 billion in 2017
- Robust logistics infrastructure, to be further strengthened by GST implementation
- Favorable policies allowing 100% FDI, attracting more foreign players and investment

Demand
- Convenience through home delivery options, discounts, better product range, etc.
- Changing demographics, which include more of nuclear families, a growing female workforce and young people who shop online
- Cashless society leading to growth in online transactions, which grew 80% after demonetization

3.2.2 Trend analysis of sub-market in domestic e-commerce

E-tailing

The Indian e-tailing market is estimated to grow at 50% Y-o-Y during 2017-2018 due to an increase in disposable incomes and the rising penetration of Internet and smartphones in the country[71]. With the rise in disposable incomes and increasing Internet and smartphone penetration, the e-tailing industry continued an upward trend in 2017. The market is estimated to exhibit strong growth and reach US $200 billion, as well as account for 12% of India's overall retail market by 2026.

Indian E-Tailing Market ($ mn)

Growth 47.6%

16.6 — 2017
24.5 — 2018F

2017 was marked by the launch of private-labels and in-house brands by various companies that contributed to their top line and improved profitability.

» Retailers gross merchandise value increased by 40% Y-o-Y in 2017.

» There was also an increase in investor funding, led by Flipkart that raised ~US $4 billion from various investors.

» Both online and offline players adopted an omni-channel strategy.

Segments Witnessing High Growth

» Apparel and electronics continued to dominate the market in 2017

» Food items i.e. online grocery retail and food-tech was one of the fastest-growing segments

» The year also witnessed several companies plug in gaps in the existing product categories and strengthen their position in tier 2,3 and 4 cities

» Companies also encouraged cross-border retailing (Flipkart launched Global Initiative in August 2017)

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[71] NASSCOM Strategic Review,2018

% growth, FY2018E

72 Apparels
65 Food Items
63 Electronics
52 Beauty/Personal Care
49 Home Furnishings

Source: Redseer Consulting; Economic Times, ASSOCHAM, Livemint, NASSCOM Analysis.
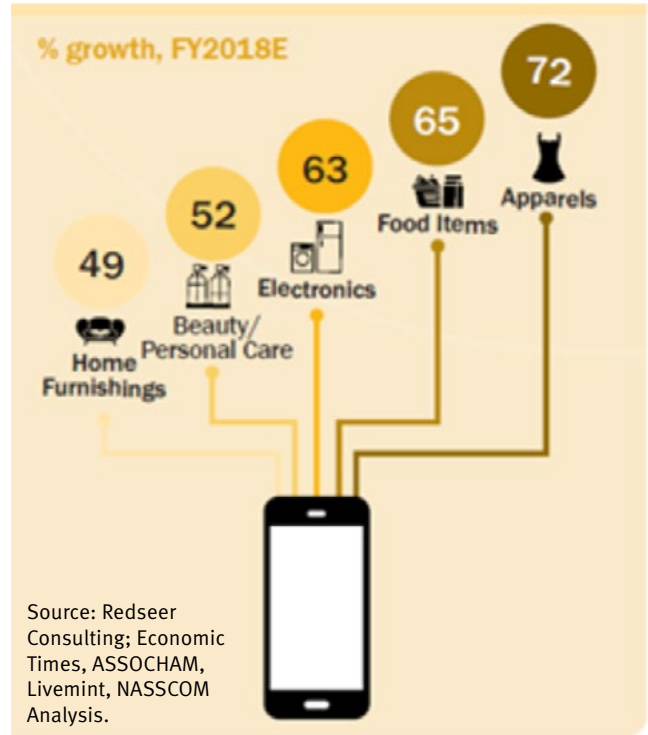
Investment trends

India's e-tailing market witnessed continued investment by global companies to strengthen its presence. Amazon Inc. invested another US $250 million in Amazon India, taking the total investment in the Indian arm to US $5 billion. Paytm launched its e-commerce arm Paytm Mall, backed by a US $200 million investment from China-based Alibaba.

Food sector in e-commerce

The government allowed 100% FDI in online grocery in 2016, which led to increased investments from foreign players. Firms entered the market through partnerships with existing players to tap into the growing online grocery retail market. Amazon got government approval to invest US $500 million in food retail and launched Amazon Pantry in large metropolitan cities to deliver groceries. Paytm ventured into grocery retail through Paytm Mall. It also entered into discussions with BigBasket to invest US $200 million to enhance their omni-channel strategy.

E-travel

FIGURE 5. E-travel growth

Indian E-travel Market ($ bn)

Growth 15.1%

20.8 — 2017
24.1 — 2018 (F)

Source: NASSCOM Strategic Review, 2018

E-travel continues to lead the overall e-commerce market with ~54 -55% share, however, it is being challenged by e-tailing. India's addressable market is expected to offer a US $67 billion booking opportunity by 2021.

Segmentation by service category

Online hotel booking is one of the fastest-growing segments and is expected to be the most promising one for online travel agencies (OTAs) in the coming years. A summary of the online service segmentation can be seen below:

FIGURE 6. Online hotel booking

Sources: IAMAI, IMRB

Leading players and their share

The competitive landscape saw smaller players adopting some interesting strategies in 2017 and mid-size players diversifying operations.
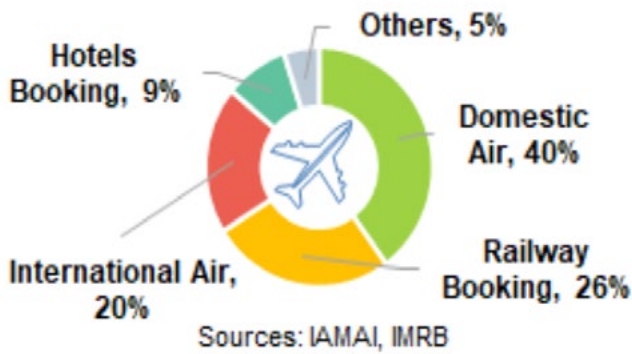
FIGURE 7. Leading players and their share

Source: Kalagato
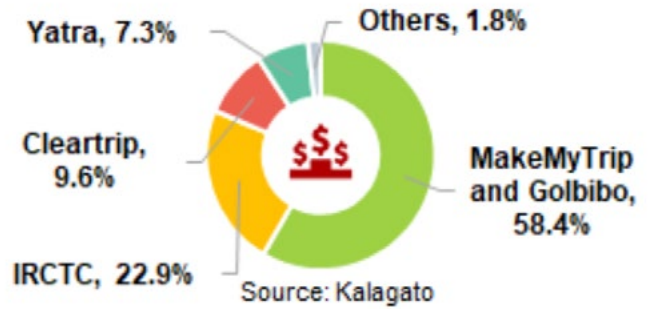
3.2.3 New emerging e-business activities and strategies

FIGURE 8. New emerging e-business activities and strategiesSource: NASSCOM Strategic Review, 2018

Source: NASSCOM Strategic Review, 2018

Private labels

E-commerce companies are focusing on introducing and investing in private labels as they allow these companies to earn much higher margins as compared to the commissions earned through sellers of similar products. In addition, private labels help the e-tailers to address the unmet needs of the customers, plan inventories, create product differentiation and attract price-conscious customers, especially from tier 2 and 3 cities, from which e-tailers get more than half of their business.

Private labels are expected to account for 10-15% of the company's sales by GMV.

TABLE 2. Private labels.

Categories	Amazon	Flipkart - Myntra	BigBasket
Fashion	✔	✔	✗
Food	✔	✗	✔
Electronics	✔	✔	✗
Furniture	✔	✗	✗
Homecare	✔	✔	✔
Kitchen	✔	✔	✔

Sources: Economic Times, Yourstory, MediaNama, FactorDaily.

Rising investment of global companies and focus on loyalty programmes

FIGURE 9. Loyalty programmes

India's eTailing market witnessed continued investment by global companies to strengthen presence

amazon — Amazon Inc. invested another USD 250 million in Amazon India, taking the total investment in the Indian arm to USD 5 billion

Paytm — Launched its eCommerce arm Paytm Mall, backed by a USD 200 million investment from China-based Alibaba

Increasing focus on loyalty programs

Loyalty programs are gaining momentum, with companies looking to increase differentiation

Flipkart — Announced relaunch of its loyalty program to compete with Amazon Prime. To partner with MakeMyTrip, BookMyShow and Ola to offer discounted services to its prime customers
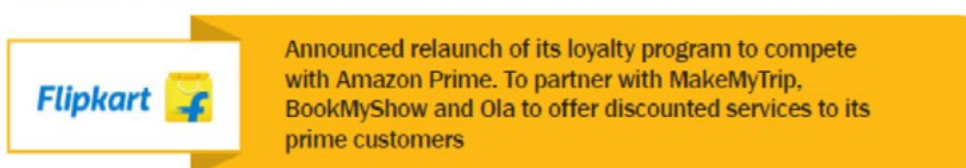
Leveraging technology to enhance experience

E-commerce companies continue to expand their investment in technology to cater to the growing number of customers. Technology, especially AI, finds application in chatbots, image recognition, recommendation engines, customer service, etc. In addition, AI is also expected to generate revenue from alternate streams as companies plan to offer it as an outsourced service.

» Flipkart - Announced the launch of 'AIForIndia' to promote AI-related e-commerce solutions

» Myntra- Announced plans to sell its in-house AI platform 'Rapid' as a service and outsource it to big brands both in India and abroad

» Amazon- Amazon India is utilizing AI to correct addresses, detect product catalogue defects and recommend product sizes to customers

» Reduced mobile data charges, rising disposable incomes, growth in Internet penetration and improving digital literacy in rural India are key factors responsible for the explosive growth.

» 68% of Internet users consider local language content to be more reliable than that in English.

» Currently, 42 million Indian language users access e-tailing and this number is forecast to grow at 32% compound annual growth rate (CAGR) to 165 million by 2021.

Logistics for better customer experience[72]

Logistics has evolved as a key enabler for e-commerce companies and acts as a way to differentiate their services, so as to have a competitive advantage over other players. From the customers' perspectives, the

FIGURE 10. AI-powered providers of conversation platforms

Sources: VC Circle, Economic Times, YourStory, Trak.in, Martech Today, Press Releases.

FIGURE 11. Number of Indian Internet users by language (2016 and 2021)
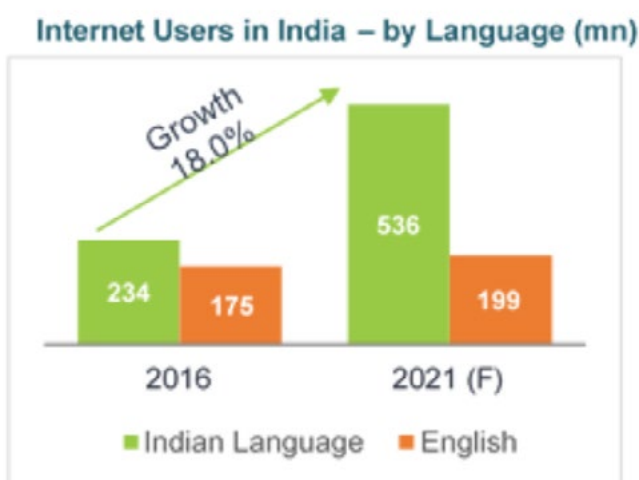
Increasing local language

Indian languages in the ecosystem have opened the gates for Indian language users. The Hindi user base is expected to outgrow the English user base by 2021, followed by Marathi and Bengali.

logistics experience plays a vital role in the online buying process, and customers are willing to pay more for their purchases if they can select from various delivery methods. This has led to an increased focus on strengthening logistics services, evident from the investments and acquisitions made by various e-commerce players such as:

» Amazon has a total of 42 fulfilment centres with a total storage capacity of ~15 mn cubic feet, spread across 13 states. The company plans to open 5-6 more warehouses in the near future.

» Flipkart's logistics arm eKart has allocated US $460.7 million for investments, acquisitions and inter-corporate loans.

» Fashion e-tailer Myntra has acquired logistics start-up InLogg to strengthen its logistics capabilities and deliver great customer experience in tier 2, 3 and 4 cities.

» E-commerce logistics company Delhivery has received a funding of US $100 million led by Carlyle Asia Partners IV, making it one of the largest private-equity (PE) investments in this space.

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[72] NASSCOM Strategic Review,2018

M&A consolidation - 2017 saw over 40 mergers and acquisitions.

FIGURE 12. M&A consolidation
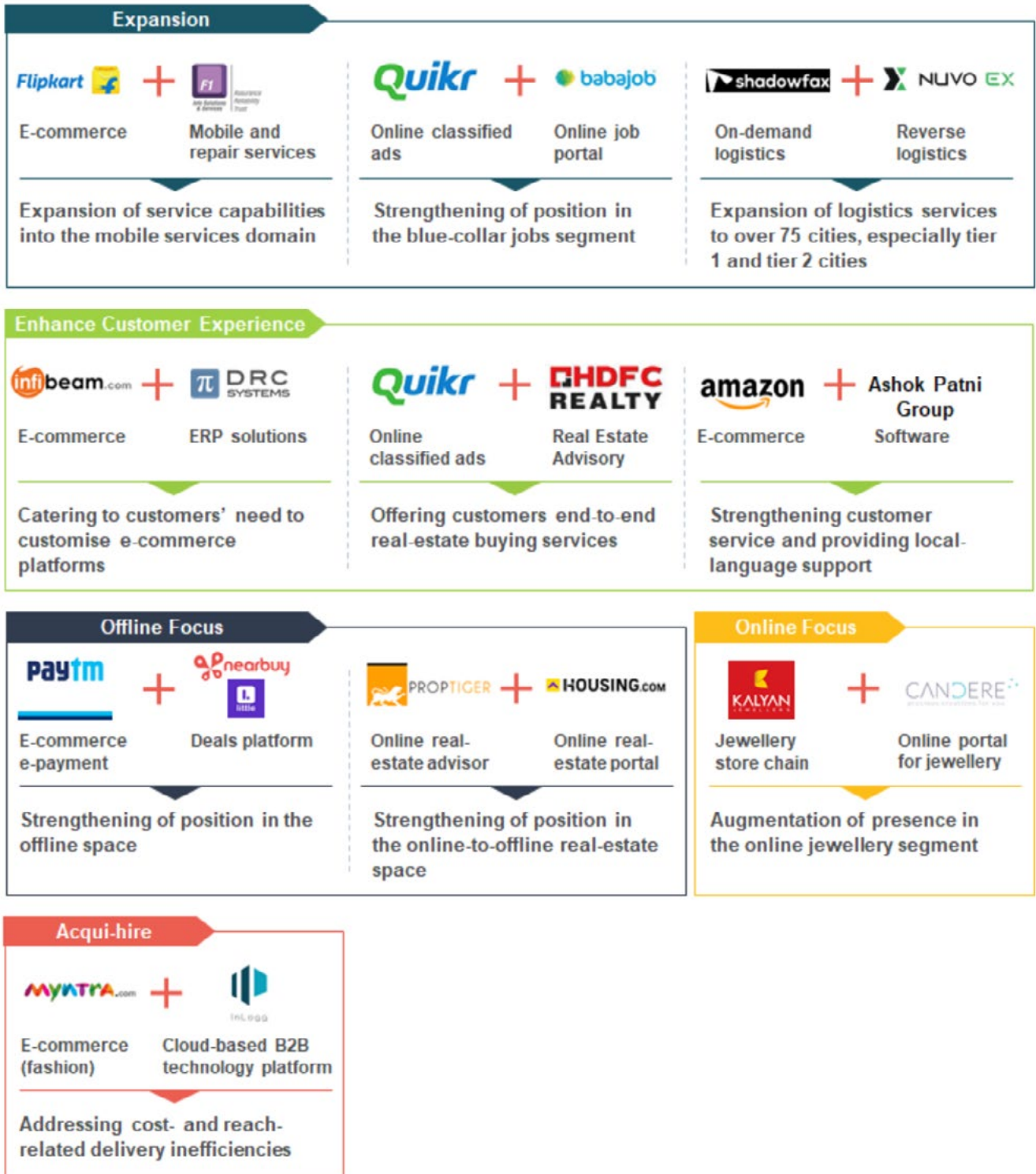
3.2.4 Key players and associated technology theme

FIGURE 13. Key players and associated technology themes

M-commerce

FinTech companies are strengthening the Indian m-commerce ecosystem by enabling cashless transactions. Mobile wallets are adding value by integrating with other platforms

Paytm — Partnered with Saavn, MakeMyTrip and Uber to enable in-app payments

Omnichannel Presence

Indian consumers (specially millennials) are moving rapidly towards an omnichannel way of life and e-tailers are trying to keep pace

pepperfry — Launched its concept stores 'Studio Pepperfry', which form an extension of the company's online presence

Predictive Analytics / AI

With internet penetration growing in the country and e-commerce companies facing fierce competition, employing AI and Predictive analytics is the way forward to create better products and user experience.

Firms such as Amazon, Flipkart and Paytm have extensively implemented AI

Chatbots and Virtual Messengers

Chatbots in India have continued to be a trend with key brands in e-commerce, banks, insurance firms, travel companies and entertainment implementing them

yatra — Developed a bot that helps customers search and book flights directly through Facebook Messenger

Biometrics

Implementation of biometrics for data security continued to be an emerging trend

Paytm — Launched its bank, which uses APIs designed to make electronic transactions via smartphone and biometric technology

One-click Checkout

One-click checkouts leverage the users' behaviour and past shopping experience to generate strong conversion thresholds

amazon — Its one-click checkout patent expired in September 2017, which opened the gates for various e-commerce firms to use the technology

Sources: Press Releases and NASSCOM Strategic Review, 2018.

3.3 CROSS-BORDER E-COMMERCE

3.3.1 Indian shoppers' characteristics

PayPal and Ipsos studies released in January 2017, based on a survey of 800 Indian e-commerce shoppers, found that:

» Indian shoppers spent more than US $8.7 billion on international e-commerce sites in 2016, representing a 6.7% increase compared with 2015 - showing that Indian shoppers regularly turn to overseas sites for certain shopping needs.

» Leading categories for which Indians shop online across the border include clothing/apparel, footwear, accessories (54%), consumer electronics (43%) and cosmetics and beauty products (42%)[73].

» Key drivers making online shoppers more likely to shop from websites in other countries include: free shipping, local currency payments, proof of product authenticity and secure payment gateways.

» US e-commerce sites received nearly half of the overseas e-commerce sales coming from India in 2016, with US $3.9 billion in purchases from Indian shoppers. Chinese and UK e-commerce platforms saw US $991 million and US $850 million in sales, respectively [74].

» More than 50% of the respondents said they have abandoned overseas e-commerce purchases during the checkout process, due to expensive customs duties, long delivery times, and the high cost of returns.

3.3.2 Indian e-commerce companies have started to explore cross-border expansion plans

Flipkart

Flipkart Global was an initiative started in 2016 to help and connect sellers to source products from manufacturers across the world. The company launched the Flipkart Global programme to promote 'Made in India' goods abroad and cater to non-resident Indians. This programme will allow Indian online sellers to sell to eBay's international customer base of 171 million. These customers will engage with eBay's platform and Flipkart will fulfil the orders though courier partners [75].

Ola

Ola, India's biggest ride-hailing start-up, makes it overseas debut in 2018 and will start inviting drivers in Sydney, Melbourne and Perth to sign up. With an aim to create a high-quality and affordable travel experience for citizens, and contributing to a healthy mobility ecosystem in Australia, Ola is going beyond the 110 cities and 125 million user base in India and more than a million drivers[76].

Amazon Global in India

In 2015, Amazon launched its Global Selling programme in India, with 23,000 sellers currently registered. The e-tailer extended its Fulfilment by Amazon (FBA) service and Sell on Amazon (SOA) to sellers in the international market. The Amazon Global Selling programme offers guidance and support to sellers selling internationally [77]

Practo

Practo is the healthcare platform connecting patients with healthcare providers for all their healthcare needs - from finding the right healthcare provider to online doctor consultation, diagnostic tests, managing health records and even ordering medicine. Practo has primarily focused on markets like India, Brazil, Indonesia, and the Philippines. They manage over 40 million appointments across 35 cities in India and the company is present in over 50 cities in 15 countries[78]

3.4 E-COMMERCE REGULATION AND LAW

3.4.1 Consumer protection

The emergence of global supply chains rises in international trade and the rapid development of e-commerce have led to new channels for business and provided new options for consumers. There is also increasing feeling that e-commerce renders consumers vulnerable to new forms of unfair and unethical business practices. This poses new challenges to consumer protection and will require appropriate and swift executive interventions to prevent consumer detriment.

India's current Consumer Protection Act does not differentiate between online or offline purchases. The Information Technology Act recognizes marketplaces and electronic intermediaries and accords them safe harbors under certain conditions.

Recent efforts to introduce amendments to the Consumer Protection Act have made e-commerce one of the focus areas. Key highlights of amendments include:

73   https://www.thepaypers.com/ecommerce/paypal-ipsos-study-indian-shoppers-buy-more-through-cross-border-ecommerce-sites/767670-25 ;

74   https://economictimes.indiatimes.com/news/economy/indicators/indians-online-spends-to-reach-rs-8-75-lakh-crore-in-2018-report/articleshow/56497790.cms

75   http://www.financialexpress.com/industry/flipkart-closes-sourcing-platform-for-sellers-flipkart-global-eyes-ebay-advantage/713114/

76 http://www.financialexpress.com/industry/ola-eyes-australia-market-in-tussle-with-global-rival-uber/1035727/

77 http://indianonlineseller.com/2017/08/flipkart-goes-global-through-ebay-does-its-programme-differ-from-amazons/

78 http://www.business-standard.com/article/pti-stories/practo-raises-usd-55-million-in-series-d-funcing-117011700767_1.html

the creation of a Central Consumer Protection Authority (CCPA), allowing consumers to file complaints electronically, and the prevention of unfair trade practices[79.]

3.4.2 Payments

Payment systems in India, both traditional and electronic, are regulated by the Payment and Settlement Systems Act, 2007 (PSS Act), governed by the Reserve Bank of India (RBI). In addition there may be several other rules and regulations, including those established by the RBI that govern a system that involves the 'clearing, payment or settlement' of a payment, depending upon the nature of service or undertaking involved.

The Finance Ministry in India has set up a Payments Regulatory Board as part of bringing about structural reforms in the payment eco-system by replacing the existing Board for Regulation and Supervision of Payment and Settlement Systems. This is to drive structural reforms in the payment eco-system, including amendments to the Payment and Settlement Systems Act, 2007.

3.4.3 Contracts-validity of online contracts

In India, e-contracts like all other contracts are governed by the Indian Contract Act, 1872, which mandates certain pre-requisites for a valid contract such as free consent and lawfulness.

3.4.4 Authentication and Identification

The IT Act gives legal recognition to authentication by affixing an electronic signature that is in compliance with the manner it prescribes. Furthermore, the IT Act also provides the regulatory framework for issuance and maintenance of electronic signatures.

3.4.5 Privacy and data protection

The Supreme Court of India has clarified that privacy is a fundamental right in India. The IT Act deals with the concept of violation of privacy in a limited sense. There are notified rules under Section 43A titled "Reasonable Practices and Procedures and Sensitive Personal Data or Information Rules, 2011" which provide a framework for the protection of data in India- the Data Protection Rules.

3.4.6 IPR

Section 81 of the IT Act ensures that nothing contained in the IT Act will restrict any person from exercising the rights granted to them under the Copyright Act, and the Patents Act. However, there are provisions for notice and take down procedures which grants some protection to intermediaries and has been established under the copyright regime in India.

3.4.7 Taxation

There are no distinctive incentives or special governing provisions that have been set out as such for the e-commerce industry. However, the e-commerce companies are subject to regular provisions of the Income-Tax Act, 1961.

3.4.8 Equalization levy

An equalization levy has been introduced in India on e-commerce transactions that are undertaken from outside India i.e. without requiring the physical presence of the service provider in India. It is defined as "tax leviable" on consideration received or receivable for any specified service under the provisions, currently at 6%, on gross consideration payable for a 'specified service' – currently online advertisements. This levy would not be a tax on income, and therefore, not governed by the Income-Tax Act, 1961.

There are tax incentives for eligible start-ups, whereby there is a deduction of 100% of the profits derived by such start-ups in three out of the initial seven years. Furthermore, due to the high integration of technology in e-commerce companies, withholding tax provisions are also relevant to e-commerce companies in India.

India has recently implemented a major indirect tax reform in the Goods and Service Tax. This reform ensures uniform tax rates across India and relies on an IT backbone for implementation. In B2B transactions, the Goods and Service Tax (GST) is paid by the buyer, however, in cases of B2C transactions, GST is liable to be paid by the seller.

3.4.9 Investment

» The e-commerce entity has been defined as the marketplace and inventory-based model, where in 100% FDI is allowed in the marketplace B2B model via the automatic route. FDI is not permitted in an inventory-based model.

» The B2B marketplace entities receiving FDI should not influence sale price and are not permitted more than 25% of sale from one vendor or their group company.

» The marketplace should provide name, address and other contacts of the seller.

» Post sales, delivery of goods, customer satisfaction, warranty, guarantee, etc. should be the responsibility of the seller[80]

3.4.10 Digital payments ecosystem on an upswing in India

Evolution of the new payment solution Cash-on-Delivery

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[80] CII paper on e-Commerce in India - A Game Changer for the Economy, April 2016

(CoD) remains a popular mode of payment for Indian e-commerce transactions. Cash transactions result in high administration costs and therefore new digital payment solutions are evolving to address these challenges. Some of the drivers for this are:

» The Indian government's initiative to extend banking facilities to its previously unbanked citizens through the 'Jan Dhan Yojna' scheme – providing 110 million debit cards to customers.

» The increased adoption of electronic wallets and digital payment products from traditional banks.

» The launch of Unified Payments Interface (UPI) by the Reserve Bank of India (RBI) aims to transform the mobile banking sector and reduce the number of failed transactions.

FIGURE 14. Uptake of unified payment interface
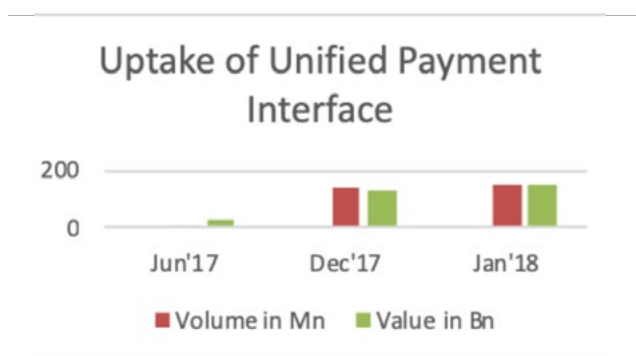
Source: NPCI[81].

3.5 CHALLENGES AND RECOMMENDATIONS

Some key challenges for the e-commerce sector are:

3.5.1 Disruptions of existing business models often pose significant perception challenges

Technology disruptions are often seen to be the cause for job losses as existing businesses are impacted. Therefore, push back from the brick and mortar segment is a challenge that needs to be addressed. It is important that a suitable communication is planned to present the pros and cons, and also the overall impact to society. For minimum disruptions and to support smooth transition, there should be support to access and adopt technology in existing business. There is a need to synergize capabilities.

3.5.2 Internet access limited

Inadequate public wi-fi infrastructure ensures that Internet is out of reach to millions. India has almost 32000 hotspots where the global average is one hotspot per 150 people. And despite the cheapest data rates in the world, Internet access isn't as common as a fast-moving consumer product. The reasons range from

expensive smartphones, lack of awareness about the Internet to the reluctance to spend more for data access.

The government is investing and building the Bharat Net and hopefully it is a matter of time before the last mile of connectivity is resolved[82].

3.5.3 Growing competition

Growing competition from domestic start-ups and foreign players requires investments in value added services that put pressure on the margins. E-commerce companies have been driving their operations towards profitability and sustenance. The sector is characterised by high customer acquisition and retention costs that hamper profitability.

A balanced approach towards investing in market development and customer education is necessary. Indian e-commerce companies have been focusing on core technology and business processes to enhance customer experience, and adopting measures to increase efficiencies and cut losses.

3.5.4 Security

With the increase in digital payment options, customers' sensitive information is on the Internet and exposed. Frauds pose a real threat to the financial health and reputation of organizations, whether large or small. The Association of Certified Fraud Examiners' 2016 Report to the Nations on Occupational Fraud and Abuse estimates the average loss due to fraud to be as much as 5 % of annual revenues, which globally translates to approximately US $6.3 billion.

Given the mounting pressure on margins and the need for cost optimization, losses due to fraudulence can significantly impact the profitability of organizations, in particular in emerging industries such as e-commerce. There is a need for cooperation as countries tackle this serious issue that can jeopardise the adoption and growth of e-commerce[83].

3.6 MICRO AND SMES (MSMES) AND E-COMMERCE

3.6.1 MSME landscape in India

MSMEs in India play a crucial role in providing large-scale employment opportunities at comparatively lower capital cost than large industries and also in industrialization of rural and backward areas. As per the National Sample Survey (NSS) 73rd round, for the period 2015-16, there are 633.8 lakh unincorporated non-agriculture MSMEs in the country engaged in different economic activities providing employment to 11.10 crore workers.

The MSME sector faces a major problem in terms of getting adequate credit for the expansion of business activities. The latest data on credit disbursed by banks

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83 CII paper on e-Commerce in India - A Game Changer for the Economy, April 2016

shows that out of a total outstanding credit of US $26,041 billion (in November 2017), 82.6 % of the amount was lent to large enterprises. The MSMEs received only 17.4 % of the total credit outstanding; the growth of credit to micro and small enterprises increased by 4.6 %, while credit to medium enterprises decreased by 8.3 %.

3.6.2 Initiatives to support MSMEs

The current definition of MSMEs is up for change, whereby the capital investment linked definition is likely to be replaced by a turnover linked categorization. This is expected to bring the definition closer to the ground reality and also reach out to entities who are facing business challenges. India recognizes the critical role of MSMEs in the economy and the major schemes implemented for their development are as follows:

1. The Prime Minister's Employment Generation Programme (PMEGP) is aimed at generating self-employment opportunities through the establishment of micro-enterprises in the non-farm sector by helping traditional artisans and unemployed youth.

2. The Credit Guarantee Scheme for Micro and Small Enterprises covers the collateral free credit facility (term loan and/or working capital) extended by eligible lending institutions including a Non-Banking Financial Company (NBFC) to new and existing micro and small enterprises up to 200 lakh per borrowing unit.

3. The Credit Linked Capital Subsidy Scheme (CLCSS) aims at facilitating technology upgradation of the MSME sector.

4. The Micro Units Development and Refinance Agency (MUDRA) to support development and refinancing

activities relating to micro industrial units aims to provide funding to the non-corporate small business sector.

5. The corporate tax rate cut has been to 25% for companies with annual turnover up to Rs 250 crore (current US $36.5 million), allowing MSME's to reinvest, expand as well as spend more on R&D.

6. The Digital MSME Scheme strives to introduce new technologies to MSMEs.

7. The government will have a Corpus Trust Fund of 7500 crore (current US $1.09 billion) and they will be able to cover loans up to 2 crore (current US $0.29 million).

8. The launching of the MSME Delayed Payment Portal will empower micro and small entrepreneurs across the country to directly register their cases relating to delayed payments by central ministries/ departments/CPSEs/state governments.

9. The Public Procurement Portal for MSME Sambandh will help in monitoring the implementation of the public procurement from MSEs by Central Public Sector Enterprises (CPSEs).

10. The MyMSME app translates into a single window which has been provided to MSMEs to access information on all schemes implemented by the Ministry of Micro, Small and Medium Enterprises[84].

3.6.3 E-commerce challenges for MSMEs

For SMEs, the Internet brings accelerated growth and greater access to domestic and global markets. In this context it is important to note the following data on how SMEs extensively using web technologies are growing more quickly.

FIGURE 15. SMEs using web technologies extensively are growing more quickly

Small and medium-sized enterprises using Web technologies extensively are growing more quickly and exporting more widely
Growth and exports of SMEs analyzed by cluster of maturity of Internet
Analysis includes 12 countries and more than 4,800 SMEs

Source: McKinsey Global Institute - Essays in Digital Transformation, 2012.
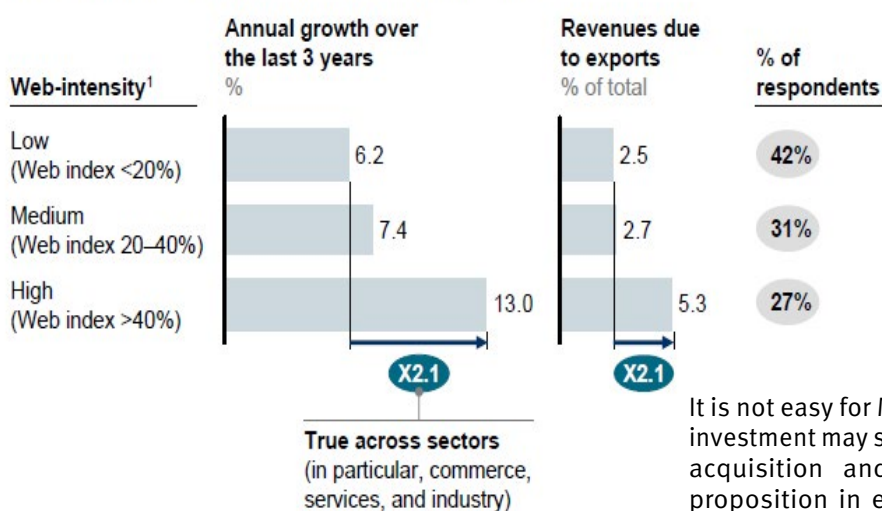
It is not easy for MSMEs to adopt the Web, as the initial investment may seem to be high. Furthermore, customer acquisition and loyalty are extremely expensive proposition in e-commerce. MSMEs find the return and associated reverse logistics to increase the cost of operations as they sell online.

[84] Ref: PIB press release - http://pib.nic.in/newsite/PrintRelease.aspx?relid=174711; Economic Survey6

4. CHINA E-COMMERCE DEVELOPMENT REPORT 2018

4.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

4.1.1 Internet penetration

In 2017, China's Internet penetration reached 55.8% in urban areas and 35.4% in rural. The total number of Internet subscribers in 2017 was 772 million – representing a growth of 40.74 million (5.57%) when compared to the value at the end of 2016.

4.1.2 Connectivity and connection speed

Kindly refer to Table 1 for situations about the Internet speed of broadband in China until the fourth quarter of 2017.

FIGURE 1. The number of Internet subscribers and Internet penetration in China during 2016-2017
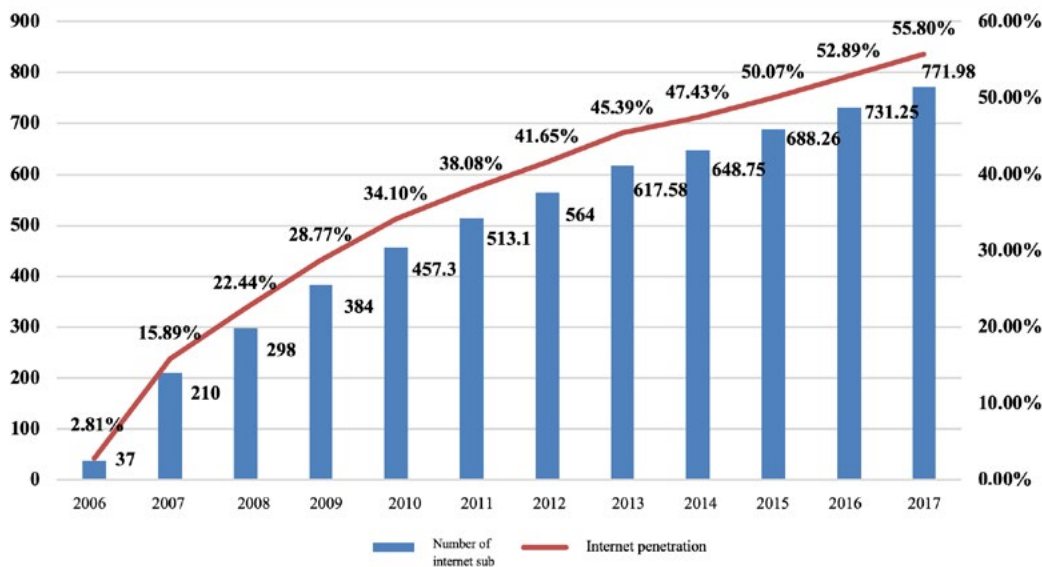
Source: the website of the National Bureau of Statistics of China[85].

TABLE 1. Situations about the Internet speed of broadband in China.

Broadband	Speed Condition
Fixed-broadband	Network average available download rate: 19.01 Mbit/s Average time of first screen presentation in web browsing: 1.06s Average speed of network video downloading: 15.21 Mbit/s
Mobile broadband	Average available download rate for 4G national network: 18.18 Mbit/s Average available download rate for 3G national network: 8.03 Mbit/s

Source: Report on Situations about Internet Speed of Broadband in China issued in the fourth quarter of 2017.

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[85] Sourced from the website of the National Bureau of Statistics of China http://www.stats.gov.cn/tjsj/zxfb/201802/t20180228_1585631.html

4.1.3 Fixed-broadband subscription

In 2017, a total of 348.54 million subscribers were connected to fixed-broadband Internet, growing by 51.33 million compared with the previous year. Of the 348.54 million subscribers, 293.92 million were connected to the fixed-Internet fiber-broadband – representing an increase of 66.27 million over the last year.

4.1.4 Mobile broadband subscription

By the end of 2017, 1131.52 million subscribers were on mobile broadband, an increase of 190.77 million compared with the last year, wherein the number of those connecting to the Internet through mobile phones reached 753 million, which was an increase of 57.34 million. The data flow in 2017 via mobile Internet totaled 24.6 billion GB, rising by 162.7% from the previous year.

FIGURE 2. The number of broadband subscribers in China between 2013-2017
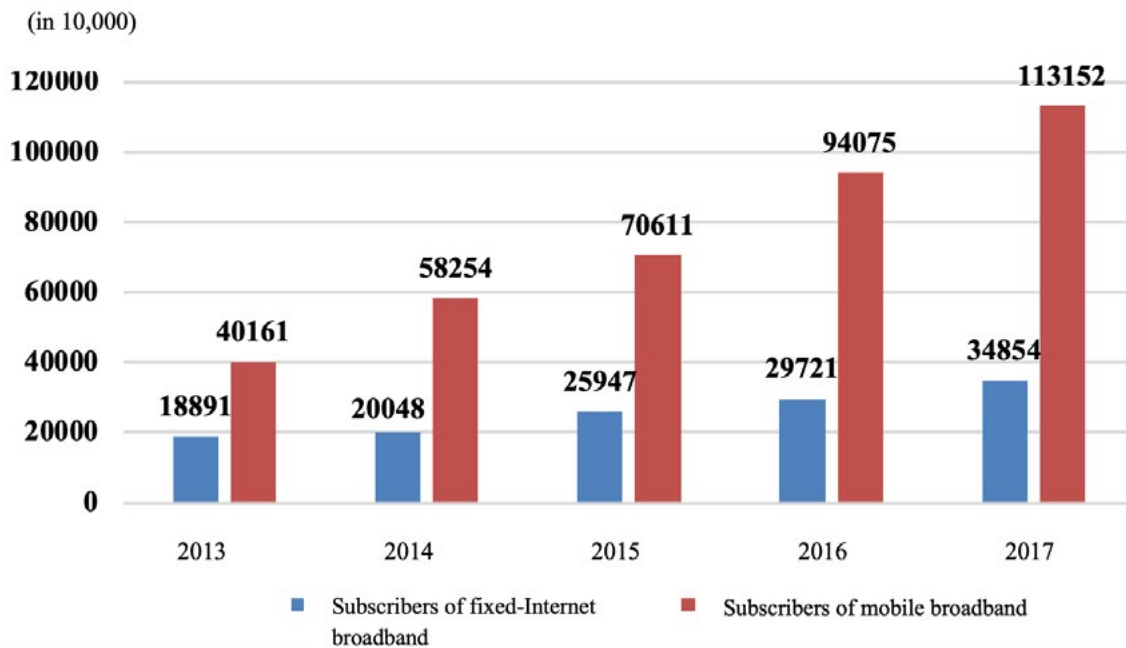
Source: the website of National Bureau of Statistics of China [86]

TABLE 2. Accumulative number and added number of subscribers of the three major operators in China

	China Mobile	China Telecom	China Unicom
Net growth of mobile subscribers	3.253 million	2.12 million	2.824 million
Accumulative number of mobile subscribers	887.2 million	249.96 million	284.16 million
Net growth of 4G subscribers	15.616 million	4.74 million	4.438 million
Accumulative number of 4G subscribers	649.507 million	182.04 million	174.87 million
Net growth of broadband subscribers	2.548 million	0.66 million	-0.964 million
Accumulative number of broadband subscribers	112.687 million	133.53 million	76.539 million

Source: cn-comm.com.[87]

[86] Sourced from the website of National Bureau of Statistics of China:www.stats.gov.cn/tjsj/zxfb/201802/t20180228_1585631.html
[87] www.cn-comm.com:http://www.txo22.com/othernew/20180129.html

4. 2 DOMESTIC E-COMMERCE MARKET

4.2.1 Trend analysis of sub-market in domestic e-commerce

Business-to-Business (B2B)

In 2017, the trade scale of domestic B2B e-commerce market reached 19 trillion yuan, growing by 26.67% on a year-on-year basis. Furthermore, the revenue scale of B2B market reached 251.899 billion yuan, an increase of 42.14% on a year-on-year basis. It was observed that in 2017, a large amount of financing events occurred in certain subdivided B2B industries. Moreover, capital gathering, industry merger and acquisition have become capital indicators in the B2B industry.

Online Retail Market (B2C and C2C)

In 2017, the national online retail sales reached 7.1751 trillion yuan, growing by 32.2% at a speed 6.0 % higher than the previous year. The online retail sales of physical commodities reached 5.4806 trillion yuan, growing by 28.0%, accounting for 15.0% of the total retail sales of consumer goods, an increase of 2.4% from the year before. Sale revenues of non-physical commodities reached 1.6945 trillion yuan, growing by 48.1%.

In 2017, online retail sales mainly showed such trends as continuously expanded market scale, gradually optimized regional structures, diversified industrial conditions and high-quality consumption.

Online-to-Offline (O2O)

In 2017, the overall scale of the O2O market in China reached 999.2 billion yuan, growing by 71.5% compared with 2016, and steadily approaching one trillion yuan. In terms of competition pattern, Koubei ranked No. 1 within the industry with a GMV of 420 billion yuan, and Meituan-Dianping ranked No. 2 with a GMV of 360 billion yuan.

In 2017, the scale of the to-store O2O market reached 761.19 billion yuan, maintaining the core scene in local life service, accounting for 76.2% of the whole market; the scale of the to-home service market kept growing, whereas that of the catering and takeout market reached 207.8 billion yuan, showing a robust growth.

FIGURE 3. Trade scale and growth speed of B2B in China
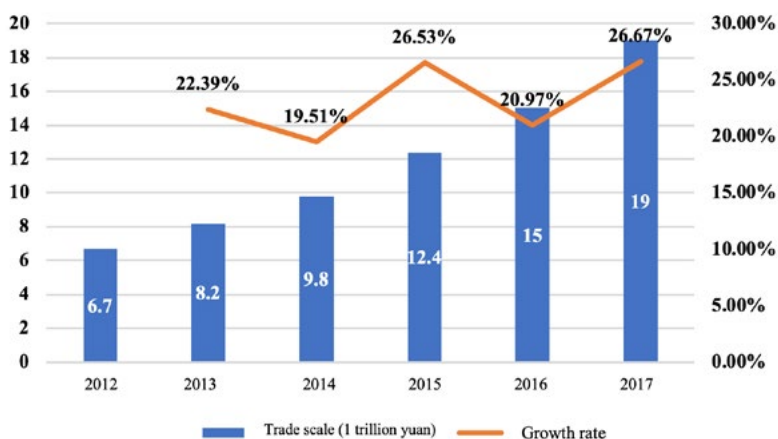
Source: Report on Development of B2B Industry in China (2017)[88].

FIGURE 4. Online retail sales and growth rate of China
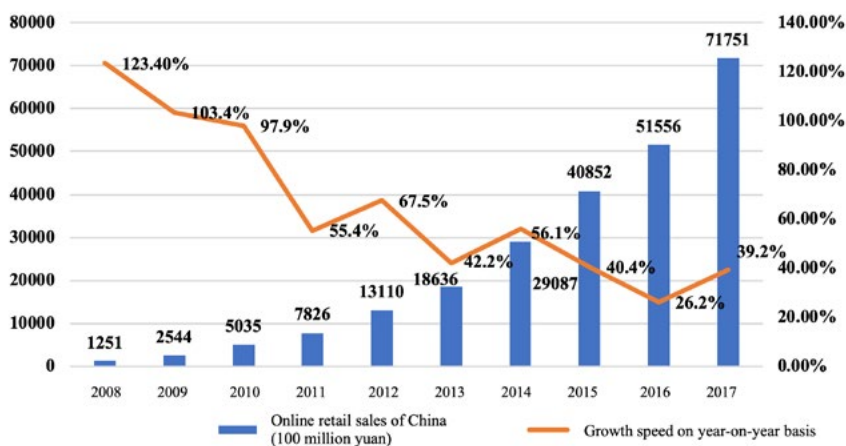
Source: National Bureau of Statistics of China, Report on E-commerce in China[89].

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[88] http://www.sohu.com/a/213740585_505889
[89] published by the Ministry of Commerce of the People's Republic of China (MOFCOM), Ali Research Institute

C2M (Customer-to-Manufacturer)

Take Biyao Shopping Mall, the first global C2M e-commerce platform as an example. Biyao Shopping Mall has already included 13 major product categories, such as household appliances, furniture, infant and mom, digital products and clothes, and 63% of its customer groups are aged between 25-34, most of whom are distributed in the coastal areas of Eastern China, and male dominated.

FIGURE 5. Situations about overall O2O market scale
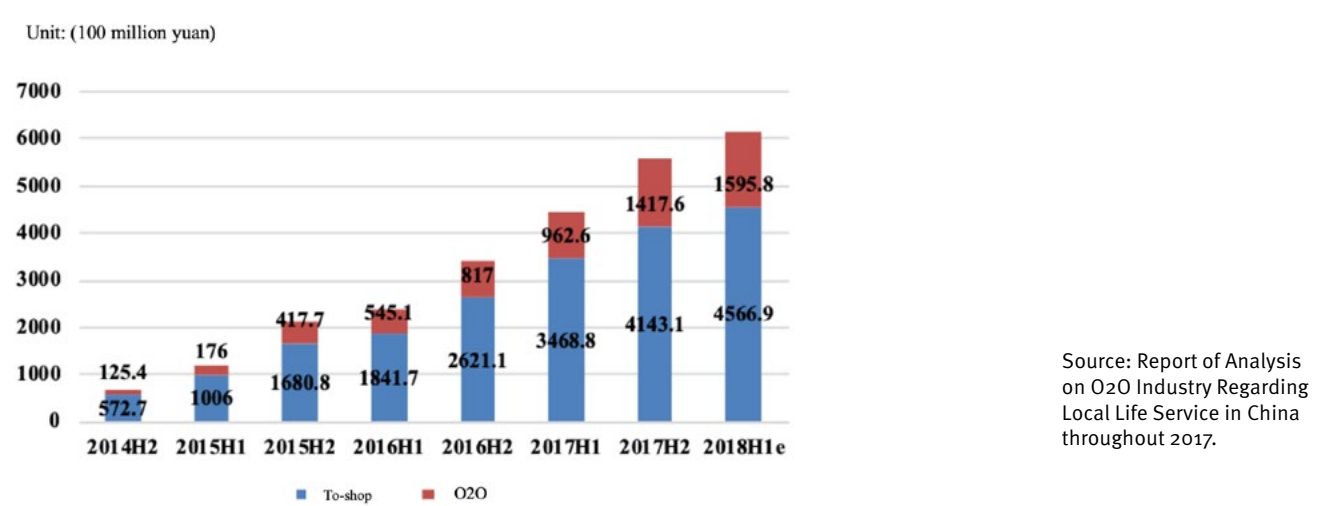
FIGURE 6. Distribution of customers of Biyao Shopping Mall

1. Guangdong
2. Zhejiang
3. Shandong
4. Beijing
5. Guangxi
6. Jiangsu
7. Sichuan
8. Fujian
9. Hubei
10. Shanghai

FIGURE 7. Age distribution of customers of Biyao Shopping Mall

Below 18 years old
19-24 years old
25-34 years old
35-49 years old
Above 50 years old

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[90] woshipm.com:http://www.woshipm.com/evaluat-ing/602823.html
[91] woshipm.com:http://www.woshipm.com/evaluat-ing/602823.html
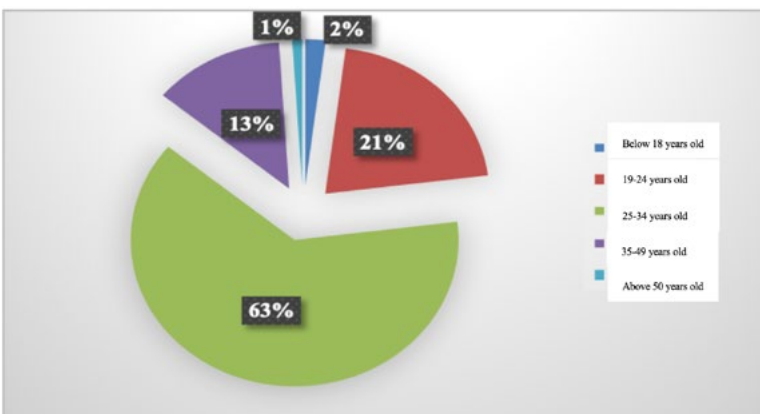
FIGURE 8. Age and sex distribution of customers of Biyao Shopping Mall
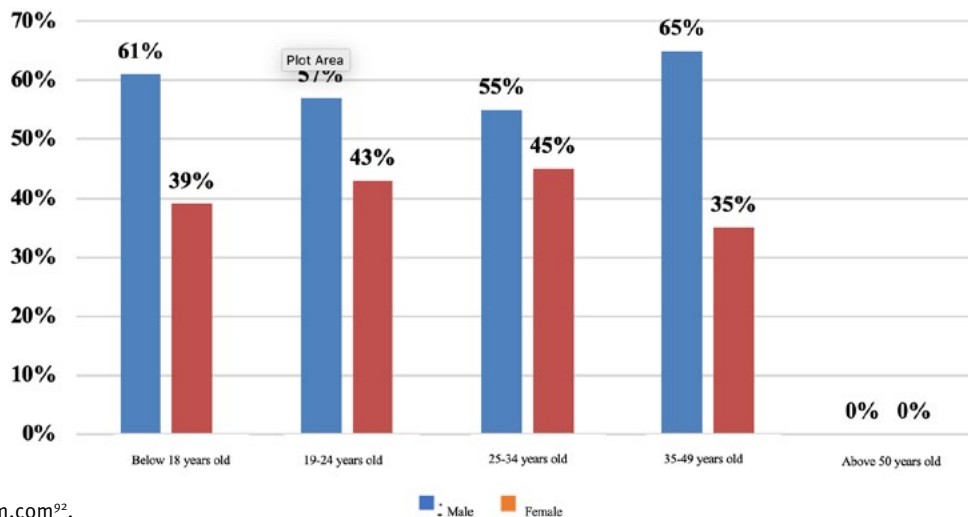
Source: woshipm.com[92].

New Emerging E-Business Activities

Internet finance: by the end of October 2017, there were a total of 1,975 online loan platforms nationwide, representing a 43.18% decline compared with that during the peak period. The comprehensive reference rate of return of the online loan industry was 9.50%, being relatively stable. In terms of regional distribution of online loan platforms, Guangdong, with 413 online loan platforms, became the largest home to online loan platforms, followed by Beijing and Shanghai, respectively possessing 380 and 273 online loan platforms.

Online education: 'Children English' and artificial intelligence are the hotspots for online education. By June 2017, the scale of online education subscribers reached 144 million, increasing by 6.62 million compared to the value at the end of 2016; the usage rate of online education subscribers reached 19.2%, rising by 0.4 % compared with the end of 2016.

Online taxi-hailing service: by June 2017, the scale of subscribers of online taxi-hailing services in China already reached 278 million, increasing by 53.29 million (growth rate 23.7%) compared with 2016; the scale of subscribers of special and fast online taxi-hailing services reached 217 million, increasing by 29.4%, and the corresponding subscriber usage ratio increased from 23% to 28.9%.

Bike-sharing: by June 2017, the scale of bicycle sharing subscribers already reached 106 million, accounting for 14.1% of the total number of netizens. Bike-sharing businesses are already on the way from first- and second-tier cities to third- and fourth-tier cities, and certain bike-sharing bands with strong financing capacities are starting to step into overseas markets.

4.2.2 Key players in the c-commerce eco-system

Major Online Marketplace Platform

According to the e-commerce APP issued analysis: Taobao, JD and Vipshop ranked top 3 in the list of top 100 comprehensive e-commerce companies in 2017.

E-payment Gateway

In the field of mobile payment, the two giants-Alipay and Tenpay jointly occupied 94.1% of the total market shares, wherein Alipay accounted for 53.8% and Tenpay represented by WeChat payment and QQ wallet accounted for 40.3%, showing extremely high market concentration.

FIGURE 9. Shares of third-party payment market

Source: P2PEYE.COM2793.

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[92] woshipm.com:http://www.woshipm.com/evaluating/602823.html

[93] P2PEYE.COM: https://news.p2peye.com/article-505711-1.html
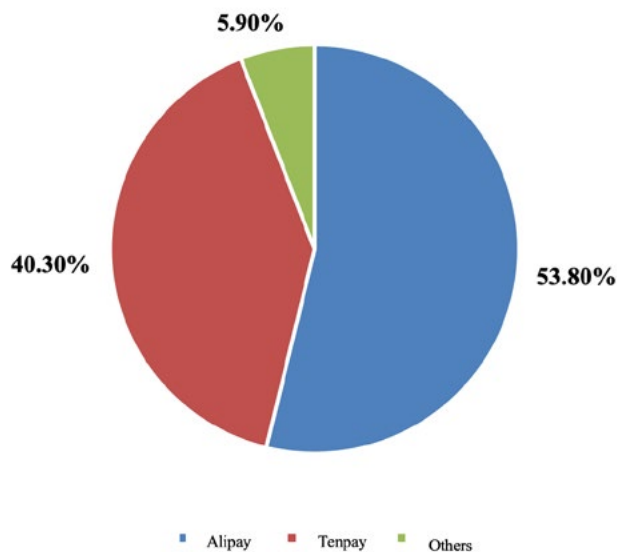
Logistics and Delivery

The ranking list of logistics enterprises in China in 2017 jointly issued by *Internet Weekly* and the eNet research institute is detailed in the following table.

TABLE 3. 2017 Ranking list of logistics enterprises in China

Rank	Enterprise Name
1	Sinotrans Limited
2	COSCO Shipping Logistics Co., Ltd
3	S.F. Holding Co., Ltd.
4	China Oil and Gas Transportation Company
5	Jizhong Energy International Logistics Group Co., Ltd.
6	Qingdao Gooday Logistics Co., Ltd.
7	Yuantong Express Co., Ltd.
8	Yuan Cheng Logistics Co., Ltd.
9	STO Express Co., Ltd.
10	JC Logistics Group Co., Ltd.
11	China Merchants Energy Shipping Co., Ltd.
12	ZTO Express Co., Ltd.
13	Yunda Holding Co., Ltd.

Source: the website of Internet Weekly

Sinotrans Limited and COSCO Shipping Logistics Co., Ltd ranked No. 1 and No. 2 respectively while S.F. Holding Co., Ltd., ranked No. 3, was the private express enterprise ranking foremost. In addition to S.F., private express enterprises such as Yuantong, STO, ZTO and Yunda respectively ranked No. 7, No. 9, No. 11 and No. 12. Additionally, Jingdong Logistics and Suning Logistics respectively ranked No. 16 and No. 35.

4.3 CROSS-BORDER E-COMMERCE

4.3.1 Import/ Export Statistics

In 2017, the import/export retail sales of cross-border e-commerce inspected and released by the Chinese customs were 90.24 billion yuan, increasing by 80.6% on a year-on-year basis, wherein the export retail sales were 33.65 billion yuan, and the import retail sales was 56.59 billion yuan. The annual average increase rate of import/export retail sales of cross-border e-commerce through China customs has remained above 50% for the last three years.

4.3.2 Major trade partners

According to the *2017 Report on E-Commerce in China* issued by MOFCOM, in 2017, among all the places of origin for imports of retail sales of cross-border e-commerce in China: Japan, United States, South Korea, Australia, Germany, New Zealand, Netherlands, France, the United Kingdom and Hong Kong, China ranked among the top ten. Among all the destinations for exports of retail sales of cross-border e-commerce in China: Hong Kong (China), the United States, Russia, South Korea, the United Kingdom, France, Australia, Japan, Canada and Estonia were ranked the top ten.

FIGURE 10. Trade scale of cross-border e-commerce in China between 2015-2017
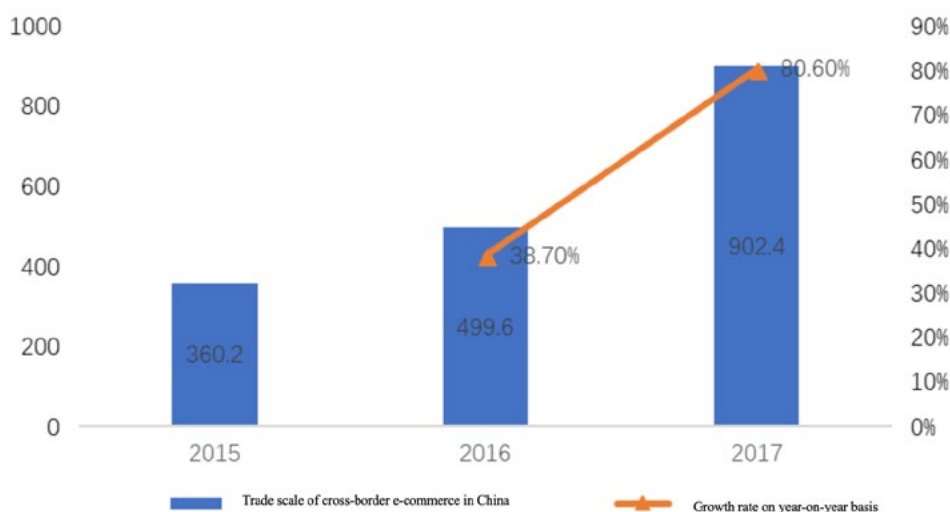
Source: MOFCOM 2017 Report on E-Commerce in China.

FIGURE 11. Increase in the number of active buyers in countries along the "Belt and Road" shown in Alibaba.com
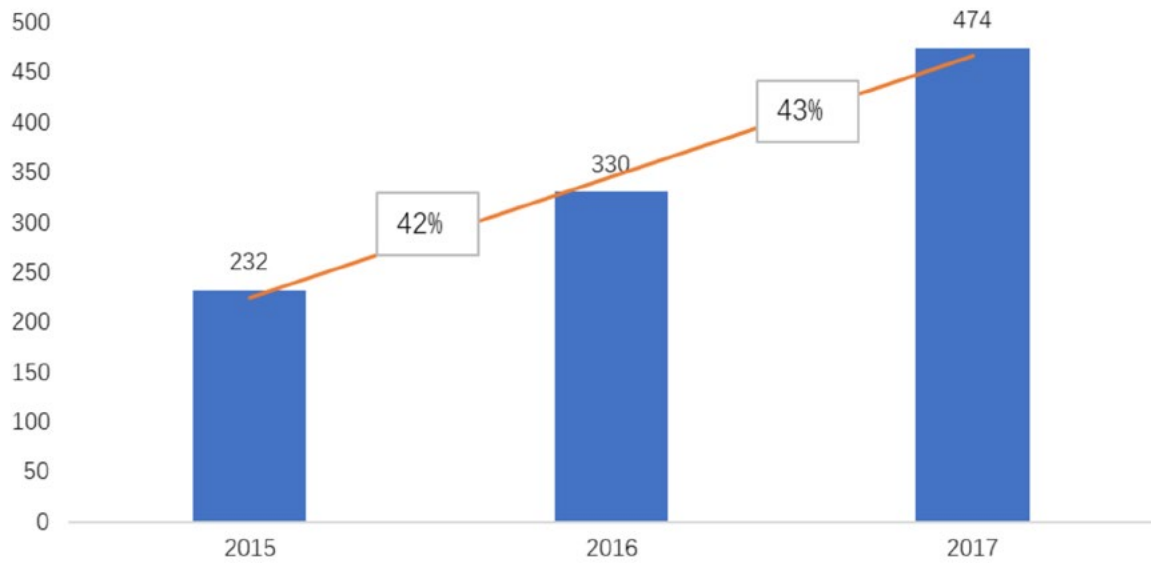
Source: Ali Research Institute, Report of Alibaba on the Development of Cross-border Trades of Medium and Small-Sized Enterprises.

According to the 2017 data from the Ali Research Institute the number of active buyers in countries along the "Belt and Road" increased by 43.3%, 11% higher than the increase in the number of active numbers shown in the website as the whole (excluding China).

4.3.3 Business category and model

The distribution of product categories sold by China's export cross-border e-commerce sellers in 2017 is mainly shown in the following figure, and the category of computer, communication, and consumer electronics (3C electronic products) and that of costumes and clothing products account for nearly 1/3 of all such categories.

FIGURE 12. Distribution of product categories sold by China's export cross-border e-commerce sellers in 2017
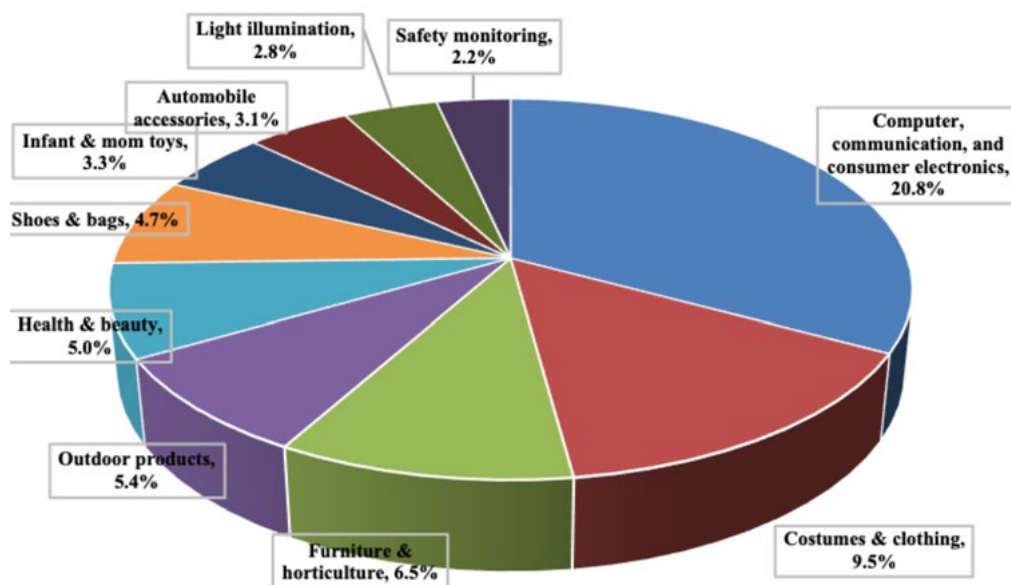
Source: E-Commerce Research Center (ECRC), Report on the Development of China's Export Cross-border E-Commerce in 2017.

4.3.4 Cross-border-related issues and challenges

High logistics costs: Although being able to ensure the timeliness of transportation, international services are always accompanied by high costs - thereby making the profits earned from an order even lower than corresponding express expense. Furthermore, firms offering overseas after-sales services can apply a secondary logistics cost when being returned home for quality issues.

Customs clearance: Despite the smooth flow of information over the Internet, cross-border flows of goods may be restricted by borders and customs, regarded as the largest barrier blocking the development of cross-border e-commerce presently. The restrictions on the types and quantities of imported/exported goods by customs followed by a series of procedures and cost expenditures leads to extra cost burdens on both trading parties.

Payments: Domestic supervision authorities fail to effectively supervise overseas payment institutions; third-party payments are still at an initial development stage, and agencies such as the State Administration of Foreign Exchange (SAFE), the State Administration of Taxation (SAT) and the People's Bank of China haven't got relevant supporting systems. Overall, it's difficult to pay for commodities purchased overseas that's value exceeds a certain and defined amount.

Supervision: Domestic laws and regulations on cross-border e-commerce are far from being complete with bad phenomena such as false propaganda, infringement of intellectual property rights, illegal trade and fraud happening occasionally. It remains an urgent task to improve existing supervision models to prevent such occurrences. Issues such as failure in mutual acknowledgement between domestic and foreign commodities and trademark systems and inconsistencies in relevant standard systems also produce a certain pressure on supervision.

Furthermore, cross-border e-commerce lacks an overall goods supervision system designed in compliance with the characteristics of cross-border businesses. There have also been difficulties developing effective coordination mechanisms for cross-border trade and data flow between different countries.

4.4 E-COMMERCE REGULATION AND LAW

4.4.1 Domestic e-commerce laws and regulations

Refer to Table 4 for relevant laws and regulations involving trade subjects and the environment of e-commerce in China during recent years.

TABLE 4. Laws and regulations on trade subjects and environment of e-commerce in China

Time	Department	Policy name	Main contents
Laws on trade subjects of e-commerce			
May 2010	State Administration for Industry and Commerce	*Interim Measures on Management Commodity Trading Network and Relevant Service Behaviors*	Regularize commodity trading network and relevant service behaviors, protect the legal rights and interests of consumers and operators, and promote the sustainable and healthy development of network economy
January 2014	State Administration for Industry and Commerce	*Administrative Measures for Network Trade*	Make detailed and special provisions on the operators of network commodities, relevant services and third-party trade platforms and other relevant parties, and detailed provisions on services before, during and after network trades
April 2015	Ministry of Industry and Information Technology	*Measures for the Administration of Electronic Certification Services*	Regularize electronic certification service behaviors, supervise and manage electronic certification service suppliers, and supply authenticity and reliability verification activities to parties related to electronic signature
April 2015	Standing Committee of the National People's Congress	*Electronic Signature Law of the People's Republic of China*	Regularize electronic signature behaviors and determine the legal force of electronic signature

Laws on e-commerce trade environment			
July 2009	Six ministries & commissions, including the People's Bank of China (PBC)	*Pilot Administration Measures for RMB Settlement in Cross-border Trade*	Promote cross-border Internet payment while focusing on necessary regulation and paying close attention to potential capital and information security issues in cross-border payment and such criminal behaviors and financial risks as money laundering
December 2009	Standing Committee of National People's Congress	*Tort Liability Law*	Third-party platforms for network trades must take necessary measures to protect such rights and trademark registration and enterprise name, have the infringement behaviors implemented by operators within the platforms to relevant departments, and stop such infringement behaviors in accordance with the provisions of relevant laws
June 2010	People's Bank of China (PBC)	*Administrative Measures for Payment Services of Non-financial Institutions*	Only institutions acquiring *"payment business license"* can engage in such businesses as network payment, prepaid card issuance and bank card acquiring
March 2013	Payment & Clearing Association of China	*Risk Prevention Guide for Internet Payment Businesses of Payment Institutions*	Increase the all-around guarantee level of payment institutions and define operation specifications in such links as registration examination, service agreement, identity authentication, account and trade monitoring, account information safety and education service
November 2016	State Intellectual Property Office (SIPO)	*Several Opinions on Strict Patent Protection*	Actively implement online patent infringement investigation and treat such infringement behaviors as soon as possible by law. Strengthen law enforcement on patents related to cross-border e-commerce, and promote the integration of domestic supervision and cross-border supervision

Source: Sifted in accordance with materials publicized by the government.

4.4.2 Government policies and initiatives to support e-commerce

Since the issuance of *Several Opinions on Implementing Foreign Trade by Means of E-Commerce Platform,* by MOFCOM in August 2012, several other state ministries and commissions have also successively promulgated relevant policies supporting the development of cross-border export e-commerce, involving such fields as overall system, environmental construction, taxation, payment, customs clearance and overseas warehouses.

TABLE 5. Relevant policies promoting the development of cross-border export e-commerce

Time	Departments	Policy names	Main contents
Overall policy systems			
March 2015	State Council	*Reply to the Establishment of a Comprehensive Test Area for Cross-Border E-Commerce in China (Hangzhou)*	Hangzhou takes the lead in working on such aspects on a trial basis such as technology standards, business flow, supervision mode and information construction involved in cross-border e-commerce trade, payment, logistics, customs clearance, tax reimbursement, exchange settlement and other links

July 2015	State Council	*Guiding Opinions on Promoting the Healthy and Rapid Development of Cross-Border E-Commerce*	Propose to cultivate a batch of public platforms, enterprises engaging in comprehensive services regarding foreign trade and self-built platforms, and encourage a powerful combination of domestic enterprises and overseas e-commerce enterprises
January 2016	State Council	*Reply to the Establishment of Comprehensive Test Areas for Cross-Border E-Commerce in Tianjin and Another 12 Cities*	Agree to establish comprehensive test areas for cross-border e-commerce in 12 domestic cities, namely Tianjin, Shanghai, Chongqing, Hefei, Zhengzhou, Guangzhou, Chengdu, Dalian, Ningbo, Qingdao, Shenzhen and Suzhou

Tax payment policies

January 2015	State Administration of Foreign Exchange (SAFE)	*Guiding Opinions on the Pilot Programme of Providing Cross-Border Foreign Exchange Payment Services by Payment Institutions*	Have the limit on single network shopping trade elevated from US $10,000 to US $50,000
April 2016	Ministry of Finance and another 11 ministries	*Notice on Taxation Policies Regarding Imports of Cross-Border E-Commerce Retail Sales*	Have tariff temporarily determined as 0%; cancel tax exemption amount of value added tax (VAT) and consumption tax involved in the import link, and have such taxes levied as 70%; have the limit on single personal trade and on annual trades respectively determined as 2,000 yuan and 20,000 yuan

Customs clearance policies

May 2015	General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China	*Opinions on Giving Further Play to the Role of Inspection and Quarantine Functions to Promote the Development of Cross-Border E-Commerce*	Establish cross-border e-commerce listing management system, structure cross-border e-commerce risk monitoring and quality tracing system, innovate cross-border e-commerce inspection and quarantine supervision mode and implement cross-border e-commerce registration management
May 2015	General Administration of Customs	*Notice of the General Administration of Customs on Issues Related to the Adjustment of Customs Operation Time and Customs Clearance Requirements for the Supervision on Cross-border E-commerce Trades*	The operation time and customs clearance time limit of the customs for supervising cross-border e-commerce trades are as follows: "working throughout the year (365 days) without any rest day and handling customs clearance procedures within 24 hours after the arrival of goods at the supervision site of the customs"
May 2016	General Administration of Customs	*Notice on Issues Related to the Execution of New Supervision Requirements for Imports of Cross-Border E-Commerce Retail Sales*	Define new supervision requirements for commodities imported for cross-border e-commerce retail sales within the one-year transition period

Overseas warehouse policies

May 2015	State Council	*Several Opinions on Accelerating the Cultivation of New Competitive Advantages in Foreign Trade*	Encourage cross-border e-commerce enterprises to integrate into overseas retail sales system through regularized "overseas warehouses" and other relevant modes

| May 2015 | MOFCOM | *"Internet + Circulation" Action Plan* | Promote the construction of 100 e-commerce *"overseas warehouses"* |

Source: Sifted through material publicized by the government.

4.4.3 International Trade Agreement

In March 2018, Alibaba put forward the initiative to establish the Electronic World Trade Platform (eWTP), aiming to lower trade barriers and promote the development of small and medium-sized enterprises (SMEs). In September 2016, as the core policy recommendation of the business activities of B20, eWTP was written into G20 Leaders' Communiqué, Hangzhou Summit. In November 2017, the first eHub under the eWTP initiative was launched in Malaysia, designed to supply services regarding such aspects as e-commerce, logistics, cloud computing, mobile payment and talent cultivation to Malaysian micro, small and medium enterprises (MSMEs).

In June 2016, the China Council for the Promotion of International Trade (CCPIT) signed the *Memorandum on Operation and Management Mechanisms for China-ASEAN Cross-Border E-Commerce Platforms* with the State Administration for Industry and Commerce of seven ASEAN countries. In July 2016, the United Nations Commission on International Trade Law approved the *Technical Guidance for Resolving Online Disputes in Cross-Border E-Commerce Trades*. After arduous negotiations for over 5 years, Chinese delegation has successfully promoted the work team designed to resolve online disputes under the United Nations Commission on International Trade Law to conclude non-binding legal documents based on China's approach.

In 2017, cross-border e-commerce was incorporated into "Belt and Road" topics. China established a bilateral e-commerce cooperation mechanism and signed the memorandum of understanding with six countries along the "Belt and Road" (Estonia, Hungary, Vietnam, Cambodia, Australia and Brazil), so that China can implement in-depth e-commerce cooperation with these countries in such aspects as policy communication, public-private dialogue, industry action, personnel training, capacity construction and joint research.

4.5 CHALLENGES AND RECOMMENDATIONS

4.5.1 Challenges

Challenges for ICT Infrastructure

Firstly, a regional "digital gap" still remains. It is revealed in the *Internet + Index Report* (2018) issued by Tencent Research Institute that the Gini coefficient of the Chinese "digital gap" in 2017 was 0.59, which was lower than 0.62 in 2016 and still showed the state of unbalanced development overall. This unequal development of ICT infrastructure is reflected in both different development levels of e-commerce in different regions and giant differences in digital development levels between enterprises in different industries.

Secondly, the growth of netizen has slowed-down, and this alludes to the observation that e-commerce development in China is reaching a plateau – which could lead to the rise of new challenges.

Challenges for Domestic E-Commerce Development

Behaviors such as false trade, click farming to boost reputation, malicious negative comments and the abuse, disclosure and reselling of personnel information have seriously damaged the ability to create a sustainable e-commerce industry.

Talent shortage in the industry of e-commerce is increasing. At present, the relative lagging development of e-commerce talent training and supply system makes e-commerce enterprises in various fields troubled by the problems of talent shortage to different degrees.

Internal management of e-commerce enterprises can be improved. At the management level problems such as poor team composition and organization gradually occur. Optimizing internal management and strengthening competitive capacity have become crucial issues for the further development of e-commerce enterprises.

Challenges for Cross-Border E-Commerce Development

Firstly, the construction of the credit system needs to be strengthened urgently. The subjects of credit issues include the buyer, the seller, third-party institutions and other participants in various e-commerce links. Faith-breaking behaviors such as false links, click farming and speculation and false promise of the seller, false propaganda, information disclosure of e-commerce platform, negative comments, malicious claims and responsibility evasion all obstruct the implementation of cross-border e-commerce activities. According to the *2017 Research Report on Consumption Issues Regarding Cross-Border E-commerce in China* issued by China the E-Commerce Research Center, non-uniform e-commerce laws and regulations and relevant policies adopted by different countries also make the credit management systems of such countries mutually separated, thus impairing the development of cross-border businesses.

Secondly, it is difficult to return or replace goods. After-sales services are an important link restricting the development of e-commerce; wherein difficult handling of goods- returning or replacement is commonly regarded as the main bottleneck. In addition, different laws and regulations applicable to different countries or regions and incomplete goods-returning or replacement systems impact cross-border e-commerce businesses.

Thirdly, service supporting system for cross-border e-commerce, including cross-border payment, logistics, exchange collection and settlement needs to be further optimized. Furthermore, policy, technology, culture and market all have influence on the development of cross-border businesses.

Challenges for Government Regulation

Firstly, there are challenges in terms of security. On the one hand, the security trade mechanism for e-commerce needs to be further established and improved, and network security systems involving such issues as network security review and risk evaluation need to be implemented. On the other hand, it is necessary to maintain national information security and properly treat risks regarding data opening and information sharing.

Secondly, laws and regulations in China need to be improved. At present, the state-level *E-Commerce Law of the People's Republic of China* has not been promulgated yet, the General Administration of Customs has also failed to issue specific policy documents, such as *"administrative measures for cross-border e-commerce", "operation specification"* or other similar documents. Furthermore, the development of e-commerce laws and regulations by relevant ministries and commissions is inconsistent with the practical development of e-commerce to some degree, thus resulting in certain deviations between different regions and parties in understanding and executing such laws and regulations.

Thirdly, there are challenges in the creation of a relaxed and orderly environment. The e-commerce system is becoming an increasingly complicated space. The emergence of large quantities of new things and new phenomena leads to an impetus for economic development while continuously challenging the governance models implemented by government. It thus remains a serious challenge for the government to create a relaxed and orderly environment for various parties participating in the construction of the e-commerce ecological system that effectively balances the interests of such parties.

4.5.2 Strategies and recommendations

State

First, establish and improve laws and regulations and relevant mechanisms, including promulgating and promoting implementing *E-Commerce Law* and formulating unified customs supervision methods and operation specifications nationwide, forming law systems ensuring the healthy and orderly development of the e-commerce market and establishing new-types of supervision systems.

Second, support the development of MSMEs, thus improving the cultivation of e-commerce development subjects.

Third, structure a multi-layer talent training system suiting the development of the industry, thus continuously injecting new blood into the development of the e-commerce industry.

E-Commerce Industry

First, further strengthen the credit system construction in the industry and improve network credit evaluation

mechanism and platform governance mechanism, thus promoting the continuous optimization of the ecological environment of the industry.

Second, gradually improve the construction of the service supporting system of the industry. Strengthen the formulation and revision of important standards related to such issues as logistics and electronic payment and explore ways to achieve the standard treatment of relevant public data.

Enterprises

First, optimize the organization structure and improve the governance organism of enterprises, thus laying bases for enterprises' innovations in technology and business models.

Second, continuously improve the competitiveness of superior products, and the value and innovation capacity of self-possessed brands of enterprises, thus promoting the transformation of foreign trade mode from "large-volume import and export" to "optimal import and export".

4. 6 MICRO AND SMES (MSMES) AND E-COMMERCE

4.6.1 MSME landscape in the country

According to the Analysis Report on in-depth Investigation and Investment Strategy Research Regarding Industry Markets for Projects Operated by Chinese Enterprises during 2017-2022, there are 40 million SMEs in China, accounting for 99% of the total number of enterprises, and contributing 60% GDP, 50% tax revenue and 80% urban jobs.

The following are significant characteristics of small and micro-sized enterprises in China:

(I)   With diversified investment subjects and ownership structures, small and micro-sized enterprises in China are dominated by private ones.

(II)   Such enterprises typically show high labor intensity, obvious polarization and prominent industrial structural contradictions.

FIGURE 13. The contributions of SMEs in China
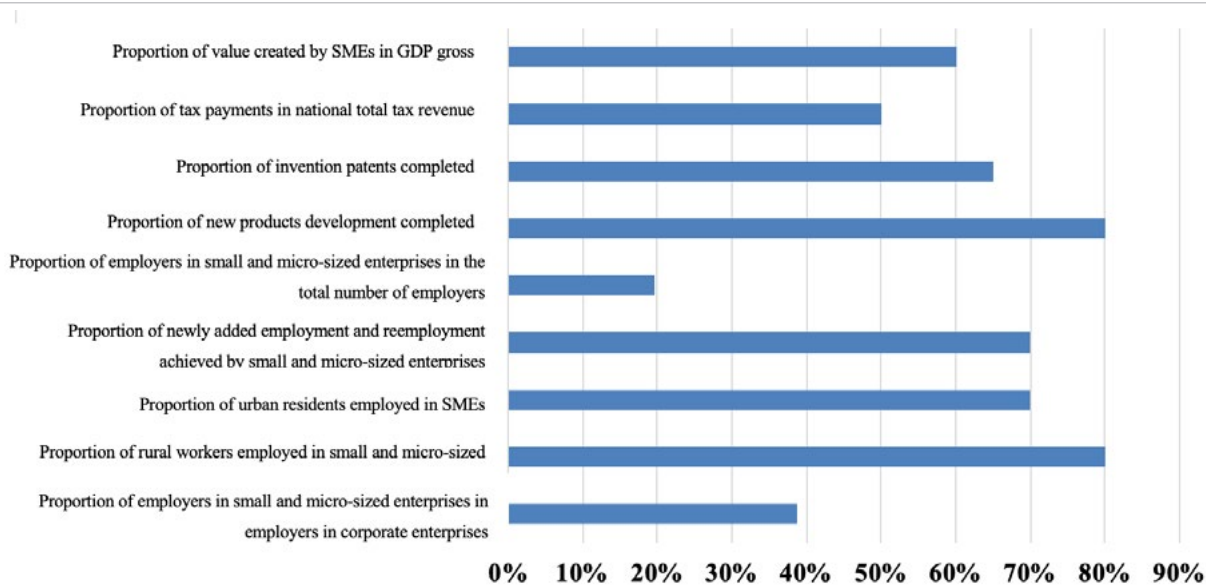
Source: Analysis Report on in-depth Investigation and Investment Strategy Research Regarding Industry Markets for Projects Operated by Chinese Enterprises during 2017-2022.

FIGURE 14. Industrial distribution of small and micro-sized enterprises in China
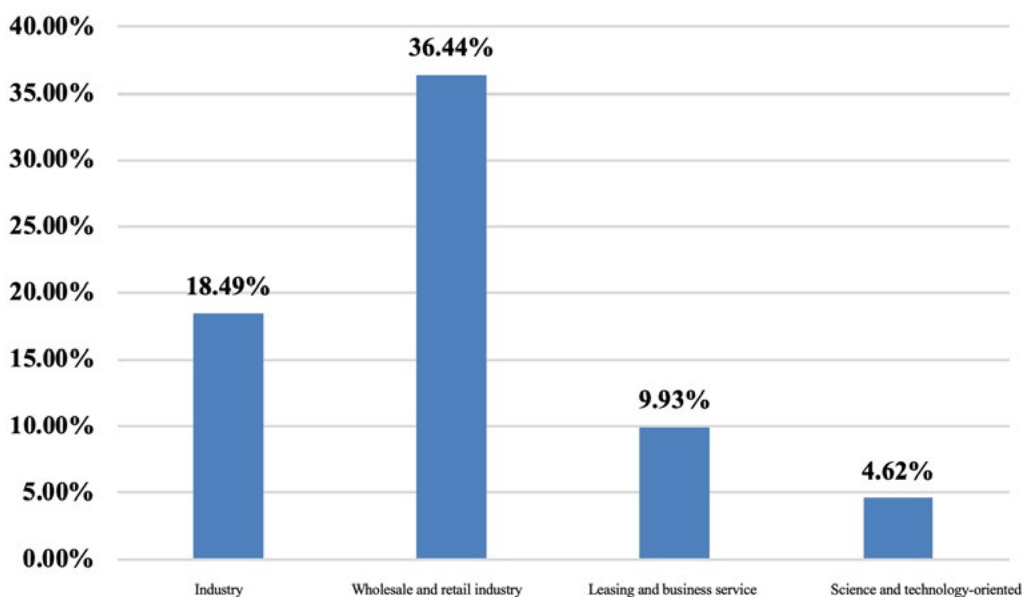
Source: Report on the Development Situations of Small and Micro-sized Enterprises Nationwide issued by the State Administration for Industry and Commerce.

(III) Featured by unbalanced development, concentrated regions with advantages and obvious regional cluster and extensive industrial distribution, the small and micro-sized enterprises in different regions represent relatively large differences in terms of development level and industrial characteristics.

(IV) Being sensitive and fragile, such enterprises are likely to be influenced by the changes of external environment, but they are of a relatively strong vitality and pioneering spirits.

FIGURE 15. Main problems challenging MSMEs in China
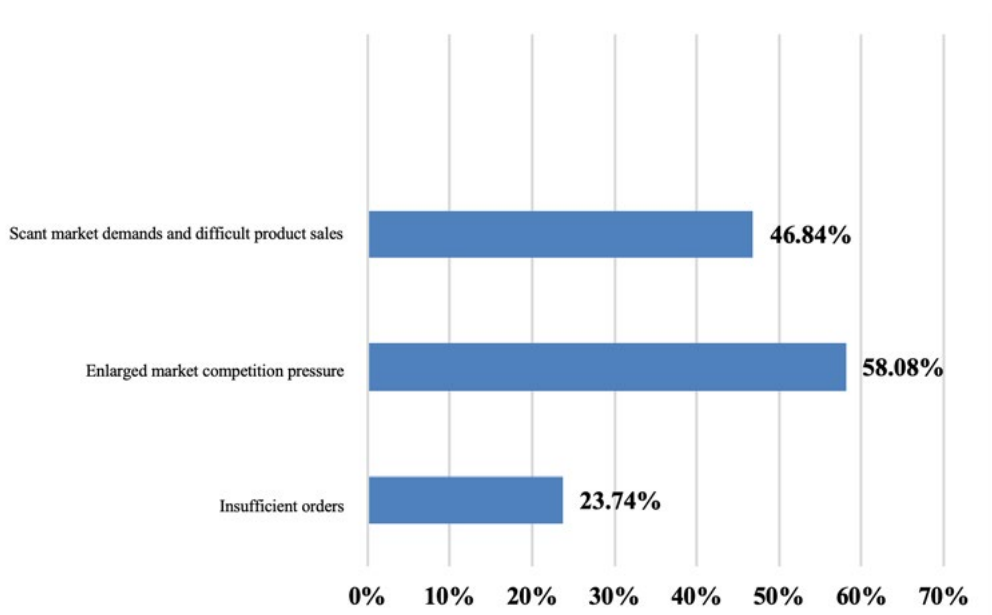
Source: Report on the Development Situations of Small and Micro-sized Enterprises Nationwide issued by the state administration for industry and commerce.

4.6.2 E-commerce challenges for MSMEs

» Information infrastructure needs to be further improved, and the interregional information accessibility level is unbalanced

» The online cost for e-commerce of SMEs maintains high, thus impairing its development

» For SMEs, the popularity of expanding businesses by means of e-commerce needs to be further strengthened

» Considerations of new technologies; the e-commerce development environment; and supervision measures of e-commerce need to be further improved.

» Intelligent logistics is still very nascent and hence existing logistics costs needs to be further reduced

» Professional e-commerce talents are insufficient

4.6.3 Existing support for MSMEs e-commerce activities

» In 2018, the newly amended Law of Promoting SMEs starts to be implemented. The law clearly proposes that "the state supports SMEs to use the Internet, cloud computing, big data, artificial intelligence and other modern technology means in such links as R&D and design, production and manufacturing and operation management, thus innovating production means and improving operation efficiency".

» In 2016, the Ministry of Industry and Information Technology promulgated the guiding opinions on further promoting the digitization of SMEs, encouraging SMEs to develop e-commerce and explore new network marketing models by means of mobile Internet and new media, and to improve the effects of targeted marketing and exploit overseas markets relying on e-commerce service platforms and big data.

5. SOUTH AFRICA E-COMMERCE DEVELOPMENT REPORT 2018

5.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

5.1.1 Internet penetration

Different statistics circulate in respect of Internet penetration in South Africa, varying between 45% and 54% of the total population. The Global Business-to-Consumer (B2C) E-commerce Report 2016 put South Africa's Internet penetration at 44.5% in 2016, with expectations that it would reach 60.1% in 2021[95]. ITU reported that South Africa had 30.81 million Internet users in 2017 with Internet penetration at 54%[96]. The results of Google's Connected Consumer Study found that 65% of South Africans over the age of 16 are now online[97].

5.1.2 Connectivity and connection speed

According to Akamai's 2017 Q1 State of the Internet Report, South Africa's average fixed-broadband speed is 6.7Mbps, while its average mobile broadband speed is 6.9Mbps[98]. Cable.uk, a British broadband aggregator, cited a broadband speed of 4.36 Mbps[99].

Fixed-broadband subscription

According to the ITU, there were 1,529,725 fixed-broadband Internet subscribers in South Africa in 2016 (2.84 per 100 people)[100].The World Bank reported a figure of 1,150,770 (2.1 per 100 people)[101].

Mobile cellular subscription

A report by the Independent Communications Authority of South Africa (ICASA) shows that there were 46,468,285 mobile subscribers (97.4% of the population) as of 30th September 2015[102]. The World Bank lists 82,412,880 subscriptions in 2016 (this high figure is due to the fact that individuals may have more than one cellphone/subscription).

5.2 DOMESTIC E-COMMERCE MARKET

The e-commerce market in South Africa is small, contributing less than 3% to South Africa's gross domestic product, but it accounts for 17.5% of its service exports[103]. Although growth is slow in comparison to other BRICS countries, South Africa is a prime market for e-commerce growth with 39.3 million of its 57 million population being over the age of 15. Approximately 50% of South Africa's population are Internet users and 20% of them are e-shoppers[104].

5.2.1 Trend analysis of sub-market in domestic e-commerce

Business-to-business (B2B)

» There is an increase in the demand for business focused e-commerce in South Africa: A Forrester research report put the percentage of B2B buyers completing work-related purchases online at 56% in 2017; while Frost and Sullivan estimate that B2B e-commerce will hit US $6.7 billion by 2020[105]. The B2B environment is still significantly smaller than the B2C environment.

» B2B example: uAfrica.com is a tech company providing cloud-based e-commerce services to SMEs across Africa. It acts as a centralized inventory and order management system for retailers[106].

[95]Global B2C E-Commerce Report, 2016, Internet: https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/5/56/Global_B2C_Ecommerce_Report_2016.pdf, accessed 4 April 2018.

[96]My Broadband, 'Internet penetration in South Africa', Internet: https://mybroadband.co.za/news/broadband/247702-internet-penetration-in-south-africa.html, accessed 4 April 2018.

[97]Google, 'Connected Consumer Survey 2017', Internet: https://www.thinkwithgoogle.com/intl/en-145/perspectives/local-articles/connected-consumer-survey-2017/, accessed 4 April 2018.

[98]Akamai, 'State of the Internet Q1 2017 Report', Internet: https://www.akamai.com/fr/fr/multimedia/documents/state-of-the-internet/q1-2017-state-of-the-internet-connectivity-report.pdf, accessed 4 April 2018.

[99]Business Tech, 'South Africa's broadband speeds vs the world', Internet: https://businesstech.co.za/news/broadband/190888/south-africas-broadband-speeds-vs-the-world/, accessed 4 April 2018.

[100] Index Mundi, 'South Africa - Fixed broadband Internet subscribers', 2016, Internet: https://www.indexmundi.com/facts/south-africa/fixed-broadband-internet-subscribers, accessed 4 April 2018.

[101]World Bank, op. cit.

[102] ICASA, '3rd Report on the state of the ICT sector in South Africa', 2018, Internet: https://www.icasa.org.za/uploads/files/State-of-ICT-Sector-Report-March-2018.pdf, accessed 4 April 2018.

[103] World Bank, 'South Africa Economic Update', 2017, Internet: http://documents.worldbank.org/curated/en/779551505322376708/pdf/119695-WP-PUBLIC-SA-EU-2017-Digital-Version-Sep-19.pdf, accessed 5 March 2018.

[104] E-commerce Foundation, 'Global B2C E-commerce Report', 2016, Internet: https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/5/56/Global_B2C_Ecommerce_Report_2016.pdf, accessed 5 March 2018.

[105] Fin24tech, 'Business to business E-commerce to take off', 2016, Internet: https://www.fin24.com/Tech/Companies/business-to-business-E-commerce-to-take-off-20160129, accessed 9 March 2018.

[106] UNIDO, 'National Report on E-commerce Development in South Africa', 2017, Internet: https://www.unido.org/sites/default/files/2017-10/WP_18_2017.pdf, accessed 9 march 2018.

Online retail market (B2C and C2C)

» Between 2013 and 2015, the number of e-shoppers increased by 2.3 million and the average amount spent per e-shopper increased by USD 32[107.]

» Between 48% and 55% of online shoppers are between 25 and 44 years of age with gender parity.

» The majority of online shoppers live in the key economic areas of Gauteng (44-48%), Western Cape (11-19%) and KwaZulu-Natal (13-15%).

» More than half of online shoppers had average monthly household incomes of R20 000+ (USD 1685+) and a tertiary qualification[108].

» Frequency of online shopping: 80% of online shoppers have maintained or increased their online shopping habits over the last 12 months[109].

» Offline shoppers: 46% of offline shoppers believe they will make an online purchase within the coming year[110].

» Popular product groups include: electronics, media and entertainment.

» Online Services: flights and hotel bookings.

Online-to-offline (O2O)

» Large-scale retailer Makro has been successful in bringing the in-store and online experiences closer together: users can browse online and pick up ready packaged items in-store at their own convenience. Other retailers such as Woolworths and Mr Price are also attempting to migrate in-store and online consumers. This phenomenon, known in South Africa as 'click and collect', has become quite popular[111].

» China Homelife and China Machinex carried an effective and interactive 24-7/365 O2O matchmaking programme bringing Chinese suppliers and manufacturers together with South African buyers[112].

New emerging e-business activities (such as fintech, crowdfunding, P2P, sharing economy, etc.)

» **Fintech:**

  » RainFin, backed by Barclays bank, is currently the largest peer-to-peer (P2P) lending company in South Africa

» with transactions of R1,000,000+ (US $120,000+) a day. The marketplace connects lenders directly to business or corporate borrowers and has provided SMEs loans of up to R750, 000 (US $63,000+)[113].

» Insuretech is also starting to emerge in South Africa through companies like 'click2sure', a platform that enables retailers and service providers to access insurance online. It has automated processing and claims administration with full reporting capability[114].

» **Crowdfunding:**

  » 'Backabuddy' is the first website in South Africa to raise over R50 million (over US $4.2 million) for charities and campaigns. Through this crowdfunding platform, over 70,000 donors have raised money for 2,651 causes throughout the country[115].

  » Kickstarter, GoFundMe and IndieGoGo are alternative financial resources.

» **Crypto-currencies:**

  » Many e-commerce retailers in South Africa have the option of payment by PayFast, which is a secure online payment system. Since it is possible to pay via Bitcoin on Payfast, it is also possible to use crypto-currency to purchase from these retailers. A popular electronics, merchandise and hobbies retailer, Raru, also accepts Bitcoin as a payment directly on its website.

5.2.2 Key players in the e-commerce eco-system

Major online marketplace platform

South Africa's biggest online retailer is Takealot. It was officially launched in June 2011, following the successful acquisition of an existing online store, Take2, by the US-based investment firm, Tiger Global Management and businessman Kim Reid in October 2010. The platform sells a range of products, from nappies to big-screen TVs. In 2014 Takealot merged with another local online store Kalahari and logistic partner Mr. Delivery to increase their assets and logistic capabilities[116.] Naspers is currently a majority shareholder in the company, with

[107] Effective Measure, 'E-commerce Industry Report', 2017, Internet: https://cdn2.hubspot.net/hubfs/2622125/2017%20South%20Afri-ca%20E-commerce%20Industry%20Report.pdf, accessed 11 March 2018.
[108] Ibid.
[109] Ibid.
[110] Ibid.
[111] Pargo, 'The rise of click and collect in South Africa', 2017, Internet: https://pargo.co.za/blog/the-rise-of-click-collect-in-south-africa/, accessed 11 March 2018.
[112] China Homelife, 'The O2O Campaign', 2017, Internet: http://www.chinahomelife.co.za/media/files/6/the-o2o-campaign-release-final.pdf, accessed 11 March 2018.

[113] Rainfin Website, https://www.rainfin.com/, accessed 11 March 2018.
[114] MoneyWeb, 'South African Fintech in 2018 – what can we expect?', 2018, Internet: https://www.moneyweb.co.za/news/tech/south-afri-can-fintech-in-2018-what-can-we-expect/, accessed 13 March 2018.
[115] Timeslive, 'SA crowdfunding platform hits R50 million mark', 2017, Internet: https://www.timeslive.co.za/news/sci-tech/2017-11-20-sa-crowdfunding-platform-hits-r50-million-mark/, accessed 13 March 2018.
[116] MyBroadband, 'South African E-commerce companies don't use the Post Office', 20-18, Internet: https://mybroadband.co.za/news/business/253369-south-african-ecommerce-companies-dont-use-the-post-office-this-is-why.html, accessed 24 April 2018.

53.5% and in April 2017, they invested R960 million (US $80 million) in Takealot (following a previous investment of R716 million (US $60 million) in 2015)[117]. Takealot has recorded a compound annual growth rate of 90% over the past four years, but it is still not profitable. The reasons for this include low profit margins, inefficient logistics (for the retailer, not for the customer) and promotional vouchers[118].

E-payment gateway

» Traderoot is an award-winning global payment technology firm based in South Africa with over 10 'world-first' products, including the world's first Internet payment provider with compliance approved by Visa[119].

» PayU is a well-established South African payment gateway that serves more than 1,500 e-commerce websites in South Africa. R9 billion (US $755 million) worth of transactions are processed through PayU each year[120].

Logistics and delivery

» Mr. D Courier caters to many e-commerce platforms and has over 49 branches across the country and employs over 900 drivers[121].

» Parcelninja is a scalable outsourced e-commerce warehousing and fulfillment platform. Manufacturers and suppliers can drop off their stock at one of the warehouse locations and when a customer places an order, it is sent directly to the warehouse system where it is packaged and dispatched[122].

» Courier fees for different e-commerce outlets vary between R35 (USD 3) and R150 (US $12.5), depending on retailer size and delivery time. Free delivery is offered when the order amount is between R250 (US $21) and R450 (US $38)[123].

5.3 CROSS-BORDER E-COMMERCE

5.3.1 Import/Export Statistics

According to the country's Department of Trade and Industry (DTI), there are currently no formal statistics on exporting or importing by South African e-commerce suppliers or by South African consumers[124]. South African consumers purchase mainly from South African websites, but 41.7 % of online shoppers have purchased products from the US and the UK. The third most visited e-commerce site in South Africa is Amazon. com. Although it does not have an official presence in South Africa, selected products can be shipped to the country[125].

5.3.2 Major trade partners

Globally, the top locations for export to South Africa are China, India, the US, and the UK.

5.3.3 Cross-border-related issues and challenges

Regionally, 30% of online shoppers in Nigeria have purchased goods from South Africa in the last 12 months[126]. The majority of South African e-commerce retailers only ship goods within the borders of the country. A major reason for this is the unreliability of the South African Post Office and high courier costs. Custom processing can also be very slow, both in South Africa and in other destinations on the continent. In terms of the burden of customs procedure, the World Bank scored South Africa at 4.2 in 2017 (with 1 being extremely inefficient and 7 being extremely efficient)[127]. Some international platforms only accept vendors from a limited number of countries, at the exclusion of developing countries.

5.4 E-COMMERCE REGULATION AND LAW

5.4.1 Domestic e-commerce laws and regulations

» There is no single overarching law that prescribes regulation of e-commerce in South Africa.

» South Africa's e-commerce policy was developed in the 1999 Discussion Paper and the 2000 Green Paper. The Green Paper identifies the following principles as central to the policy: quality of life; international benchmarking; consultative processes; flexibility; technology neutrality; support for private sector-led and technologically-based initiatives and public-private partnerships; and support for SMEs and the informal sector. It also identified the following main focus areas: confidence in the security and privacy of transactions performed electronically, enhanced information infrastructure for e-commerce, and established rules that will govern e-commerce and

[117] Naspers, 'Takealot, South Africa's leading ecommerce company, attracts additional investment from Naspers', 2017, Internet: https://www.naspers.com/news/takealot,-south-africa%E2%80%99s-leading-ecommerce-company, accessed 14 March 2018.
[118] Ibid.
[119] Budree A, 'E-commerce Country Case Study: South Africa', Discussion Paper, Global Economic Governance, 2017, Internet: http://www.gegafrica.com/publications/77-e-commerce-country-case-study-south-africa, accessed 5 March 2018.
[120] Marketing Channel, 'Payment Gateways in South Africa', 2017, Internet: http://www.marketingchannel.co.za/payment-gateways-south-africa-which-platform-is-best-for-your-ecommerce-store/, accessed 13 March 2018.
[121] Takealot Website, https://www.takealot.com/about/mrd, accessed 15 March 2018.
[122] Parcelninja Website, https://www.parcelninja.co.za/, accessed 15 March 2018.
[123] Effective Measure, op. cit.

[124] Budree A, op. cit.
[125] Effective Measure, op. cit.
[126] The Paypers, 'Cross Border Ecommerce Report', 2015, Internet: https://www.thepaypers.com/reports/cross-border-ecommerce-country-reports/r753142, accessed 13 March 2018.
[127] World Bank, op. cit.

bring its opportunities to the entire population[128]. The Green Paper envisaged the progression of this policy in the form of a White Paper in 2001, and specific legislation by the end of 2001, however, matters did not progress as planned and it was not published.

There are also other relevant laws, which provide guidance for e-commerce in South Africa:

» The Value Added Tax Act 1991: requires Value Added Tax (VAT) to be charged on all transactions at a standard rate of 15%. South African suppliers of e-commerce services are therefore required to register as a VAT vendor, submit tax returns and pay tax collected to the South African Revenue Service (SARS). The VAT Act was amended in 2014 to compel suppliers of e-services to South Africa, where payment for such services originates from a South African bank account, to register as a VAT vendor. The amendments also do not distinguish between B2C and B2B transactions or provide for corporate income tax on foreign supplies of electronic services and electronic advertising services[129].

» The Electronic Communications Act 2002: provides a legal framework for electronic transactions and includes provisions for cryptography, cybercrime and the protection of privacy. It seeks to promote regulation in the broadcasting and telecommunications sectors and provide a legal framework for the convergence of all technological sectors. The legislation also highlights the information that must be shared with customers in the interest of consumer protection. Furthermore, commercial suppliers are also expected to provide consumers with the opportunity to review the entire e-transaction before placing a final order[130].

» Protection of Personal Information (POPI) Act 2013: places an obligation on all businesses that handle personal information to put measures in place to protect that information. It calls for businesses to rethink how they collect, use, share, store, and destroy personal information. Failing compliance, businesses run the risk of legal action, investigation and fines[131]. POPI has yet to be completely implemented in South Africa.

» The Payments Association of South Africa ensures that all payment platforms and gateways conform to the law, including regulations to ensure that certain goods are not being traded via e-commerce websites[132].

» It has been observed that South Africa doesn't have a single and coherent e-commerce legislation, instead they have pockets of legislation that are applicable to e-commerce – this needs to change[133].

5.4.2 Government policies and initiatives to support e-commerce

» The National Integrated ICT Policy White Paper, 2016, is a key document speaking to the South African government's perspective on e-commerce. It states that the digital transformation of the public sector and the promotion of digital services will create further opportunities for digital entrepreneurship and the introduction of new innovative digital goods and services[134].

» Some provincial governments have taken an active stance on introducing 'municipal broadband' i.e. utilization of PPP's to provide access to affordable ICT services to public enterprises and low-income communities.

» South Africa established SA Connect in 2013, which called for an average speed of 5Mbs to be available to half the population by 2016, and for a universal average download speed of 100Mbs by 2030. It also aimed to provide broadband connectivity to 100% of government facilities and 90% of the population by 2020. The South African government, however, is failing to meet its own deadlines in phase one of this project[135].

5.4.3 International trade agreement

South Africa is a signatory of the General Agreement on Trade in Services (GATS), by virtue of being a member of the WTO. While the General Agreement on Trade in Services (GATS) does have implications for e-commerce, South Africa has yet to make any formal commitments despite a 23 yearlong membership.

5.5 CHALLENGES AND RECOMMENDATIONS

5.5.1 Problems and challenges

Challenges for ICT infrastructure:

» Basic affordable telecommunications and broadband infrastructure needs to be deployed to cater to South Africa's continuously increasing access to ICT services[136].

» Data costs in South Africa are among the highest globally and are the most expensive out of all leading African economies[137].

128 Budree A, op. cit.
129 Ibid.
130 Ibid.
131 Ibid.
132 Ibid.
133 Interview with a senior official from the Department of Telecommunications and Postal Services, who wished to remain anonymous, conducted in Johannesburg on 23 May 2018.

134 Ibid.
135 IT Web, 'SA Connect misses rollout targets', 25 October 2017, Internet: https://www.itweb.co.za/content/WPmxVE7KkAy7QY85, accessed 5 April 2018.
136 ICASA, op cit.
137 Research ICT Africa, ' Internet use Barriers and User Strategies: Kenya, Nigeria, South African and Rwanda', 2017, Internet: https://researchictafrica.net/publications/Other_publications/2017_INTERNET%20USE%20BARRIERS%20AND%20USER%20STRATEGIES-%20KENYA,%20NIGERIA,%20SOUTH%20AFRICA%20AND%20RWANDA%20.pdf, accessed 15 March 2018.

» There is inadequate transport and logistics infrastructure: which causes online businesses to resort to using their own resources which increases the overall cost of conducting business.

Challenges for domestic e-commerce development

» South Africa has a high proportion of poor and illiterate citizens, who are unable to participate in e-commerce activities.

» Potential customers live in informal settlements which have inaccurate physical address details.

» Companies have to cater for a wide range of consumers across a range of language, cultural and economic barriers - impacting economies of scale, allocation of capital and duplication of resources across the region[138].

» Local development of innovative fintech solutions creates a major entry barrier for venture capital-backed fintech[139].

» There is a need to enhance the quality of education and infrastructure to support growth in the e-commerce sector.

Challenges for cross-border e-commerce development

» A key barrier is the question of trust in three areas: online payments, the supply chain of the e-commerce vendor, and the product's quality. South Africans still do not trust online payments, owing to worries about online fraud[140].

» B2C trade across borders could lead to conflict due to differences in domestic legislation regarding the use, trade and storage of consumer data[141].

Challenges for government regulation

» Lack of policy harmonization.

» Insufficient understanding and usage of ICT by the government.

» Slow rollout of policies and even slower implementation thereof.

» Externalization of funds: the South African Reserve Bank (SARB) is unable to track money going in and out of foreign bank accounts. Key government institutions are struggling to relate cross border transactions and their tax implications. The identification and verification of taxable transactions is difficult, creating opportunities for tax evasion[142].

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[138] Budree A, op. cit.
[139] International Finance Corporation, 'How Fintech is Reaching the Poor in Africa and Asia', 2017, Internet: https://www.ifc.org/wps/wcm/connect/f745fd31-a9aa-4736-boba-4ac2956f96dc/EmCompass+Note+34+DFS+and+FinTech+Mar+28+FINAL.pdf?MOD=A-JPERES, accessed 15 March 2018.
[140] The Paypers, op. cit.
[141] Interview with a senior official from the Department of Telecommunications and Postal Services, who wished to remain anonymous, conducted in Johannesburg on 23 May 2018.
[142] UNIDO, op. cit.

5.5.2 Strategies and recommendations

National level:

» Priority should be given to investment in wireless and mobile broadband infrastructure to increase the number of people with access to the Internet.

» South Africa should adopt a strategy to support sustainable cross border and intra-regional e-commerce. The second phase of the Continental Free Trade Area negotiations is an ideal platform to do so.

» A definition of e-commerce, specific to South Africa, which accounts for the local environment while reflecting international trends and debates is necessary.

» Tax systems should be dynamic and should ensure that all relevant transactions are being recorded and are attracting tax implications.

» Further research and statistics gathering on South Africa's e-commerce environment needs to be commissioned and more baseline surveys should be conducted.

» More efforts are required to attract informal traders and provide opportunities for the disconnected to get access to these mediums[143].

Firm level:

» With increasing cybercrime and identity theft, it is necessary for SMEs to provide or partner with trusted and secure payment platforms to promote digital security.

» Ease of comprehension of consumer rights and responsibilities in e-commerce is important, especially with regards to technical issues and contractual limitations.

» The SMEs e-commerce sector needs its own self-regulatory body that will serve not only to lobby for the interests of e-commerce players but will also ensure an even playing field and transparency.

5.6 MICRO AND SMES (MSMES) AND E-COMMERCE

5.6.1 MSME landscape in the country

MSMEs play an important role in the South African economy. Although the large majority of MSMEs in South Africa are concentrated on the lower end of the sector as 'survivalist firms', they are still key drivers of economic growth, innovation and job creation. The government has put in place a number of policies to create an enabling environment for MSMEs. It is also necessary to highlight that South Africa has both formal and informal MSMEs.

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[143] Email correspondence with Krish Chetty, Researcher at the Human Sciences Research Council in South Africa, 26 April 2018.

5.6.2 E-commerce challenges for MSMEs

» In South Africa, Internet cable theft costs the economy US $500 million per year. As a result, wireless broadband has become popular in the wholesale trade, advertising, mining and construction sectors[144].

» Delivery via the South African Post Office is unreliable, and while some e-commerce players do offer fast logistics systems, the extra cost is often passed onto the consumer.

» MSMEs struggle with getting permits and licenses in a timely manner. Coordination between different policies and departments is weak.

» South African banks are traditionally conservative by nature and tend to only invest in SMEs during later stages of development, reducing attractiveness for start-ups.

5.6.3 Existing support for MSMEs e-commerce activities

» The Electronic Communications and Transactions (ECT) Act of 2003 required that policy be drafted for SME access to ICTs. This policy was only developed in 2007, in the form of the National Information Society and Development Plan. The plan included SMEs as a priority focus area but did not volunteer any practical supply-side measures to increase SMEs access to ICTs[145].

» The National Integrated ICT Policy White Paper, 2016 emphasizes the digitization of government services, aimed at reducing the red tape involved with setting up and running electronic businesses and which will contribute towards the digital transformation of the economy. The paper also places an obligation on government to address digital inequality by 'creating enabling frameworks to encourage innovation and enterprise'[146].

» ICASA is responsible for regulating the e-commerce sector in South Africa under the ECT Act.

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[144] Krogman H and Khumalo N, 'E-commerce in Africa', Discussion paper, 2016.
[145] Budree A, op. cit.
[146] South Africa, Department of Telecommunications and Postal Services, White Paper for 'National Integrated ICT Policy', 2016, Internet: https://www.dtps.gov.za/images/phocagallery/Popular_Topic_Pictures/National_Integrated_ICT_Policy_White.pdf, accessed 20 march 2018.

6. AUSTRIA E-COMMERCE DEVELOPMENT REPORT 2018

6.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

According to the International Telecommunication Union database, 84% of Austria's population had access to the Internet with 7.3 million active Internet users[147]. This represents a 1% increase from 2015 and a 25% increase since 2005[148].

According to the Economist Intelligence Unit (EIU), in 2017 there were 2.556.000 broadband subscriptions lines in Austria which represented a 1.7% growth from the previous year and accounted for 0.3% of the global broadband subscriptions. Furthermore, the EIU notes that there were 29.8 broadband lines per 100 inhabitants in Austria[149].

[149] http://data.eiu.com/EIUTableView.aspx?geography_id=1670000167&pubtype_id=1393181324

FIGURE 1. Internet penetration in Austria 2005-2016
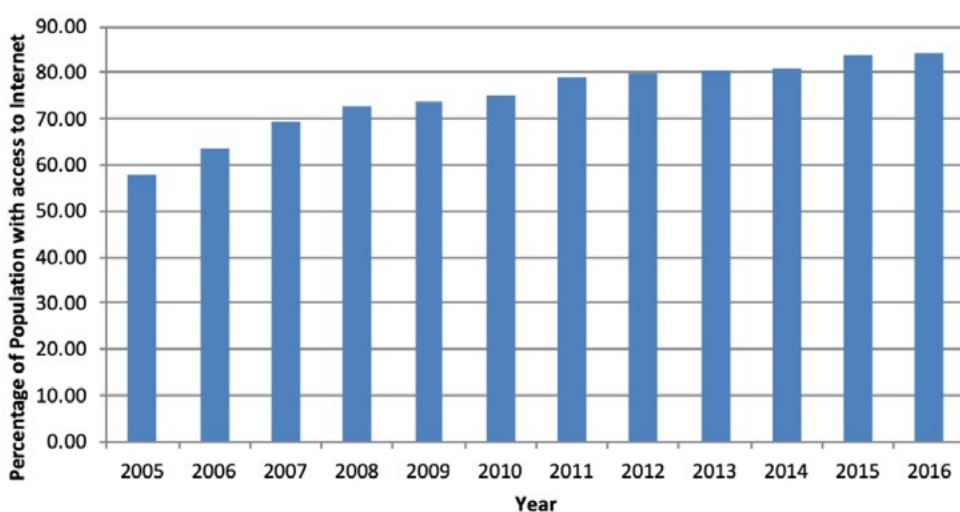
Source: ITU Database.

TABLE 1. Austria fixed-broadband statistics 2005-2017

Year	Broadband subscriber lines	Broadband subscriptions (% pa)	Broadband subscriber lines (per 100 people)	Broadband subscriptions (share of world total)	Potential broadband subscriptions
2005	1174	34.9	14.3	0.5	2941
2006	1432	22.0	17.3	0.5	3455
2007	1622	13.3	19.5	0.5	3879
2008	1729	6.6	20.7	0.4	3917
2009	1878.5	8.6	22.4	0.4	3517
2010	2050.4	9.2	24.4	0.4	3757
2011	2097.7	2.3	24.8	0.4	4047
2012	2130.2	1.5	25.1	0.3	4025
2013	2232.5	4.8	26.3	0.3	3947
2014	2359	5.7	27.7	0.3	3992
2015	2455.5	4.1	28.7	0.3	4045
2016	2523.3	2.8	29.4	0.3	4121
2017	2566	1.7	29.8	0.3	4362

Source: EIU Database.

147 https://www.itu.int/en/ITU-D/Statistics/Pages/stat/treemap.aspx
148 https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx

According to Statista, in the first quarter of 2017, the average connection speed in Austria was 14.1 Mbps [150]

FIGURE 2. roadband speeds in Austria as of December 2017
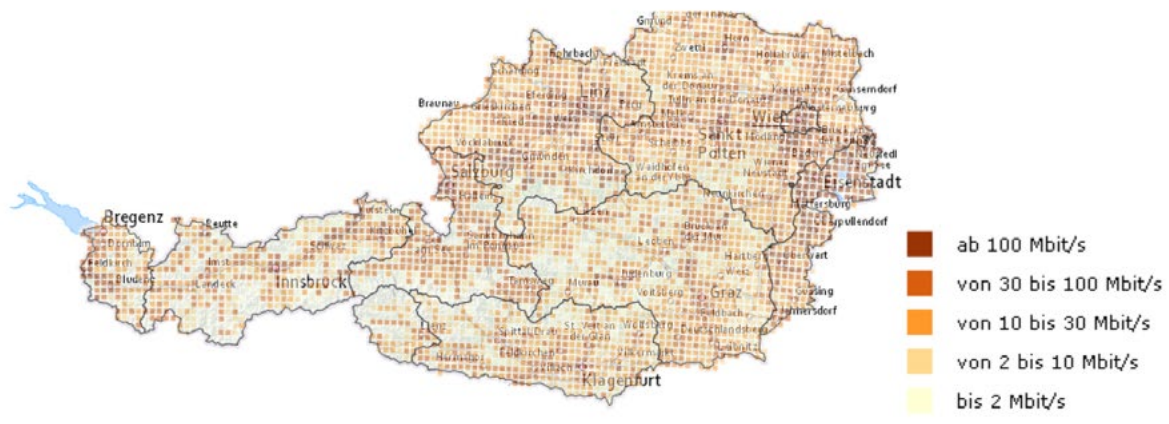
Source: Breitbandatlas.

The EIU Database additionally records that in 2017, Austria had 15.241.000 mobile subscriptions and 177 mobile subscriptions/100 inhabitants. It is forecasted that in 2018, these figures will increase to 15.768.000 mobile subscriptions and 183 mobile subscriptions/100 inhabitants respectively[151].

FIGURE 3. Mobile subscriptions in Austria 2005-2017

Source: EIU Database.

[150] https://www.statista.com/statistics/693738/average-connection-speed-in-austria/ and https://www.breitbandatlas.info/map.php
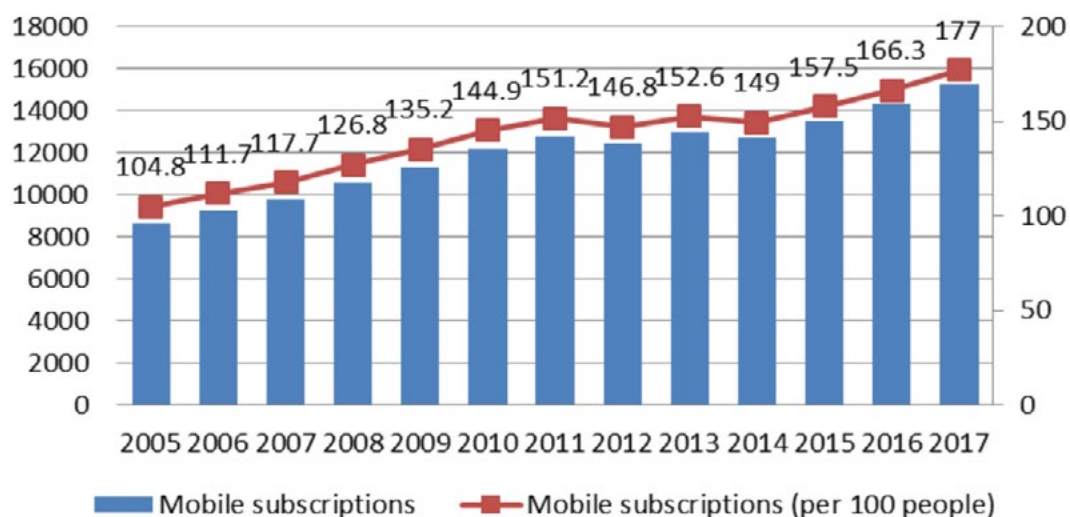
[151] http://data.eiu.com/EIUTableView.aspx?geography_id=1670000167&pubtype_id=1393181324

According to the European Commission, Austria ranks 10th in the Digital Economy and Society Index (DESI) 2017, that grades countries on the basis of their digital economy status [152].

Austria's ranking remains unchanged from the year before and to improve this they are currently working on the implementation of the 'Broadband Strategy 2020'. This aims to provide nationwide ultrafast Internet access by 2020 to bridge the digital divide between urban and rural communities [153].

6.2 DOMESTIC E-COMMERCE MARKET

6.2.1 Trend analysis of sub-market in domestic e-commerce

Business-to-business (B2B)

According to Statista, in 2016, 9% of enterprises based in Austria made B2B and B2G e-commerce sales through a website [154].

Online retail market (B2C and C2C)

According to Handelsverband, the Austrian retail market is worth €70 billion and accounts for 33% of all sales in the country. Currently 90% of retail sales in Austria are generated offline and the retail sector employs 588, 000 people. Furthermore, Handelsverband also found that Austria has the highest density of retail sales per capita within Europe.

Analysis by Handelsverband reveals that Austrian's spend €6.8 billion on the Internet and e-commerce accounts for 10% of the output in relation to their total yearly spending. Most notably, there has been a 24% increase in the number of online shoppers since 2012. Handelsverband also found that more than 50% of the e-commerce expenditures were spent on foreign platforms abroad [155].

FIGURE 4. DESI ranking 2017
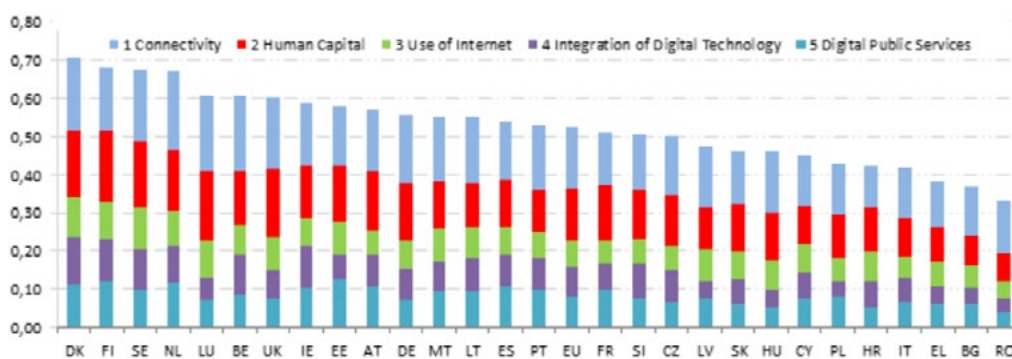
Source: EU Commission.

FIGURE 4. Share of enterprises based in Austria making B2B or B2G e-commerce sales 2013-2016
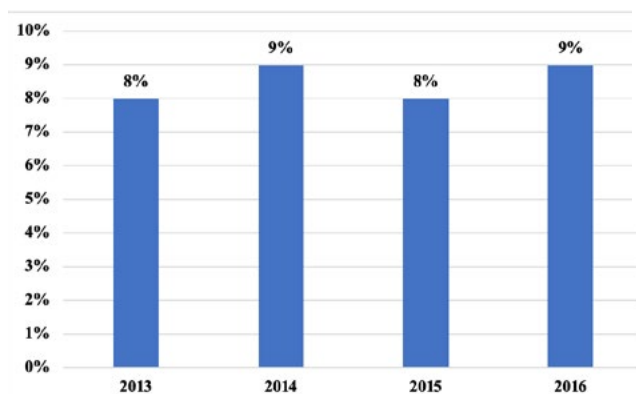
Source: Statista.

FIGURE 5. Retail sales per capita by area

Source: EHI / Statista / Handelsverband 2017.

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[152] https://ec.europa.eu/digital-single-market/en/desi
[153] https://www.digitalroadmap.gv.at/fileadmin/downloads/digi-tal_road_map_broschuere_eng.pdf

[154] https://www.statista.com/statistics/669799/share-of-enterpris-es-that-made-b2b-and-b2g-e-commerce-sales-via-a-website-austria/
[155] Source: KMU Forschung Austria / Handelsverband 2017

The top 3 e-commerce platforms in Austria are Amazon. de, Zalando and Universal, which collectively generate combined revenues of €841 million. Electronics, Clothing, Furniture and Food/Groceries are the most popular e-commerce categories within Austria (see Figure 7).

FIGURE 6. Top online categories in Austria (in-comparison with the UK)

Source: EHI / Statista / Handelsverband 2017.

FIGURE 7. Top 5 online shops in Austria

Source: Handelsverband 2017.

Looking to the future, it is evident that m-commerce (mobile e-commerce) will influence Austria's e-commerce sector activities. Handelsverband found that consumers spent €530 million on the Internet via smartphone. They also noted that 46 % of mobile shoppers were in the age group of 15-29 years and mobile shoppers belonging to the age group of 30-39 years presented an increase of 38%.

6.2.2 Key players in the e-commerce ecosystem

Major online marketplace platform

The three major platforms in the Austria e-commerce ecosystem are:

» Amazon.de (€556 million)

» Zalando (€174.3 million)

» Universal (€111.1 million)

During the period from April 2016 to May 2017, the top 3 goods purchased via e-commerce platforms (websites) were: 1) textiles (€1.7 billion), 2) electronics (€1.1 billion) and 3) books (€0.7 million). Online shopping via mobile phones has increased by 46% and the top 3 categories are also: 1) Textiles (€135 million), 2) Electronics (€72 million) and 3) Books (€67 million) [156].

E-payment gateway

In total, 81% of shoppers use payment against invoice when shopping online. Credit cards are used online by 58% of online shoppers, and Paypal is used by 41% of online shoppers. SOFORT, debit, cash on collection, cash on delivery and payment in advance are all used by online shoppers in Austria [157].

Other payment options include:

» **ConCardis PayEngine**[158] : offers its customers the highest possible security and protection against payment defaults. The Concardis PayEngine is certified according to the international data security standard PCI DSS and also has integrated fraud prevention, which can be adjusted individually to the customer structure and the use of goods. Over 30 common payment methods can be accepted and processed.

» **First Data**[159] **:** is represented in 34 countries worldwide and handles payment transactions for millions of merchant branches, thousands of financial institutions and their customers. First Data's Internet Payment Gateway (IPG) is the powerful and flexible e-commerce payment system that makes online payments work smoothly and your sales do not falter. IPG offers: different connectivity options (Virtual Terminal, Connect, API); simple implementation through shop plugins; various payment methods; high transaction speed; expansion with e-commerce add-ons and competent customer support.

» **Hobex online**[160]: is Austria's full-service provider for cashless payment systems and e-commerce payment solutions. As a payment service provider (PSP) it handles the appropriate means of payment accepted in different webshop. Hobex online serves as a simple and secure interface for online shops and the most common payment methods such as MasterCard, Visa, Paypal, Sofortüberweisung, etc.

» **Klarna**[161] **:** is one of the leading payment providers in Europe and a newly licensed bank that wants to revolutionize the payment experience for buyers and sellers. Klarna gives online shoppers the ability to pay by bill, installment or immediately upon order via direct debit or direct debit - providing a secure and easy checkout experience.

FIGURE 9. Most popular methods of payment in online shops in Austria
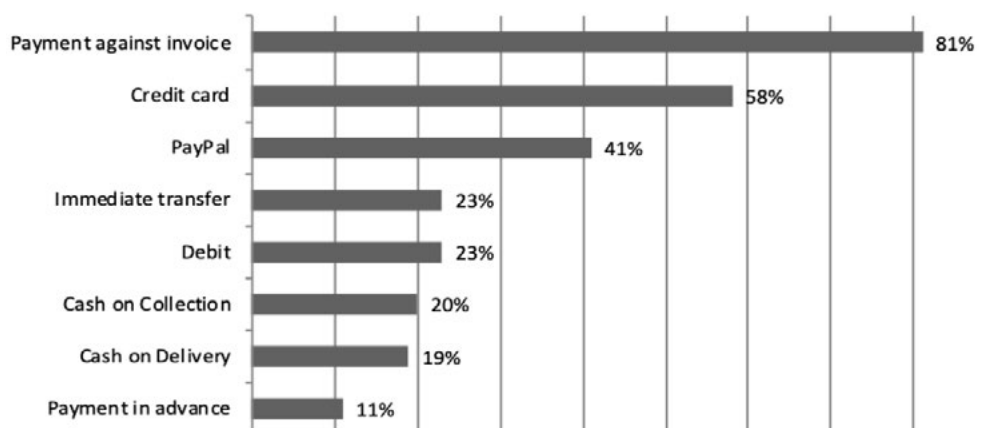
[156] https://www.handelsverband.at/fileadmin/content/Presse_Publikationen/presseaussendungen/KMU_Studie_2017/ExecutiveSummary_E-Commerce-Studie_Oesterreich-2017.pdf
[157] https://www.eshopworld.com/blog-articles/austria-ecommerce/

[158] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links
[159] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links
[160] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links
[161] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links

- » **mPAY24**[162] **:** is a leading Austrian-based payment service provider in the Germanic region with more than 2,200 customers. The self-developed payment platform offers online shop operators optimized connections to numerous national and international payment systems and serves transaction processing in e-commerce, m-commerce and distance selling. With mPAY24, users can get high- quality and seamless plugins for all common shop systems. The following payment systems are available: credit and debit cards, online transfer, wallets, installment purchases and alternative payment systems. mPAY24 GmbH, is headquartered in Vienna and Berlin, is PCI DSS certified, carries the EMOTA label and the Trustmark Austria seal of the Austrian Trade Association and has been awarded the eGovernment seal of approval by the Austrian Federal Chancellery.

- » **PayUnity**[163] **:** is a PSP and processes all means of payment that sellers wish to accept in their webshop. It acts as an interface between online stores and the credit card companies, banks and other payment issuers. PayUnity reduces costs, relieves pressure on IT departments and competently provides advisory services on the topic of payment transactions on the Internet. With the PayUnity portfolio sellers gain access to over 300 million customers in Austria and Europe and can increase sales and minimize risks.

- » **Viveum**[164] **:** is another PSP that has expertise in processing credit card transactions and alternative payment methods. Viveum helps to optimize the entire payment process of online retailers in order to sustainably increase the number of transactions and thus their sales. It offers 45 payment options to its users – therefore allowing for high customization. Viveum also analyzes the payment behavior of the buyer and allows them to make improvements to their services.

- » **Wirecard Central Eastern Europe GmbH**[165] **:** is Austria's market-leading PSP and offers the latest technologies in cashless payment processing. The 360 ° payment service ranges from online, offline and mobile to loyalty, couponing and mobile point of sale (POS). The Wirecard Bank, equipped with a German full-bank license, offers a "Collecting Model", which makes it possible to accept individual payment methods such as credit and debit cards, SOFORT transfer and iDeal via a single contract. Wirecard CEE payment platform can be integrated into standard shop systems using numerous ready-made plugins, and it can also be easily integrated into almost any online application with the help of extensive reference implementations.

Logistics and delivery

In 2016, Austria was ranked 7th in the World Bank Logistics ranking, making it among the easiest countries to deliver to in the world. 34% of Austria's population resides in rural areas, where logistical networks need to be further developed[166].

Express delivery is widely available and the well-known multinational service providers including Federal Express, UPS, DHL, as well as the Austrian Post offer reliable express services.

- » **Austrian Post AG**: is the leading logistics and postal service provider in Austria. Its main business activities include the transport and delivery of letters, direct mail items, print media and parcels. The branch network of Austrian Post ranks among the largest private customer networks in the country, offering high-quality postal, banking and telecommunications products and services to its customers throughout Austria. The company makes an important contribution to safeguarding the nation's communications and logistics infrastructure based on its nationwide and reliable supply of high-quality postal services on behalf of the Austrian population and economy. Moreover, Austrian Post is also represented by subsidiaries in twelve European markets, particularly in the parcel and logistics segment as well as in unaddressed direct mail items.

- » **DHL:** is present in over 220 countries and regions across the globe and is the most international company in the world. DHL is part of the world's leading postal and logistics company Deutsche Post DHL Group, and encompasses the following business units DHL Express, DHL Parcel, DHL e-Commerce, DHL Global Forwarding, DHL Freight and DHL Supply Chain. Its advantages include a wide logistics network and are suitable for small-scale goods, very fast transportation and real time tracking. The only limitation is the restriction on the categories of goods which can be delivered.

- » **UPS:** is a multi-billion-dollar corporation by clearly focusing on the goal of enabling commerce around the globe. Its main advantages are the speedy transportation and that its logistics services can be accessed in 200 countries or regions around the world. Its main disadvantage is the higher freight costs.

- » **FedEx:** provides customers and businesses worldwide with a broad portfolio of transportation, e-commerce and business services. FedEx Express is the world's largest express transportation company, providing fast and reliable delivery to more than 220 countries and regions. FedEx Express uses a global air-and-ground network to speed delivery of time-sensitive shipments, by a definite time and date with a money-back guarantee. Its main advantage is the competitive prices it offers in carrying goods weighing more than 21kg to Europe and central regions of South America. It shares the same disadvantages as DHL and UPS.

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[162] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links

[163] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links

[164] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links

[165] https://www.wko.at/branchen/handel/Payment_Service_Provider.html and relevant sub-links

[166] https://www.eshopworld.com/blog-articles/austria-ecommerce/

6.3 CROSS-BORDER E-COMMERCE

6.3.1 Import/ Export Statistics[167]

TABLE 2. Austrian import statistics

Austrian Foreign Trade - Import by region - January - September 2016/2017
Source: STATISTIK Austria

Origin country	Jan – Sept 2016 in 1000 euro	Jan- Sept 2017 in 1000 euro	% Share	Difference in comparison to previous year in %
Europe	**81,714,073**	**87,966,300**	**80.6**	**7.7**
European Union (27)	72,042,780	77,153,229	70.7	7.1
Germany	37,565,221	40,218,590	36.8	7.1
Italy	6,233,656	6,701,780	6.1%	7.1
Czech Republic	4,285,012	4,662,666	4.3	8.8
Netherlands	2,589,691	3,024,112	2.8	16.8
Hungary	2,668,111	2,960,862	2.7	11
France	2,712,247	2,905,947	2.7	7.1
Poland	2,436,147	2,773,759	2.5	13.9
Slovakia	2,131,013	2,180,260	2	2.3
Spain	1,923,763	1,871,579	1.7	-2.7
United Kingdom	2,026,143	1,763,340	1.6	-13
Belgium	1,481,255	1,485,569	1.4	0.3
Slovenia	1,314,971	1,451,821	1.3	10.4
Sweden	911,264	1,050,399	1	15.3
Romania	964,509	1,017,200	0.9	5.5
Croatia	456,481	515,368	0.5	12.9
Denmark	400,337	460,860	0.4	15.1
Ireland	361,013	403,619	0.4	11.8
Portugal	386,979	394,101	0.4	1.8
Bulgaria	340,826	388,494	0.4	14
Finland	340,846	342,575	0.3	0.5
Luxembourg	198,471	226,303	0.2	14
Greece	153,777	164,793	0.2	7.2
Lithuania	81,276	93,495	0.1	15
Estonia	31,508	37,657	0	19.5
Latvia	23,346	26,033	0	11.5
Cyprus	16,906	16,374	0	-3.1
Malta	8,009	15,671	0	95.7
EFTA	**5,583,735**	**6,189,900**	**5.7**	**10.9**
Switzerland	5,191,285	5,608,103	5.1	8
Lithuania	195,191	276,214	0.3	41.5
Norway	188,785	243,029	0.2	28.7
Iceland	8,474	62,555	0.1	638.2
Other countries in Europe	**4,087,558**	**4,653,170**	**4.2**	**13.1**
Russia	1,774,928	2,073,653	1.9	16.8
Turkey	1,156,305	1,134,579	1	-1.9
Ukraine	354,104	499,830	0.5	41.2

[167] https://www.wko.at/service/zahlen-daten-fakten/oesterreichs-aussenhandel.html

Bosnia	364,254	414,466	0.4	13.8
Overseas	**18,984,495**	**21,207,582**	**19.4**	**11.7**
Asia	12,607,347	14,030,611	12.9	11.3
China	5,779,093	6,180,732	5.7	6.9
Japan	1,491,179	1,640,067	1.5	10
Kazakhstan	409,012	660,490	0.6	61.5
Vietnam	572,490	650,350	0.6	13.6
Afrika	1,049,847	1,043,981	1	-0.6
North America	4,196,851	4,902,919	4.5	16.8
USA	3,961,772	4,612,923	4.2	16.4
Canada	235,042	289,942	0.3	23.4
Central and South America	994,781	1,075,621	1	8.1
Australia/Oceania	135,670	154,451	0.1	13.8
Others	**35**	**36**	**0**	3.8
Total	100,698,603	109,173,918	100	8.4

In 2017, Austria imported most of its goods and services from the European Union (€87.966.300) with a heavy dependence on Germany amounting to €40.218.590. Austria's imports from North America and Asia have increased by 16.8% and 11.3% respectively during 2016-2017.

TABLE 3. Austrian export statistics

Austrian Foreign Trade - Export by region - January - September 2016/2017
Source: STATISTIK Austria

Origin country	Jan - Sept 2016 in 100 euro	Jan - Sept 2017 in 1000 euro	Share in %	Difference in comparison to previous year in %
Europe	78,003,236	**83,583,356**	79.5	**7.2**
European Union (27)	68,209,111	73,536,527	69.9	7.8
Germany	30,210,341	31,994,319	30.4	5.9
Italy	6,231,172	6,721,049	6.4	7.9
France	3,796,999	5,084,628	4.8	33.9
Czech Republic	3,549,249	3,908,481	3.7	10.1
Hungary	3,263,909	3,597,842	3.4	1.2
Poland	2,915,991	3,103,760	3	6.4
United Kingdom	3,098,684	2,949,636	2.8	-4.8
Slovakia	2,068,231	2,187,101	2.1	5.7
Slovenia	1,977,811	2,170,659	2.1	9.8
Netherlands	1,712,401	1,874,514	1.8	9.5
Spain	1,813,664	1,838,903	1.7	1.4
Romania	1,535,071	1,680,186	1.6	9.5
Belgium	1,213,684	1,292,427	1.2	6.5
Sweden	1,089,634	1,194,019	1.1	9.6
Croatia	985,120	995,718	0.9	1.1
Denmark	552,166	544,346	0.5	-1.4
Bulgaria	486,245	505,338	0.5	3.9
Finland	401,361	448,762	0.4	11.8

Greece	311,439	322,777	0.3	3.6
Portugal	240,212	292,361	0.3	21.7
Ireland	189,412	220,068	0.2	16.2
Lithuania	137,379	162,612	0.2	18.4
Luxembourg	118,930	130,503	0.1	9.7
Estonia	118,356	103,230	0.1	-12.8
Latvia	94,392	85,725	0.1	-9.2
Cyprus	40,220	50,601	0	25.8
Malta	29,662	33,229	0	12
EFTA	6,112,175	5,998,967	5.7	-1.9
Switzerland	5,389,814	5,251,428	5	-2.6
Lichtenstein	396,125	369,481	0.4	-6.7
Norway	309,752	355,059	0.3	14.6
Iceland	16,485	22,999	0	39.5
Other countries in Europe	**3,681,950**	**4,047,862**	**3.8**	**9.9**
Russia	1,326,186	1,598,507	1.5	20.5
Turkey	988,692	974,955	0.9	-1.4
Serbia	460,938	507,162	0.5	10
India	300,403	341,168	0.3	13.6
Overseas	**19,720,702**	**21,573,907**	**20.5**	**9.4**
Asia	**8,779,441**	**9,426,351**	**9**	**7.4**
China	2,474,483	2,707,527	2.6	9.4
Japan	982,764	1,011,394	1	2.9
South Korea	621,851	930,475	0.9	49.6
India	573,343	558,164	0.5	-2.6
Afrika	**1,172,896**	**1,245,534**	**1.2**	**6.2**
North America	**7,227,896**	**7,907,825**	**7.5**	**9.4**
USA	6,503,359	7,075,240	6.7	8.8
Canada	724,323	832,363	0.8	14.9
Central and South America	1,716,564	2,072,703	2	20.7
Australia/Oceania	**824,493**	**921,494**	**0.9**	**11.8**
Others	**21,274**	**25,642**	**0**	**20.5**
Total	**97,745,212**	105,182,905	100	7.6

In 2017, Austria exports were focused towards the European Union (€83.583.356) with Germany and Italy being the main destinations. Its exports to North America, Asia and Africa also increased by 9.4%, 7.4% and 6.2% respectively during that period (2016-2017).

6.3.2 Major trade partners

As illustrated in the previous tables, Austria's major trade partners are Germany, Italy and France – which dominate Austria's import and export activities. Besides the European continent – China, Japan, United States of America and Canada have shown positive trade developments with Austria.

TABLE 4. Major trade partners

Country	Imports	Exports
Germany	€40.218.590	€31.994.319
Italy	€6.701.780	€6.721.049
France	€4.662.666	€5.084.628
China	€6.180.732	€2.707.527
Japan	€1.640.067	€1.011.394
USA	€4.612.923	€7.075.240
Canada	€289.942	€832.363

6.3.3 Cross-border-related issues and challenges

Generally, the e-commerce sector in Austria has no noticeable obstacles that prevent its development, and within the EU Austria is one of the best e-governments. The last information and communication technologies (ICT) usage survey, regarding business and customers, revealed that 97% of Austrian businesses with more than nine employees have access to computers and the Internet and 45% of Internet users use the web to handle their financial transactions. There are certain cases where the availability of a digital version of a document is not accepted, for example, forms that call for special requirements (legalization and deeds) cannot be formed and concluded electronically[168].

Apart from the limited Internet usage barriers, another potential barrier experienced in the country is the lack of adoption of new payment technologies, such as digital and mobile wallets. This observation has been ascribed to the public gravitating towards 'technologies and/or payment methods' which they have sufficient information on, for example, invoices . A survey conducted by the Paysafe Group provides an overview on the Austrian perception of digital payment technologies[169].

6.4 E-COMMERCE REGULATION AND LAW

6.4.1 Domestic e-commerce laws and regulations[94]

Austria has implemented the relevant EU directives (on e-commerce, distance contracts, distance marketing of financial services, electronic signatures, etc.). The Media Act, the Code of Business Law and the Trade Act have been amended to adapt them to the Internet and now make greater provisions, especially regarding information duties.

Austria does not have a specific regulatory body that monitors the e-commerce sector. The Internet access tariffs and charges are covered by the Telecommunications Act that obliges service providers to notify their terms of trade and access tariffs and charges to the Telecom Control Commission.

With business-to-business (B2B) or business-to-consumer (B2C) contracts, their jurisdiction is governed by the rules of EU Council Regulation 44/2001 or by the national law. The applicable law is determined by the Rome Convention 1980. In most cases, the laws governing contractual obligations are often defined by the place of business of the party performing the obligation (e.g. delivering the goods). In practice this means that in the majority of cases, Austrian jurisdiction will be mandatory and Austrian law will be applicable. In relation to acts such as unfair competition, the marketplace principle is used to determine jurisdiction as stated in the Rome II Regulation 864/2007.

According to the Austrian Civil Code, it is possible for most contracts to be formed and concluded electronically. Most contracts are generally concluded upon an offer being accepted and a written form is not mandatory. Further, 'click wrap contracts' are principally enforceable under Austrian law as no special formal requirements are to be fulfilled. When a party clicks 'I agree' in these

FIGURE 10. Digital payment survey conducted by PaySafe

	US	Canada	UK	Germany	Austria	Total
I avoid shopping when I am on an unsecured or public network	75%	76%	73%	72%	75%	74%
I'd rather use payment methods I have already signed up for than enter my payment details into an unknown website	72%	73%	79%	72%	74%	74%
Systems with two-factor authentication, where you have to enter a code sent to your mobile in order to make payment, are appealing to me	68%	64%	67%	58%	75%	66%
I feel more comfortable purchasing online with a prepaid pin/ voucher where my financial details are not shared	69%	67%	64%	57%	57%	63%
I do not feel comfortable entering my financial data online to pay	61%	61%	54%	62%	56%	59%
I'm more likely to buy using my mobile to shop with businesses where I have already securely stored my payment details	58%	55%	59%	45%	52%	54%
I accept that a certain level of risk of fraud is inevitable if I'm shopping online	70%	64%	65%	28%	26%	51%
More security process would make wearable tech, such as watches, more appealing for making transactions online	51%	51%	57%	47%	50%	51%
I worry about not receiving my goods when shopping online	52%	54%	52%	41%	35%	47%

Source: PaySafe Report 2017.

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[168] https://www.kt.at/wp-content/uploads/2017/11/2009_Getting_the_deal_through_austria_e-Commerce-in-31-jurisdictions-world-wide.pdf

[169] https://www.paysafe.com/fileadmin/content/pdf/Lost_in_Transaction_2018_-_Paysafe_-_web_spreads.pdf and https://www.eshopworld.com/blog-articles/austria-ecommerce/

[170] https://www.kt.at/wp-content/uploads/2017/11/2009_Getting_the_deal_through_austria_e-Commerce-in-31-jurisdictions-world-wide.pdf

types of contracts, they must either be aware of the relevant contractual terms or must have been at least given the possibility to take notice of them. For contracts concluded via e-mail, it is necessary that the sender demand on explicit confirmation of the receipt in writing - for legal insurance in the event of disputes.

The E-Commerce Act, which is part of the European Commission Directive, defines the information obligations to be met by the e-commerce service providers. As part of the act, electronic contractual declarations, electronic declarations and electronic confirmations of receipt are considered to be duly received if the party for whom they are intended can retrieve them in normal circumstances. Websites and newsletters, service providers must include name, geographic addresses, contact information, trade mark/institutional mark registrations and the VAT number. Online shops are required to provide the same information as on the website but, also must provide as much detail on the contractual procedures they have with their clients. The E-Commerce Act also stipulates that when or after consumers place orders, users must be given effective and accessible means to allow them to identify and correct input errors entering into a contractual declaration as well as obtain immediate electronic confirmation of the receipt. These aforementioned requirements for websites and online shops are also reflected in the Media Act.

The E-Commerce Act notes that Internet Service Providers (ISPs) are not obliged to monitor, host and access services. Access providers are exempt from liability if they have no connection with the content (e.g. initiation of the transmission). Host providers are exempt from liability unless they are aware of the infringement. However, a host provider is obliged to monitor any host site where an infringement has occurred, and further infringements may be expected. It also contains special rules that exempt linking from any liabilities in the following situations: 1) the 'linker' does not have actual knowledge of any illegal activity or information or 2) upon obtaining such knowledge or awareness, acts expeditiously to remove the electronic link.

The Data Protection Act provisions that every data controller and processor must take reasonable measures to secure personal data against unlawful use and loss or destruction. It also states that a data controller has to notify data applications containing personal data to the national Data Protection Authority. Data brokering is reserved for businesses that have a special trade license that covers the selling of specific data without the consent of the data subject - no other businesses are allowed to sell customer data for profit without the data subject's consent. This Act also allows outsourcing but requires a written contract with certain content.

The Telecommunications Act contains special duties for ISPs, obliging them to ensure security in their networks and services, as well as safeguard the interests of their subscribers and personal data of their users. The measures must guarantee an appropriate level of security, in proportion to the risk, taking into account the state of technology and the costs.

Recently, Austria supported the EU's Small Business Act with the objective of creating a 'one stop shop' to aid SME's compliance with EU administrative requirements as well as promote e-Government services. The objective is to promote higher services with a simultaneous cost reduction[95].

6.4.2 Government policies and initiatives to support e-commerce

» **Austria Vision 2025[96]:** This objective of this initiative is to make Austria a global innovation hub and digital role model for other countries to replicate. In the context of e-commerce the Vision 2025 hopes for the following:

> » Entrepreneurs will be the driving force behind a digital economy that generates new success stories and growth for Austria as a business location through new value chains and business models.

> » Employees will benefit from a high level of employment and high-quality jobs in the digital business and working world.

> » The youth will benefit from an equal opportunities education and training system that prepares them for the opportunities and challenges of the digital world.

> » The Internet will be a place of free and impartial knowledge as well as a communication platform.

» **Broadband Strategy 2020[97]:** The purpose of this strategy is to provide nationwide 100 MBit/sec Internet connections. In the period from 2015 to 2020, a total of €1 billion has been allocated to fulfill this objective.

» **Austrian Trust Mark[98]:** This mark is awarded to companies which distinguish themselves through serious business transactions and provide superior customer service beyond the minimum statutory requirements. The criteria of this mark includes the definition of new quality standards in the areas of supplier identification, contractual conditions, product descriptions, payment modalities, response times, cancellation and return rights as well as data protection. The E-Commerce Trust Mark confirms the voluntary undertaking of companies to comply with the following criteria and quality features in conducting electronic business and other electronic transactions with consumers according to consumer protection laws. The E-Commerce Trust Mark is a member of the European Trustmark System and is supported and recognized by consumer protection organizations, public bodies and associations representing the industry.

[171] https://news.wko.at/news/oesterreich/wirtschaftskraft-kmu2018.pdf

[172] https://www.digitalroadmap.gv.at/fileadmin/downloads/digital_road_map_broschuere_eng.pdf

[173] https://www.bmdw.gv.at/Unternehmen/Documents/Mittelstandsbericht_barrierefrei_15.11_Version3.pdf - pg 70-71

[174] https://www.guetezeichen.at/english/ and https://www.handelsverband.at/trustmark-austria/einfach-sicher-shoppen/

» **Business Service Portal (USP.gv.at)** [175]**:** This is an initiative of the Federal Government, to provide information on a wide range of topics that are of business interest (administrative activities, starting a business, transaction services, tax and legal requirements) and with the objective of reducing administrative burdens.

» **The legal information system of the republic of Austria (RIS)** [176]**:** This is an electronic database operated by the Austrian Federal Chancellery which serves the publication of authentic legal texts and provides information on current laws in Austria.

» **Austrian Patent Office Web-portal** [177]**:** This portal, accessible at http://www.patentamt.at/, enables users to search for bibliographic data of industrial property rights in the Austria Patent Office, such as: pending and upright patents; utility models; trademarks and designs; information on the online registration of national trademarks; and several other online services.

6.4.3 International trade agreement

» **Austria - China E-Commerce Agreement** [178]**:** In April 2018, Margarete Schramböck, Federal Minister for Digital and Economic Affairs, visited China to negotiate a deal with the Chinese Ministry of Commerce to enable Austrian retailers easier access to the Chinese e-commerce market. The signed agreement should give Austrian online retailers better access to Chinese online marketplaces, such as Alibaba, Tmall and JD.com. The goal of the agreement is to strengthen the cooperation and exchange of experience between the cross-border e-commerce platforms of both countries. Austrian companies, especially SMEs, can benefit from facilitating contacts with the major Chinese e-commerce platforms and thus be present faster on the Chinese market. The agreement will also include support mechanisms for the import and export of quality products and services through e-commerce platforms.

» **Digital Single Market (DSM)** [179]**:** The European Commission (of which Austria is a member) is currently in the process of setting up a DSM where there is a convergence of the regulatory requirements of the 28 national markets to a single one. This could contribute €415 billion per year to the continent's economy, create new jobs and foster new trade relations with different countries.

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[175] https://joinup.ec.europa.eu/sites/default/files/inline-files/eGov-ernment_in_Austria_-_February_2016_-%2019_00%20-%20v3_00.pdf
[176] https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment_in_Austria_-_February_2016_-%2019_00%20-%20v3_00.pdf
[177] https://joinup.ec.europa.eu/sites/default/files/inline-files/eGov-ernment_in_Austria_-_February_2016_-%2019_00%20-%20v3_00.pdf
[178] https://ecommercenews.eu/austria-signs-online-trade-agreement-china/ and https://www.bloomberg.com/news/arti-cles/2018-04-19/austria-wants-to-act-as-bridge-between-eu-china-s-new-silk-road
[179] https://ec.europa.eu/commission/priorities/digital-single-mar-ket_en

7. CAMBODIA E-COMMERCE DEVELOPMENT REPORT 2018

7.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

7.1.1 Service subscription and penetration

By 2017, the population of Cambodia was about 15.7 million. According to the Telecommunications Regulator of Cambodia (**"TRC"**), from 2008 to 2017 the mobile subscription was increased from 3,791,834 to 18,572,937; the Internet subscription (mobile/fixed) increased from 43,417 to 10,841,728; and fixed-subscription (wireline/WLL) increased from 43,417 to 132,911. In comparison to the population, the Internet penetration has increased from 0.30% to 68.41%; the mobile penetration rate has increased from 25.84% to 117.19%; and the fixed penetration has increased from 0.30% to 0.84%.

7.1.2 Mobile service coverage

While the 4G-LTE and the 3G mobile networks cover less than half of the country, the 2G mobile network covers almost ¾ of the country. Based on reports of mobile operators, TRC has recorded the 4G-LTE mobile network coverage at 57.5% of the population and 12.7% of the land area; the 3G mobile network coverage has been registered at 83.9% of the population and 29.5% of the land area; and the 2G mobile network coverage has been recorded at 99.0% of the population and 73.7% of the land area.

FIGURE 1. Services subscription and penetration 2008-2017
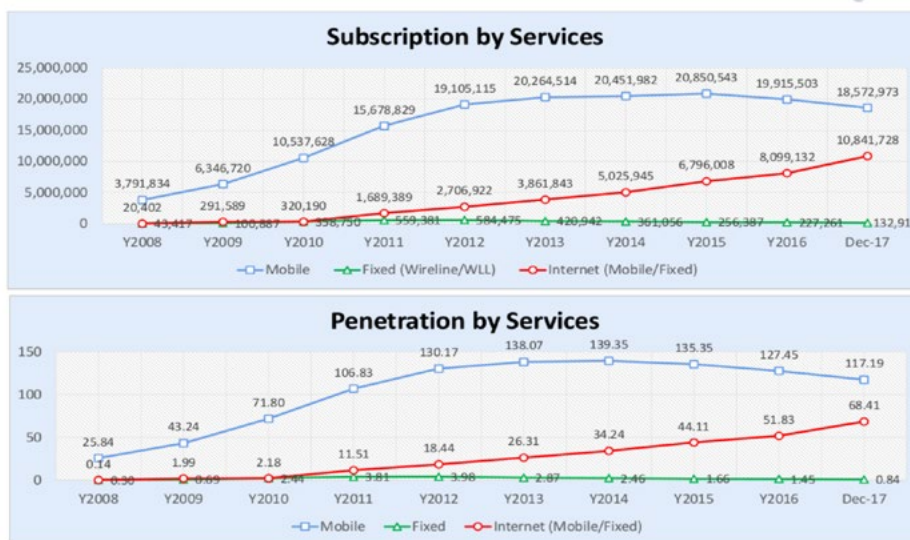
Source: Tep Bunboren, TRC, January 2018.

FIGURE 2. Mobile service coverage
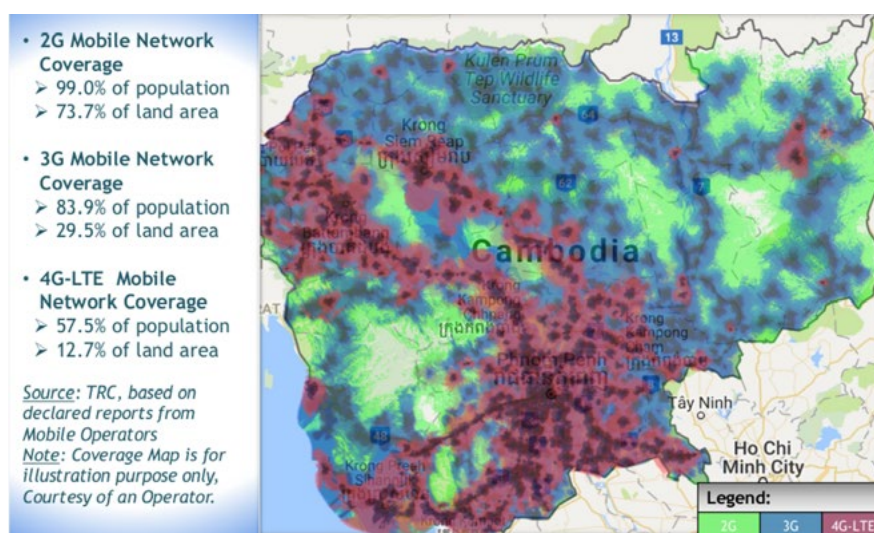
Source: Tep Bunboren, TRC, January 2018.

7.1.3 Connection speed

Based on the research of Lurong CHEN at the Economic Research Institute of ASEAN and East Asia ("**ERIA**") [180], by 2017, the average connection speed of Cambodia in the fixed-broadband upload is 10 Mbps and download is at 8 Mbps; while in mobile broadband upload is 5 Mbps, and download is 8 Mbps. In comparison, the world average connection speed in fixed-broadband. upload is 10 Mbps and download is 16 Mbps; in mobile broadband upload is 5 Mbps, and download is 10 Mbps.

The Cambodian bandwidth capacity is 18 Kbps per user compared to the world average that is 62 Kbps per user

Cambodia has been reported [181] to have managed to adopt the last ICTs to link with the global market. Indeed, between 2016-2017 Cambodia had the firm level technology adoption at 4.20 which was an increase from 4.15 between 2007-2008.

TABLE 1. Asia's 'information highways'

	Fixed broadband		Mobile broadband		Bandwidth capacity (Kbps per user)	3G Network coverage (% of population)	Number of Internet exchange points (IXP) per 1,000 inhabitants
	Average upload speed (Mbps)	Average download speed (Mbps)	Average upload speed (Mbps)	Average download speed (Mbps)			
Cambodia	10	8	5	8	18	70.0	13
Indonesia	4	7	4	8	7	60.0	16
Malaysia	6	10	4	8	34	92.0	33
Myanmar	10	6	1	3	4	79.3	n.a.
Philippines	3	5	3	6	37	78.0	30
Singapore	96	97	22	38	737	100	903
Thailand	5	18	9	18	65	97	45
Viet Nam	18	16	2	5	24	64	11
China	10	32	12	22	7	57	4
India	6	7	2	6	6	75.0	5
world average	10	16	5	10	62	75.7	96

Source: Lurong CHEN, ERIA-DP-2017-11.

FIGURE 3. Firm-level technology adoption in Cambodia 2007-2017
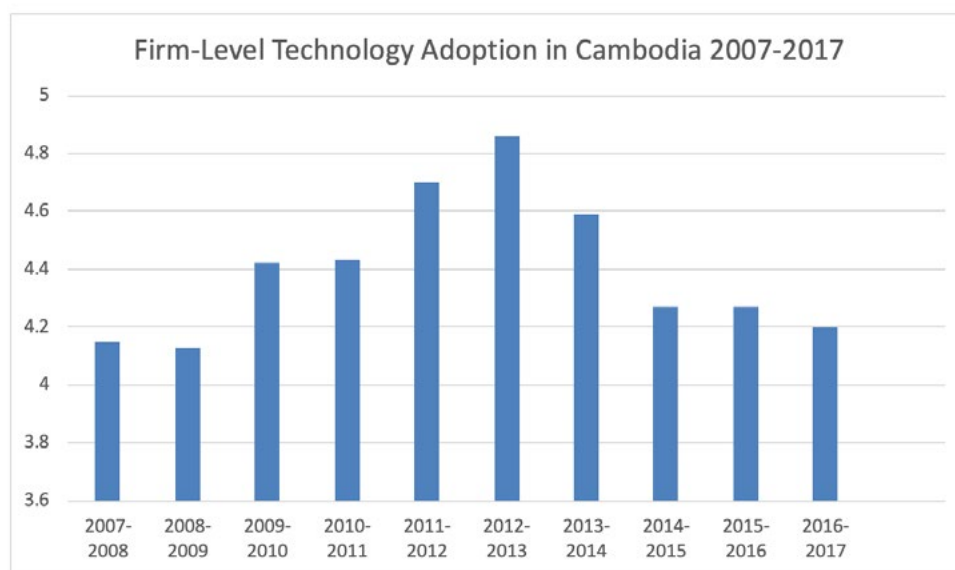
Note: Survey Question was, "In your country, to what extent do businesses adopt the latest technologies?"
Source: Lurong CHEN, ERIA-DP-2017-11.

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[180] Lurong CHEN Developing Asia in the Era of Cross-Border e-Commerce, ERIA Discussion Paper Series, 2017-11, p. 8.
[181] Lurong CHEN, 2017, p. 5-6.

7.2 DOMESTIC E-COMMERCE MARKET

7.2.1 Trend analysis of the sub-market in domestic e-commerce

Due to the high rate of mobile penetration at about 117% and mobile Internet penetration at about 68% of the population, the e-commerce market in Cambodia mainly relies on mobile networks as the percentage of households with computers is 10.5%[182] implying that the population relies on smartphones.

While new e-commerce start-ups are appearing more and more in Cambodia, there are no official statistics on the e-commerce market size or market share.

The e-commerce sales in Cambodia were estimated at US $30 million by 2014 based on the forum on e-commerce in the ASEAN emerging market, organized by the British Chamber of Commerce Cambodia ("**BritCham**"), and European Chamber of Commerce in Cambodia ("**EuroCham**")[183].

Business-to-business

Upon the survey executed in 2016 in the framework of the World Economic Forum ("**WEF**"), Cambodia was classed at position 4.73[107] for the use of ICT in B2B transactions[108].

FIGURE 4. E-commerce sales Cambodia 2014
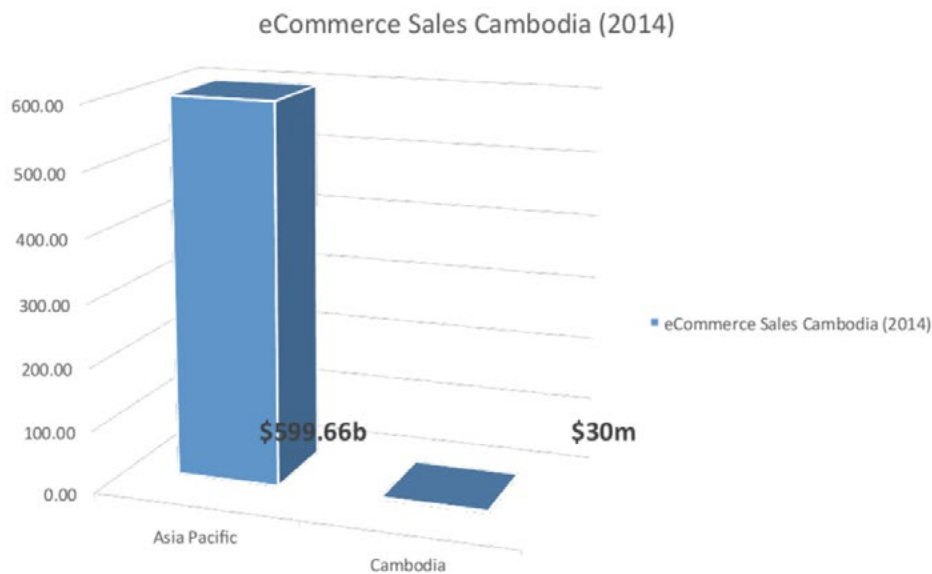
FIGURE 5. ICT use business transactions, 2014-2016
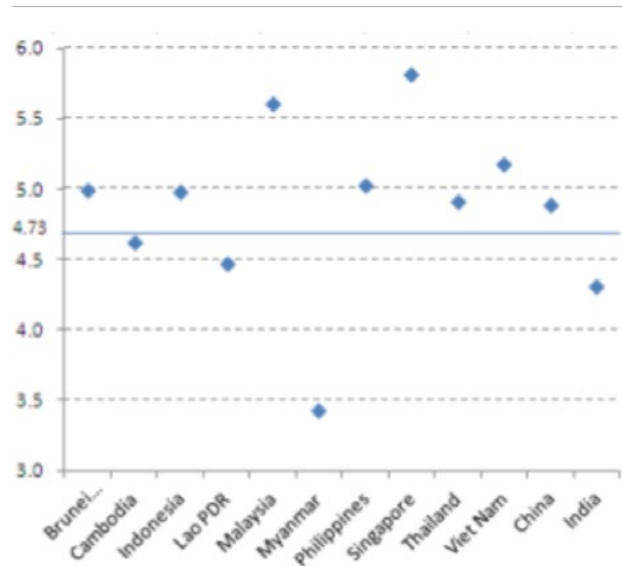
Source: Lurong CHEN, ERIA-DP-2017-11.

Based on the desk researches on *geeksincambodia. com* and *https://www.google.com,* we found the B2B e-commerce merchants in operation from 2017 as follows. This list is not exhaustive due to unofficial reports on the e-commerce statistics.

eCommerce Sales Cambodia (2014)

#ecomASEAN

Source: BritCham, EuroCham, 26 October 2015.

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[182] https://www.itu.int/net4/ITU-D/idi/2017/index.html#i-di2017economycard-tab&KHM.
[183] BritCham, EuroCham, e-Commerce in ASEAN Emerging Market, 26 October 2015.
[184] Note: where the position 1 means there is no use of ICT for B2B transactions, and position 7 means great extent for ICT use for B2B transactions
[185] Lurong CHEN, 2017, p. 6.

FIGURE 6. Cambodian B2B e-commerce merchants in operation

Marketplace
➢ **Clothes**
➢ **Foods**
➢ **Handicrafts**
➢ **Job**
➢ **Computer, Phone & Accessories**
➢ **Electronics**
➢ **Business Information Platform**

Business-to-consumer, consumer-to-consumer

Upon the survey executed in 2016 in the framework of WEF, Cambodia was classed at just under position 4 for the use of ICT in B2C transactions [185].

FIGURE 7. ICT use in business transactions, 2014-2016
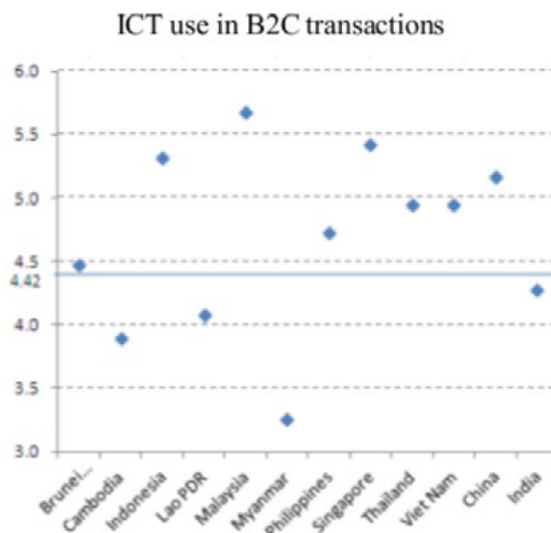
Source: Lurong CHEN, ERIA-DP-2017-11.

[185] where the position 1 means there is no use of ICT for B2C transactions, and the position 7 means great extent for ICT use for B2C transactions.

Based on the desk research on *geeksincambodia.com* and *https://www.google.com*, we found the following operating B2C/C2C e-commerce merchants (non-exhaustive) in 2017.

FIGURE 8. B2C/C2C e-commerce merchants

Marketplaces	
➢ **Clothes & Accessories** ➢ **Handicrafts** ➢ **Job** ➢ **Computer, Phone & Accessories** ➢ **Electronics** ➢ **Transportations** ➢ **Tourism & Hospitality** ➢ **Health Care Information & Directory** ➢ **Futsal Field Booking** ➢ **Real-Estate Booking** ➢ **Digital Tickets**	

Media & Entertainment	
➢ **Media & Entertainment** ➢ **Content**	

Foods & Electronics	
➢ **Coffee & Bakery** ➢ **Computers & Accessories** ➢ **Phones & Accessories** ➢ **Electronics & Accessories**	

Airlines
➢ **Air tickets**

Delivery
➢ **Grocery Delivery** ➢ **Foods Delivery**

Online-to-offline

Based on the desk research on geeksincambodia.com and https://www.google.com, the following O2O e-commerce merchants are in operation.

FIGURE 9. O2O e-commerce merchants

Marketplaces
➢ **Clothes & Accessories** ➢ **Handicrafts** ➢ **Job** ➢ **Computer, Phone & Accessories** ➢ **Electronics** ➢ **Transportations** ➢ **Labor**

Foods & Electronics
➢ **Coffee & Bakeries** ➢ **Computers & Accessories** ➢ **Phones & Accessories** ➢ **Electronics & Accessories**

Delivery

- ➢ **Delivery Express**
- ➢ **Grocery Delivery**
- ➢ **Food Delivery**

O2O has been the most practiced in the Cambodian e-commerce marketplace due to the cash use habit, and the face-to-face meeting between the seller/service providers and the buyer/service users. It has been observed that most of the platforms in Cambodia rely heavily on cash on delivery.

New emerging e-business activities

New emerging e-business activities have appeared in the last few years due to the increase of Internet penetration and smartphone usage in Cambodia. These activities may be classed into sub-markets: payment/remittance; financing/insurance; accounting/invoicing; mobile banking, financial comparison and blockchain.

FIGURE 10. New emerging e-business activities

Payments/Remittance

- ➢ **Money Transfer/Remittance**
- ➢ **Mobile Wallet**
- ➢ **Gateways/Alternative Payments**
- ➢ **Peer-to-Peer (P2P) Payment**
- ➢ **Card Processing/POS**

Financing/Insurance

- ➢ **Alternative Credit**
- ➢ **P2P Lending**

Accounting/Invoicing	
➢ **Accounting** ➢ **Invoicing**	

Mobile Banking	

Financial Comparison	

Blockchain	

Source: Fintechnews Singapore, 13 October 2017 (* had not been mentioned in the original report).

By October 2017, Cambodia reported having about 30 start-ups investing in fintech where payment and remittance is the most popular at 50%; followed by alternative finance/insurance/credit at 20%; mobile banking at 13%; accounting/banking/invoicing platforms at 10%; financial comparison platform at 3%; and blockchain platforms at 3%.

FIGURE 11. Cambodian fintech start-ups
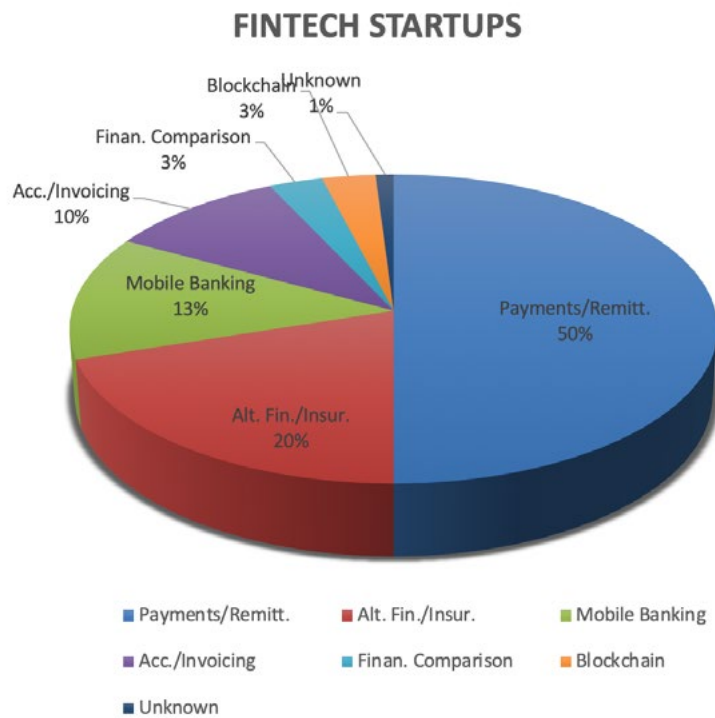
Source: Fintechnews Singapore, 13 October 2017.

7.2.2 Key players in the e-commerce ecosystem

ONLINE MARKETPLACE PLATFORMS

a) Khmer24

- » https://www.khmer24.com
- » IOS or Android
- » O2O for B2C and C2C sale announcements in Khmer or English
- » Phones & Tablets; Computers & Accessories; Electronics & Appliances; Cars and Vehicles; House & Lands; Jobs; Services; Fashion & Beauty; Books, Sports & Hobbies; Furniture & Decor; Pets and Foods

b) Little Fashion

- » https://www.l192.com
- » O2O and B2C
- » MBUY, ISO and Android, Facebook
- » Fashion, Clothes, Beauty Products and Accessories, Electronic Devices, Household Devices, Child/Baby Products, Books and Car Accessories

c) BongThom

- » https://www.bongthom.com
- » B2C and C2C job and classified announcements platform
- » Four Languages: Chinese, English, French and Khmer
- » Clean and easy to visit without interaction of commercial advertisement

E-PAYMENT GATEWAYS

Pipay

Source: Pipay Account on Facebook.

» https://www.pipay.com

» Launched in 2017

» Mobile application for payment;

» State-of-the-art chat, voice, video message services, accurate mapping, friend finder function, one-touch money transfer service, and deep discounts on the products and services of Pipay's partners

» Targeting 500,000 users with more than fifty-one million financial transactions by its third year

PayGo

Source: https://paygo.com.kh

» https://paygo.com.kh

» IOS and Android

» e-Wallet and Virtual Mastercard

» Wallet is topped-up by using ABA mobile bank or iBanking, PayGo Cashin, Kiosks, or TrueMoney Agent

» PayGo may be used for topping-up the phones, money transfer, bill payment,online shopping and e-invoicing

Wing

Source: https://www.wingmoney.com.

» https://www.wingmoney.com

» Launched in 2009

» Limited specialized bank

» Best mobile payment solutions Cambodia 2017

» Mobile payment solution for B2B, B2C, C2C

» 2,000 Strategic payment partners

» Over 8,000 merchant partners

» 5,000 wing outlets nationwide

» International money transfer from 50+ countries

» **Cambodia Post**: is the public state owned enterprise and offers a lot of domestic and international post services such as: mail collection; transportation; processing and distribution; all types of mail letter services; parcel post and express mail, domestic and international; collection, processing and delivery of documents; invoices for business entities; government or NGOs on bilateral agreement; sale of postal stamps at the post offices; sale of the supporting accessories; and materials for postal services and other postal financial services. To expand its last mile capabilities, it has partnered with Alibaba and World Bridge Logistics.

» **Joonaak**: is a local start-up that was launched in 2015 with the aim to bring a logistic solution to e-commerce merchants who do not have a complete structure for delivery, warehousing or packaging. Joonaak service is paid with cash on delivery (COD). The platform also provides another web application - https://joonaakhub.com which assists the platform's back office and its partners to (i) track the delivery status and location, and (ii) use inventory systems. Furthermore, a mobile app is currently under development.

» **Keery Express**: is the last mile delivery service offered by Kerry Logistics (Cambodia) Pte. Ltd., which has been in Cambodia since 2006. It offers next day delivery services covering the major provinces of Cambodia. Kerry Express provides more than 99% of courier service level, more than 95% of network service level and less than 1% of return level[187].

7.3 CROSS-BORDER E-COMMERCE

Only the cross-border e-commerce models which generate importation and exportation products will be presented in this section.

7.3.1 Import/Export Statistics

To date, there is no official import/export statistics on Cambodian cross-border e-commerce. Therefore, the data registered by the main courier such as Cambodia Post, cross-border online shopping platforms such as Fado168, and MIU Global have been presented. Cambodians generally conduct the cross-border transactions through Facebook/mobiles.

a) Cambodia Post has registered:

» 565,650 Letters and Postcards ("**LC**") / Other Items ("**AO**") items received from abroad; 507,484 LC/AO items dispatched to abroad;

» 23,342 parcel post items received from abroad; 18,069 post items dispatched to abroad;

» 61,978 EMS items received from abroad; and 68,847 EMS items dispatched to abroad.

FIGURE 12. Cambodia Post international services in 2017
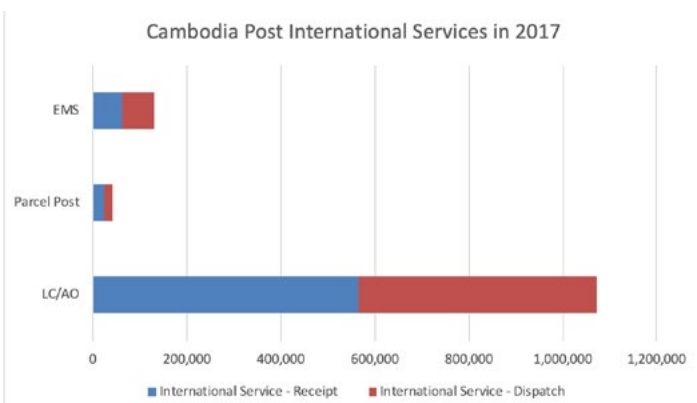
Source: Data from Extract of Cambodia Post Report 2017.

b) Fado168: is an O2O platform which conveys the offers from Amazon USA or Amazon Japan to Cambodia resident consumers – wherein they can buy foreign products through the Fado168 platform. To date, Fado168 has registered 200,000 transactions on the 800 million products available on Amazon.

FIGURE 13. Successful transactions Fado168
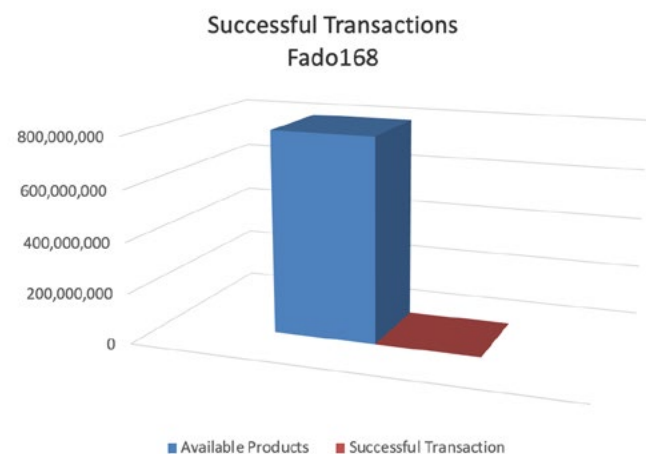
c) KIU Ship [188]: is part of *Kiu* which is a solution platform for cross-border B2B e-commerce that focuses on SMEs in South-East Asia in order to primarily support exporting goods from Cambodia, Laos, Myanmar and Vietnam to Australia, Europe and the United States. *Kiu* platform was launched in mid-February 2017 and since then the platform has about 4000 products on the market, 150 companies on Enterprise Resource Planning (ERP) and over 800 applications for loans. Kiu Ship is an end-to-end logistic and fulfilment platform which facilitates the cross-border shipping, by air or sea.

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[187] Source: Kerry Cambodia, 2016.

[188] Steve Landman, Kiu: Trusted. Global Trade. Technology.

FIGURE 14. Kiu Platform
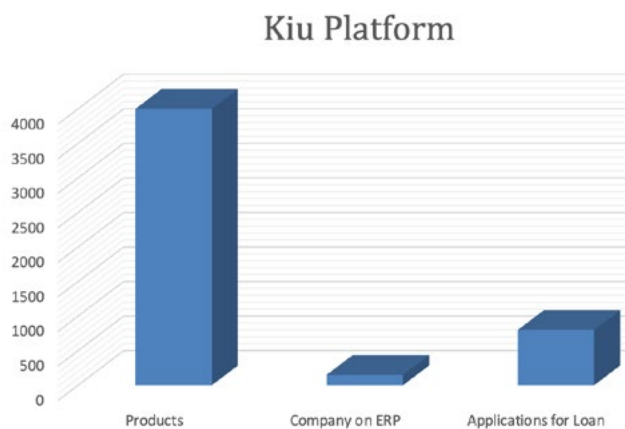
Major trade partners

The major cross-border trade partners in Cambodia are notably Alibaba (B2B e-commerce marketplace), Aliexpress, eBay (B2C e-commerce marketplace), Fado168 (B2C solution for Amazon buyers), KIU (B2B solutions for cross-border e-commerce).

7.3.2 Business category and model

The business models of cross-border e-commerce in Cambodia may be classified into the following three categories:

a) B2B and B2C marketplaces where consumers can browse product catalogues and make purchases.

b) B2C intermediary platforms which provide, facilitate and offer tools for consumers to purchase products from other online stores.

c) Cross-border e-commerce solutions wherein businesses manage all aspects of the cross-border transactions.

7.3.3 Cross-border-related issues and challenges

In 2017 there were 18.5 million mobile subscriptions (19.3 million by 2018[189]) and 10.8 million Internet penetrations participating in cross-border e-commerce transactions in Cambodia. The USD is generally used in Cambodian society and is the preferred currency on Cambodian cross-border e-commerce platforms. Data sharing does not seem to be a big issue for Cambodians, as revealed by the fact that only 17% of buyers are afraid of leaking personal information[190]. In the same perception, the online shoppers do not

[189] MPTC.
[190] Dr. Moeung La, Dr. Soun Houng, and Dr. Chhun Rady, Factors Influencing Online Shopping Behavior, in NUM Researches Series, Volume III, February 2016, p. 274.

seem to have an issue with intellectual property as only 1% of the online shoppers are concerned about fake products. Nevertheless, key challenges for cross-border e-commerce transactions include last mile delivery logistics (cumbersome customs clearances and lack of physical address system) and after-sale services (inefficient refund and return processes). Also, it is observed that few Cambodians buy products on cross-border e-commerce platforms due to the English language barrier and ICT illiteracy among a majority of Cambodians. Furthermore, most Cambodians do not have a bank account and therefore cannot engage in digital payments.

7.4 E-COMMERCE LAW AND REGULATIONS

7.4.1 Domestic e-commerce laws and decrees

There is not an overarching law on e-commerce in Cambodia. Draft laws on e-commerce and consumption have been prepared by the Ministry of Commerce and a draft law on cybersecurity has been prepared by the Ministry of Interior.

In the absence of laws on e-commerce, online transactions and other related transactions should obey (i) Civil Code No. NS/RKM/1207/030 dated 08 December 2007, which is the general regulation applicable to transactions, (ii) Criminal Code No. NS/RK/1109/022 dated 30 November 2009 applicable to the criminal offenses such as fraud, infringement to the secrecy of correspondences, or breach of trust and (iii) other industry-specific regulations. Regarding the later, there are two regulation sectors which may concern the registration of the companies which operate the online transactions and the online transactions themselves.

Regarding company registrations, the Law on Commercial Enterprises promulgated by Royal Kram No. NS/RKM/0605/019 dated 19 June 2005 is applicable to any companies conducting business activities in Cambodia. The Law on Commercial Rules and Register promulgated by the Royal Kram No. NS/RKM/1199/12, dated 18 November 1999, is applicable to the business activity registration of the companies in Cambodia. Also, the Sub-Decree No. 110, dated 21 July 2017, on Authorization for Operations in the sector of ICT ("**Sub-Decree No. 110**") has been promulgated. According to Article 7 of the Sub-Decree No. 110, any person who conducts the online services should request for certification from the Director General of ICT (DGICT). The Sub- Decree No. 110 is effective from the signatory date. Nevertheless, Article 36 of the Sub-Decree No. 110 provides a one-year grace period to any person operating in the ICT sector to comply with the aforementioned sub-decree, including filing for an authorization for operation at the DGICT or local office of posts and telecommunications.

Regarding the online transaction, the Sub-Decree No. 246, dated 29 December 2017, on digital signatures has been promulgated. Entitled Sub-Decree No. 246, it mandates the use of digital signatures for financial online operations, unless otherwise prescribed by inter-

ministerial Prakas of MEF, MPTC, and the National Bank of Cambodia (NBC).

In addition, the deliveries by postal services and liability of postal delivers are regulated by Postal Law No. NS/RKM/0702.012 dated 11 July 2002. Regarding the payment gateway, on 15th July 2016[191], the NBC launched the service called 'Fast Payment' that aims at providing an alternative channel which is safe, fast, efficient and reliable for commercial banks and microfinance deposit-taking institutions (MDIs) to execute the interbank fund transfer and payment transaction in Riel for their customers all over Cambodia. There are 13 commercial banks and MDIs who are already members of Fast Payment.

7.4.2 Government policies and initiatives to support e-commerce

1) Government regulations and policies

The MPTC has published a policy on the development of telecommunications and ICT sectors by 2020 titled Toward ICT Connectedness and Readiness (Policy on T-ICT)[192] with three clear objectives: 1) improve and expand the telecommunication infrastructure and usage, 2) develop ICT human capacity and 3) diversify the ICT industry and promote its application. Especially for e-commerce, MPTC plans to raise awareness on the benefits and risks of e-commerce among the public, promote the use of e-transaction, enhance the quality and efficiency of logistic systems and develop e-commerce taxation policy.

The MPTC is also drafting the National Policy on Post 2018-2022 to encourage more efficient postal services in response to the ICT development trend in Cambodia[193], and to extend and strengthen the postal services to all locations in Cambodia[194]. The MPTC has also met with Japan International Cooperation Agency (JICA) and Korea International Cooperation Agency (KOICA) to draft IT/logistical master plans to facilitate e-commerce development [195][196]. On 26th April 2018, the MPTC[197] announced the projects to install public wi-fi and digital connectivity in schools.

The government has passed legislation to provide a two-year tax exemption on tax on profit to SMEs which voluntarily register their business activities with the general department of taxation during 2017-18. Furthermore, policies to promote 'single window' business registration and modifications of postal addresses have been implemented. ASEAN is also promoting mechanisms to establish economic

agreements in the context of cross-border e-commerce.

2) Training curriculum and public forums

The National Institute of Posts, Telecommunications and Information Communication Technology (NIPTICT) provides curriculums in professional training on e-commerce within three certificates which are (i) Professional Certificate in Foundation of E-Commerce; (ii) Professional Certificate in Providing E-Commerce Services; and (iii) Professional Certificate in E-Commerce Web Design. Furthermore, the public and private sectors have joined together to organize the forums in order to raise awareness or exchange experiences on new technologies and their applications for e-commerce. For example, EuroCham and BritCham hosted a forum on digital payments in Cambodia with participation of e-commerce and banking companies who shared the points of view on O2O e-commerce practice, the challenges of supporting infrastructure and awareness of digital payments, as well as dedollarisation[121].

3) International trade agreement

In November 2017, the MOC signed a MOU with the Ministry of Commerce of China on e-commerce cooperation, by which China will provide technical advice to help boost e-commerce in Cambodia in areas such as policy communication, capacity building, personnel training and joint research.

7.5 CHALLENGES AND RECOMMENDATIONS

7.5.1 Problems and challenges

Challenges for ICT Infrastructure

According to MPTC, Cambodia has about 37,800 km of land fiber optical networks. The figure below illustrates the operators which manage these networks.

The International Telecommunication Union (ITU) ICT Development Index (IDI) shows that 10.50% of Cambodians have households with a computer, 26% of households have Internet access, 25% of individuals use the Internet, 0.61% have fixed (wired)-broadband subscription and 50.19% have active mobile-broadband subscriptions. The international Internet bandwidth per Internet user in Cambodia is 23573.21(Bit/s). It is worth noting that the mobile-broadband is concentrated in central town, populated areas or urban areas. To deploy the mobile-broadband to remote areas the radiofrequencies should be allocated notably for mobile networks and wireless broadband access. Therefore, the National Allocation Frequency Table (NFAT) should be established, adopted and published by the government. The challenge of Cambodia in ICT infrastructure is to adopt the NFAT in order to extend the wireless broadband to the remote area.

[191] NBC, Press Releases, The Official Launch of "Fast Payment", 15 July 2016.
[192] MPTC, Policy on Development of Telecommunications and ICT Sectors by 2020, Toward ICT Connectedness and Readiness, April 2016.
[193] MPTC, His Excellency Ek Vandy Leads the Meeting on Development of Post Sector 2018-2022, 16 March 2018.
[194] Her Excellency, Creoung Botum Rangsey Leads the Meeting of Working Group of Commission of Preparation and Enhancement of Postal e-Service Development, 10 January 2018.
[195] Koica, Summary on Cambodian ICT Master Plan 2020, 2014.
[196] MPTC, His Excellency Ek Vandy Leads the Meeting the Working Group of Commission of Preparation and Enhancement of Postal e-Services, 15 December 2017.
[197] MPTC, Information Announcement, 26 April 2018.

[198] EuroCham, e-Commerce Luncheon | The Current State of e-Payments in Cambodia, 30 May 2016.

FIGURE 15. Land fiber optical network

Land Fiber Optical Network	
Operator	Length
CFCON	19,000 km
Telecom Cambodia	1,600 km
Viettel (Cambodia)	17,200 km
Total	37,800 km
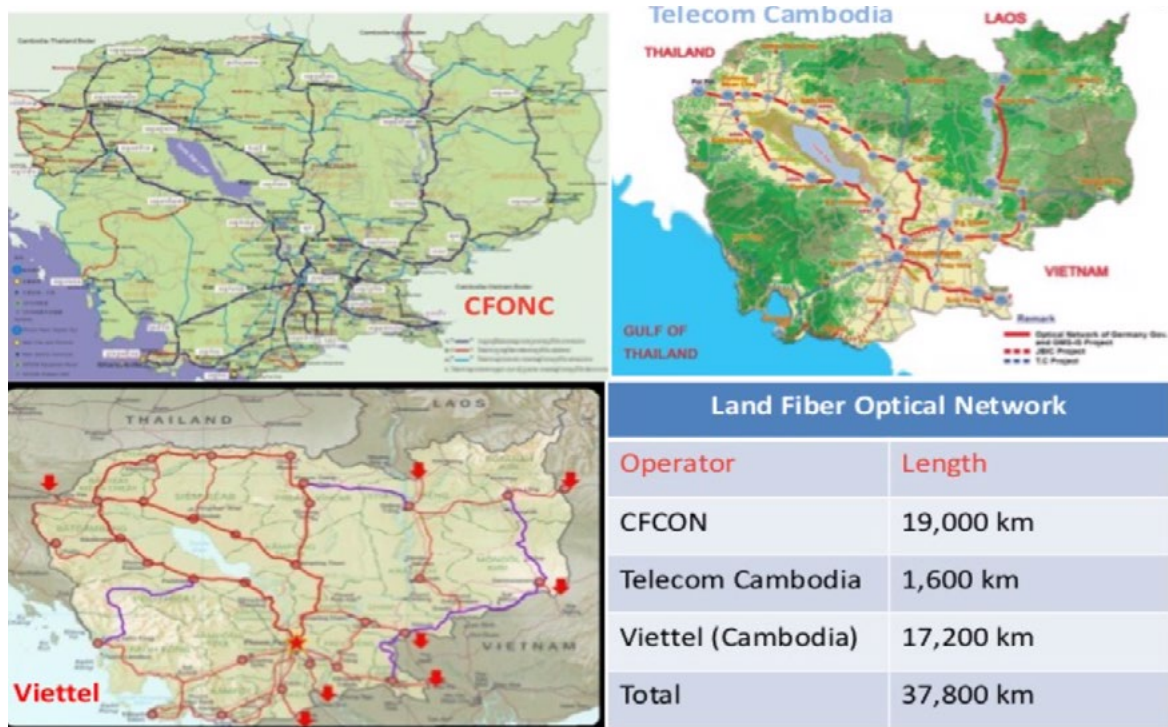
Source: MPTC, Dr. Cheang Sopheak, *Cambodia Telecommunication/ICT Development Policy 2020*

FIGURE 16. ICT Development Index 2017

Source: ITU [199]

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[199] https://www.itu.int/net4/ITU-D/idi/2017/index.html#idi2017economycard-tab&KHM.

Challenges for Domestic E-Commerce Development

The majority of Cambodians still utilize the traditional way to conduct commerce. This fact is due to (i) the lack of trust of Cambodian people and ICT illiteracy, (ii) cash usage and a lack of a harmonized payment method, and (iii) last mile delivery logistics.

» Lack of trust and ICT illiteracy of Cambodian people

Cambodian people do not trust e-transactions due to the risk of malicious transactions, cyberattacks, lack of information and inconvenience of the online platform compared to offline buying. Online crime, hacking and risk taking were the main consumer concerns[123][200]. ICT illiteracy is prevalent among merchants and certain e-commerce solutions are expensive to implement.

» Cash usage and a lack of a harmonized payment methods

Cash on delivery is a very popular payment modal among consumers that do not have a bank account but it involves high administration costs. We observe that the majority of e-commerce merchants still use their Facebook account as their primary sale platform but, it does not allow a complete online transaction as the order is arranged by phone/messenger calls after the first contact and the payment is made in COD. Merchants accept payments through bank transfer, Visa/Mastercard, COD, e-payment – however there is no harmonization between these.

» Last mile delivery

The last mile delivery to the customer is still challenging where Cambodia does not have a harmonized physical addressing system.

Challenges for cross-border e-commerce development

Cross-border e-commerce is challenged by the lack of local language integration, lack of trust, low ICT literacy, low digital payment, inefficient last mile delivery and inconvenient aftersales services.

Challenges for government regulation

Cambodia has shown its effort to initiate the development of e-commerce by promulgation of Sub-Decree No. 110, Sub-Decree No. 246, T-ICT Policy, and adopting Fast Payment. Nevertheless, these regulations need more regulations to be fully implemented. Thus, Cambodia does not have an official statistic on its domestic or cross-border e-commerce market size, transaction value, or consumer numbers. Some e-commerce merchants have registered their business activities with the authorities and paid their taxes to the government, but others have not registered their business activities at all. This fact creates the unfair situation between these aforementioned e-commerce merchants.

Cambodia still lacks laws on e-commerce, consumer protection, competition, cybersecurity which would be a means to build trust for the Cambodian people. In addition, e-commerce and the related issues are a cross-sector which may fall into the authority of the

MPTC, MOC, MEF, Ministry of Interior (MOInt), Ministry of Information (MOInf), Ministry of Industry and Handicraft (MOIH) and NBC. Therefore, the challenge for Cambodia is to find an entity which will coordinate the draft and adopt the regulations and standards related to the e-commerce sector, which also needs the participation of the private sector and civil society whose interests are manifest in their activities.

7.5.2 Strategies and recommendations

The solution to the previously mentioned issues and challenges should be resolved by the concerned parties which are: the government, which protects the market and public interests; the private sector which protects the industrial interests; and civil society which protects the declared specific interests. These three organs may have dialogues, share experiences, discussions, ideas and points of view in order to find solution to the aforementioned issues and challenges. Examples include, the MPTC and the Ministry of Environment organizing public consultations on their draft regulations to collect the inputs and comments before submitting the draft regulations for adoption[201]. MPTC has initiated many forums on tech start-ups to collect the inputs in order to prepare the Policy on Tech Start-Ups. This method may also be applied to the e-commerce sector, which needs understanding between the lawmakers/policymakers, the industry and the consumers to create the legal framework to promote/protect the e-commerce industry and consumers.

E-commerce development involves many Cambodian ministries. These ministries should work together as one entity to coordinate the public forum/consultation on conducting market research and drawing the e-commerce market statistics, as well as drafting regulations and policies to promote e-commerce.

In response to the challenge on ICT infrastructure, Cambodia should adopt the NFAT in order to allocate the radio frequency for the wireless broadband network extension to remote areas where the fiber is less expensive and more efficient. The government should consider this alternative as the extension of the broadband to remote areas will create more opportunities to enable Internet usage for e-commerce.

In addition, the ICT literacy/training should be offered to the e-commerce shoppers and those who wish to extend their business to e-commerce. The ICT solutions for e-commerce should also be available with low costs for the merchants who wish to adopt their e-commerce platform. The e-commerce forum in social media-based and web-based markets should be organized to let the e-commerce merchants share their experiences, points of view and needs on their business and the e-commerce market. Public and private sectors have a key role in coordinating activities pertaining to raising awareness, e-commerce learning/sharing/training, market exploring and consumer protection.

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[200] Dr. Moeung La, Dr. Soun Houng, and Dr. Chhun Rady, 2016, p. 275.

[201] ITU, Measuring the Information Society Report 2017, Volume 2, p/ 34.

It is necessary to find a marketplace whether it is for domestic or cross-border e-commerce which will be available in the Khmer language; solve the un-interoperability between the e-payment services to allow customers use one e-payment to buy on any platform; free the end users from customs clearance processes; free the end users from the aftersales service issues. Cambodia should have a physical address mechanism to identify the addresses and facilitate the deliveries.

To build trust with the merchants/consumers, the latter should feel protected during their online transactions. Therefore, the needs of law on e-commerce, consumer protection, competition and cyber security are imminent. The protection network of the e-commerce market, merchants and consumers should also be considered in order to back them in their activities.

Other matters should also be explored by the policymakers/lawmakers such as the construction of fair and equal competition between the local and international e-commerce merchants, and between the registered and unregistered merchants within Cambodia.

7.6. MICRO AND SMES (MSMES) AND E-COMMERCE

7.6.1 MSMEs landscape in the country

By 2018, the Ministry of Industry and Handicraft ("MIH") recorded 515,630 MSMEs comprising 222,921 (equivalent to 43.71%) in the category Trade, followed by 152,332 (equivalent to 29.41%) in Manufacturing, 114,954 (equivalent to 22.54%) in Agriculture and 22,134 (equivalent to 4,34%) in Services and Other.

In the manufacturing and handicraft sectors, the majority of MSMEs represent Handicrafts at 89.9%, followed by Small Enterprises representing 9.23% and Medium Enterprises representing 0.87%.

FIGURE 17. Business interest of MSMEs in Cambodia
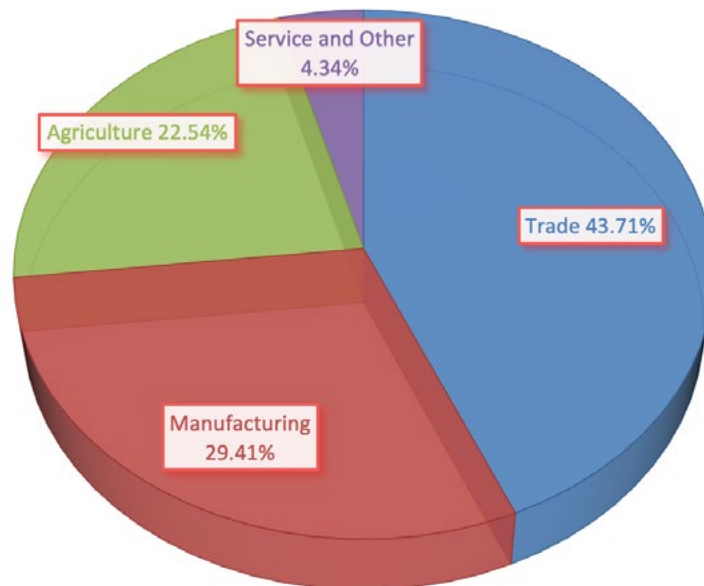
Source: MIH, GD. of SMEs and Handicraft, The Registration of Small and Medium Enterprise and Handicraft under One Roof Service, 17 October 2018.

FIGURE 17. Size of enterprises in Cambodia's manufacturing and handicraft sector
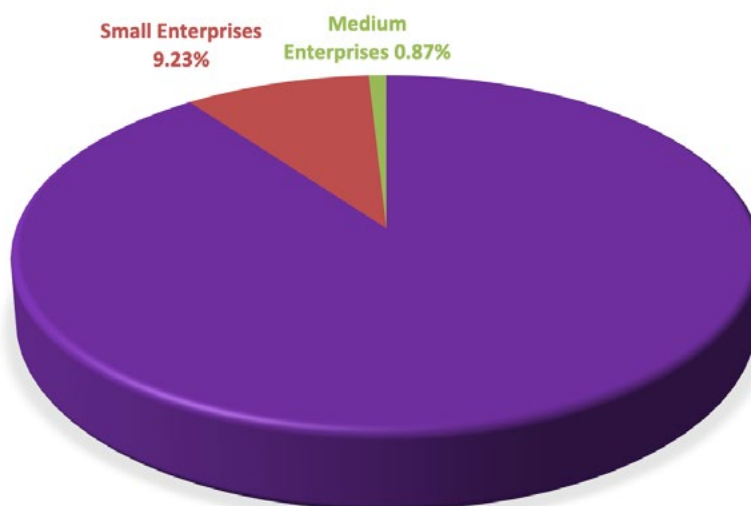
Source: MIH, GD. of SMEs and Handicraft, Half-Month Report, 13 September 2018, p. 14.

The MSMEs in the manufacturing and handicraft sectors engage predominantly in the manufacturing of foods, beverages and tobaccos representing 80.39%, followed by manufacturing of metal-based products representing 6.16%; other manufacturing representing 4.79%; manufacturing of textiles, garments, and leather-based products representing 4.68%; manufacturing of non-metallic mines representing 2.91%; manufacturing of chemicals, rubbers and plastic products representing 0.86%; manufacturing of paper, paper-based products, printing, and publishing representing 0.18%; and manufacturing of basic metals representing 0.03%.

While the MIH announced that MSMEs represent 58% of GDP and provide a 2,571,543 strong labor workforce, the General Department of Tax (GDT) has recorded that the medium taxpayers weight is 15.87% and the small taxpayers weight is 0.86% of the total tax revenue collection in 2017.

The contribution of SMEs to the national exports is less than 10% [202.] Therefore, the SMEs or MSMEs need the government's support to improve the business ecosystem.

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[202] Phnom Penh Post, Business Insider: Rosy Outlook for Cambodia's SMEs, 08 January 2018, https://www.phnompenhpost.com/business/business-insider-rosy-outlook-cambodias-smes.

FIGURE 18. Goods offered by MSMEs in Cambodia's manufacturing and handicraft sector

Statistic on MSMEs in Manufacturing and Handicraft

- Manufacturing of Foods, Beverages and Tobaccos
- Manufacturing of Metal Based Products
- Other Manufacturing
- Manufacturing of Textiles, Garments, and Leather Based Products
- Manufacturing of Non-Metallic Mines
- Manufacturing of Chemicals, Rubbers and Plastic Products
- Manufacturing of Basic Metals
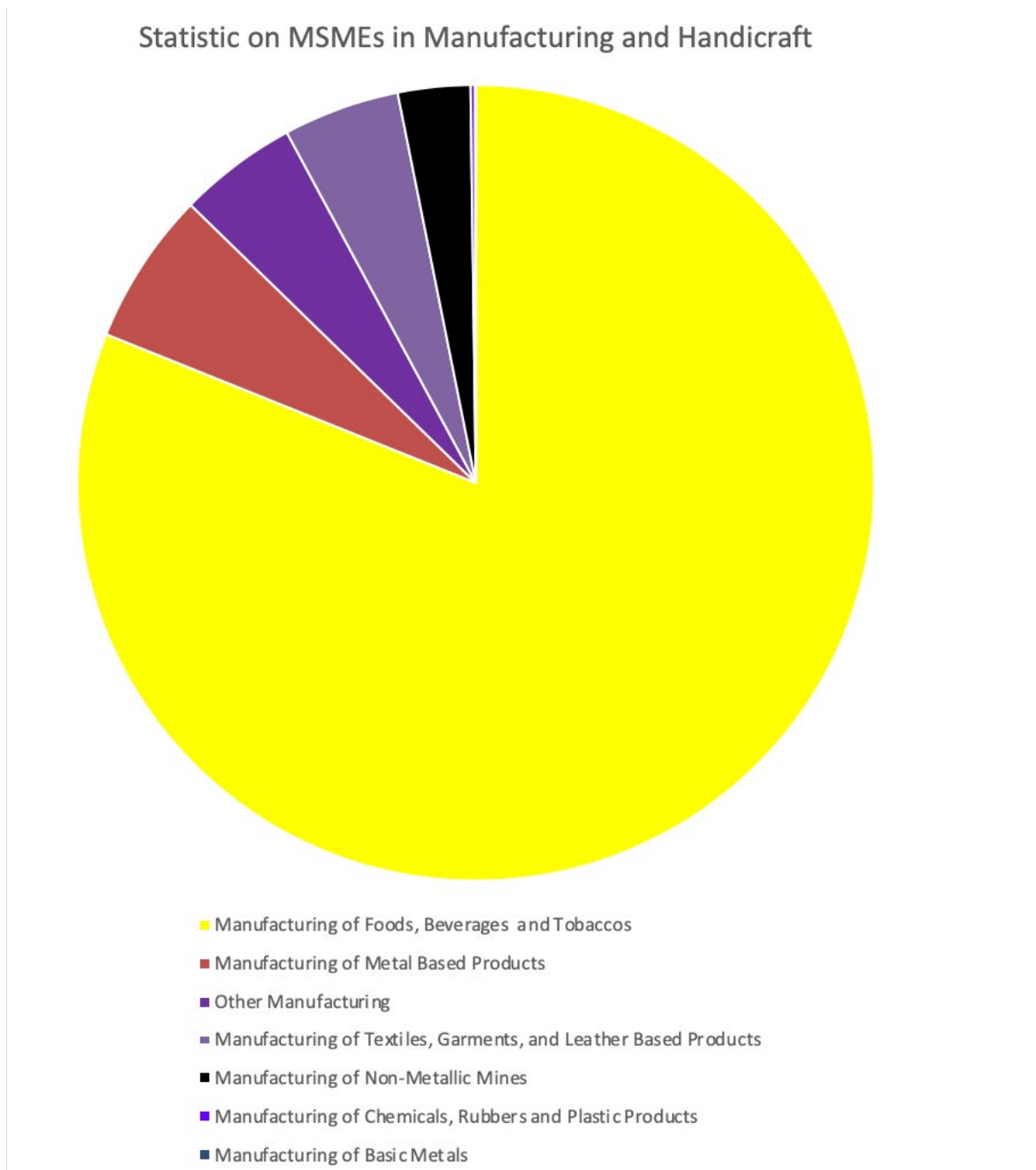
Source: MIH, GD. of SMEs and Handicraft, 13 September 2018, p. 15.

FIGURE 19. Cambodia tax collection statistics in 2017
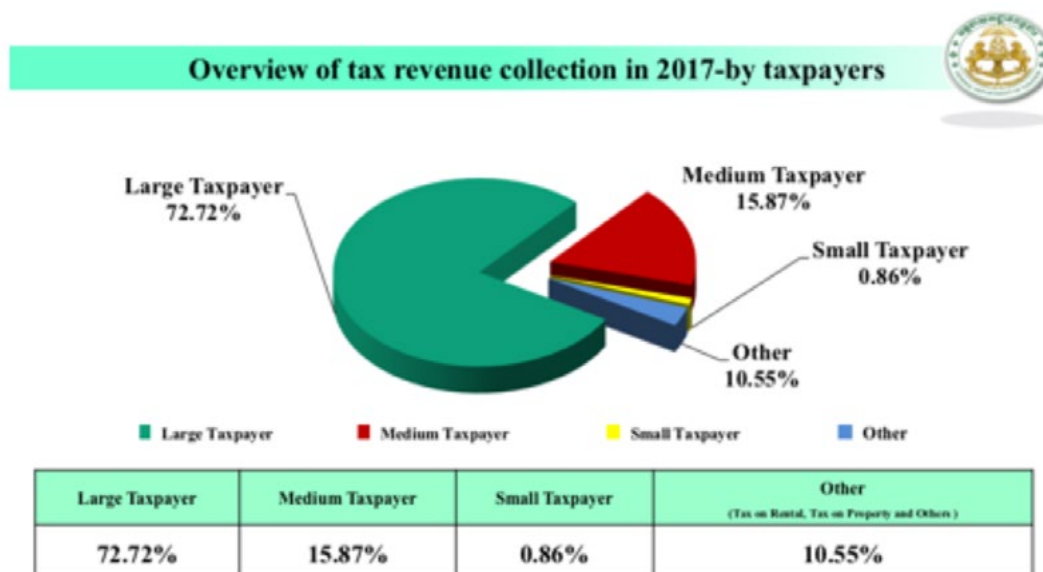
Source: General Department of Taxation, MSMEs Workshop, 4 October 2018, slide No. 5.

7.6.2 E-Commerce challenges for MSMEs

The number of Cambodian MSMEs in the digital space is still small due to important challenges such as:

» The lack of skills using digital tools: the digital space of e-commerce implies the open world to MSMEs which need skills using digital tools to set up the e-commerce platform, use digital payment, manage the warehouse stock, shipping, delivery and aftersales services. The setting-up tools for e-commerce platforms such as website design, software licensing, security maintenance, and payment gateways represent an important investment and becomes sophisticated for the traditional MSMEs. Therefore, most of them are using social media platforms such as Facebook or Instagram pages to display/present live products and take orders by communicating in live chats or by phone.

» The lack of inter-operational infrastructure of e-payment gateways: there are many e-payment providers in Cambodia but mostly each of them reserves the payment receiver to have the same e-payment service provider as the payer. Therefore, a seller is obligated to have multiple e-payment wallets which requires more investment.

» The expensive and inefficient shipping and delivery: as aforementioned, the delivery in Cambodia faces the factors of costs and time consumption due to the customs clearance and the lack of a physical addressing system.

» The lack of efficient aftersales services: some MSMEs in the fashion or cloth business provide aftersales services with conditions which lead to the product return being impossible. This sometimes becomes an obstacle for the customer to buy online

when he/she does not have clear assurance that the product can be returned.

» The limited access to finances: the big challenge of the SMEs is to get the financing from the banks or crowdfunding. The banks generally do not want to give loans to SMEs without hard collateral and with high interest rates the SMEs expose high risk [203] The alternative, financing through crowdfunding though the security exchange, is not yet available for SMEs due to the lack of regulation allowing the Security and Exchange Commission of Cambodia to issue a license [204] for SMEs crowdfunding.

» The lack of communication between the MSMEs and the government: the MSMEs [205] claim that there is a lack of communication regarding the government's policies and regulations related to their businesses and request for such communication through business association platforms. The MSMEs also express their intention to connect to the government and the committees that are working on the MSMEs businesses in order to learn about the markets and understand the government's projects on MSMEs, then to develop their businesses accordingly.

» Unfair competition between the registered and the unregistered MSMEs: it is worth noting that only ¼ of SMEs are legally registered [206]. Some MSMEs fear paper work and administrative bureaucracy,

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[203] Mr. Livininn Sok, in Discussion Panel 3: SMEs Bank, FinTech and Crowdfunding for Tech Startup and MSMEs, Tech Startup and MSMEs Forum 2018, 07 May 2018, Himawari Hotel, Phnom Penh.
[204] Mr. Socheat Sou, in Discussion Panel 3: SMEs Bank, FinTech and Crowdfunding for Tech Startup and MSMEs, Tech Startup and MSMEs Forum 2018, 07 May 2018, Himawari Hotel, Phnom Penh.
[205] Mr. Sopheakmonkul Sok, in Discussion Panel 2: Tax, Incentive, Support, Tech Startup and MSMEs Forum 2018, 07 May 2018, Himawari Hotel, Phnom Penh.
[206] Mr. Anthony Galliano, in Discussion Panel 2: Tax, Incentive, Support, Tech Startup and MSMEs Forum 2018, 07 May 2018, Himawari Hotel, Phnom Penh.

while others are not familiar with the registration and tax requirements [207] and these fears may retain them from business registration. Non-registered businesses present unfair competition to the registered MSMEs regarding their legal obligations such as business registration/licensing and tax payments.

» The lack of mechanisms to implement the 'One Roof Service' for MSME registration [208]: the registration of the MSMEs was made with 18 relevant authorities. To simplify and accelerate the MSME registration, the Cambodian government has provided authority to the MIH to coordinate the MSME registration under the One Roof Service framework. Currently, it is at the stage of drafting the sub-decree and there is not yet an automatic system for registration. Furthermore, the MIH has limited means, such as the tools and human resources for its implementation. The 17 other relevant authorities have also not yet delegated their authority and assigned their public servants for such registration services to MIH.

» The lack of networking facilities: There is a lack of facilities to encourage networking among innovative companies, such as science/industrial parks, competitive clusters or technology centres [209] despite: (i) 22 special economic and industrial zones across Cambodia among which the SME Eco Park is projected [210] to be built as the first special economic zone for SMEs by the cooperation between WorldBridge International Group and MIH [211]; (ii) the 7500 m2 Innovation Centre is under construction with support from the Capacity Building and Research and Development Funds under the Ministry of Posts and Telecommunications of Cambodia [212].

7.6.3 Existing support for MSMEs e-comerce activities

Government Policy Preferences

A) Industrial Development Policy Including the SMEs Development

The Government of Cambodia has published the Industrial Development Policy (IDP) 2015-2025 within the vision to formalize the SMEs in all sectors with the strategy to develop and upgrade SMEs with expansion of their manufacturing base, connection to the export markets, and promotion of technology upgrading and transfer. Following IDP 2015-2025, some projects are under establishment to support the SMEs such as:

» **SME Bank Establishment Project**

    » In order to solve the MSMEs' issues on getting loans from the commercial banks, the Government of Cambodia projects to create a SME Bank by injecting US $100 million of capital so that the SMEs have access to affordable financing [213].

» **Entrepreneurship Promotion Fund Project**

    » The Government has also projected to create the Entrepreneurship Promotion Fund to support the Entrepreneurship Promotion Centre which has the objectives to promote the capacity of high potential SMEs and innovative start-ups and to cultivate entrepreneurial culture and attitudes [214].

» **Tax Holiday**

    » In order to support the SMEs in their business and redress the fairness competition in the SMEs, the Government of Cambodia has provided tax incentives to the SMEs that voluntarily registered their business with the competent authority before 31st December 2018. Such tax incentives provide the SMEs with two-year exemption on (i) tax on revenue, (ii) prepayment tax on revenue, and (iii) minimum tax by virtue of Sub-Decree No. 17 ANK.PK dated 07 February 2017 on Tax Incentives for SMEs, Prakas No. 502 SHV. PK dated 25 April 2017 on Implementation of Tax Incentives for SMEs and Notification No. 17754 dated 10 October 2017 on Implementation on Tax Incentive for SMEs (Tax Holiday) [215].

    » Some industries are prioritized to receive a Tax Holiday, according to the Sub-Decree No. 124 dated 02 October 2018 on Tax Incentives for SMEs in the Prioritized Industries. These industries are (i) agricultural or agro-industry, (ii) food production and processing, (iii) workshops for producing local products, waste processing, and for the production of tourism products, (iv) workshops for producing finished products or assembling parts for other workshops, (v) information

[207] Emerging Markets Consulting, Session 1: Government's Roles, Co-ordination and Ease of Regulations to Support SMEs and Tech Start-ups, Tech Startup and MSMEs Forum 2018, 07 May 2018, Himawari Hotel, Phnom Penh, slide No. 6.
[208] MIH, General Department of SME and Handicraft, Registration of SME and Handicraft under One Roof Service, 20 October 2018, slides No. 9 and 11.
[209] OECD, SME Policy Index: ASEAN 2018, Boosting Competitiveness and Inclusive Growth, Chapter 13: Cambodia, p. 15, https://www.oecd-ilibrary.org/sites/9789264305328-17-en/index.html?itemId=/content/component/9789264305328-17-en.
[210] Chan Sok, SME Parks to Drive Up Competitiveness: Gov't, Khmer Times, 03 October 2018, https://www.khmertimeskh.com/50538765/sme-parks-to-drive-up-competitiveness-govt/.
[211] Kali Kotoski, Industrial Park Aims for SME Segment, The Phnom Penh Post, 08 November 2016, https://www.phnompenhpost.com/business/industrial-park-aims-sme-segment.
[212] Desyre Foo, NIPTICT Innovation Center Ground-Breaking Ceremony, 5 April 2018, http://geeksincambodia.com/niptict-innovation-center-ground-breaking-ceremony/.

[213] Mr. Kok Hong Chea, MEF, Department of Macroeconomic and Fiscal Policy, SME Bank and Entrepreneurship Promotion Fund, in Work-shop on Role of MSMEs in Achieving SDGs in Cambodia, 04 October 2018, Sokha Phnom Penh Hotel, slide No. 5.
[214] Mr. Kok Hong Chea, 2018, slide No. 9.
[215] General Department of Taxation, MSMEs Workshop, 04 October 2018, slides 19 and s.

and technology research and development including innovative IT management services, (vi) and enterprises located within the SME cluster. The prioritized registered industries benefit from a Tax Holiday for three-years (income tax) from the date of tax registration or current tax update for those enterprises that have already been registered. Such income tax exemption could be extended to five years if the relevant enterprises meet one of the following criteria: (i) that 60% of the raw materials used are locally sourced, (ii) that 20% of the workforce is increased, or (iii) the enterprise location is within the SME cluster.

» The prepayment of income tax (1% of monthly turnover) and minimum tax (1% of annual turnover) are not required during the income tax exemption period.

» **Tax Deductible for Expenses in Technology Uses**

» In addition to the Tax Holiday, the government has also encouraged the SMEs to use new technologies by allowing them to be tax deductible at the following rate for the following expenses: (i) 200% for the expenses on computerized accounting and information systems, (ii) 200% for expenses for technical and book keeping trainings provided to staff, and (iii) 150% for machinery and tools that are innovative and increase productivity [216].

B) Funding and Other Services from Banks, Funding Agencies and Large Companies

» **Credit from the Banks**

» With the support of the Global Agriculture and Food Security Programme and the International Finance Corporation World Bank Group (IFC), Acleda has received a senior loan project of up to US $100 million for agricultural enterprises and SME financing solutions [217]. The project is expected to significantly increase the SME portfolio in Cambodia to US $1,335 million by 2019. In addition, the SME loan portfolio to women is expected to increase to US $721 million by 2019.

» Some banks lend to SMEs but require collateral such as personal real estate/ property, cash deposits, motor vehicles, equipment facilities, and other fixed and current assets, third-party corporate or bank guarantees, and other types of collateral negotiable with the bank [218].

» **Funding Agencies**

» Besides the commercial banks which give loans to SMEs, there are also some funding agencies which support start-ups in Cambodia such as Angel Investor Networks developed under Mekong Business Initiative, Small World, Emerald Hub, Peer-to-Peer (**"P2P"**) [219].

» loan platforms such as TosFund, Komchey, and the investment platform such as Cambodia Investor Club which is planned for supporting the investment in both start-up and SMEs, SEA Ventures, Agribusiness Booster, and Laksmi Prime Investments Co. Ltd [220].

» **Large Companies**

» The telecommunications companies such as Cellcard, Ezecom, Smart, and Digi, and financial institution such as Amret support start-ups by cooperating or partnering with incubators and accelerators [221]

C) Cooperation with Universities and Research Institutions

» **Business Development Service Support**

» SMEs have had access to a Business Development Service (BDS) [222] through donor-support programmes or limited services such as training or counselling by the National Productivity Centre, National Standard Institute and National Testing Laboratories. For example, the donor-supported initiatives include the Seed Capital and Business Development Programme by the Dutch Good Growth Fund, International Labour Organization (ILO). Some private initiatives for business development programmes come from the private sectors as well, such as ImpactHub and Confluences Asia. In 2017, the Business Information Center (BIC) was launched under Yong Entrepreneurs Association of Cambodia (YEAC) and Cambodia Women Entrepreneurs Association and the Cambodia Chamber of Commerce for the purpose of being a one-stop resource for information updates on business and regulations through guides, toolkits and a database of financial support services.

» The private initiatives such as Geeks in Cambodia, or FrenchTech organize regular events and innovation bootcamps that are starting to create awareness among SMEs and especially start-ups [223].

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[216] General Department of Taxation, MSMEs Workshop, 04 October 2018, slide 22.
[217] IFC, Cambodia: Promoting Access to Finance for SMEs. 60 million USD loan to Acleda Cambodia, https://www.ifc.org/wps/wcm/connect/ce8ebb004a510c01bd47bf10cc70d6a1/CAMBODIA_Promoting+access+to+finance+for+SMEs++.pdf?MOD=AJPERES.
[218] ABA Bank, SME Loan, https://www.ababank.com/business/loans/business-loan/.

[219] Mr. Socheat Sou, 2018.
[220] YEAC, Startup Ecosystem in Cambodia, February 2017, p 10.
[221] YEAC, 2017, p. 9.
[222] OECD, 2018, p. 15.
[223] OECD, 2018, p. 16.

» **National University of Management (NUM)**

  » The Ministry of Education, Youth, and Sport (MoEYS) has emphasized entrepreneurial learning elements in their Education Strategic Plan (ESP) 2014-2018 in order to develop the building of knowledge, competence, entrepreneurship, skills, creativity and innovation in all sectors, especially science and technology. Therefore, NUM with the Cambodia International Education Support Foundation and Waseda University of Japan have started to introduce the entrepreneurial learning elements such as entrepreneurship promotion programmes [224].

» **ILO**

  » On 24th August 2017, ILO and MoEYS also held a seminar to raise youth awareness on entrepreneurship which was attended by 2 304 people [225].

» **YEAC**

  » YEAC was launched in September 2009 and aims to empower young entrepreneurs through training and conferences on entrepreneurship [226]. YEAC also published a report on the Start-up Ecosystem in Cambodia, in February 2017, which has become a research reference.

» **Federation of Associations of Small and Medium Enterprises in Cambodia (FASMEC)**

  » FASMEC [227] is a collective of associations for various sectors of SMEs in Cambodia that was established in 2010. FASMEC's mission is to accelerate the growth of SMEs in Cambodia through integrating the regional and global market via SME policy and lobbying, trade promotion and SME development, to create an SME information centre, and to provide trainings and other skills transfer.

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[224] OECD, 2018, p. 18.
[225] OECD, 2018, p. 19.
[226] OECD, 2018, p. 18.
[227] https://www.fasmec.org/history/

8. ETHIOPIA E-COMMERCE DEVELOPMENT REPORT 2018

8.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

Ethiopia's economy experienced a strong, average annual broad-based growth rate of 10.3 % from 2005/06 to 2015/16, compared to a regional average of 5.4%. The Ethiopian government is implementing the 2nd phase of its Growth and Transformation Plan, which will run until 2019/20 with the aim to continue work on physical infrastructure through public investment projects with an annual average GDP growth target of 11%.

Accordingly, with an effort made to acquire the latest technology and expand the telecom sector's service accessibility, the number of customers of all kinds of telecom services increased from 7.7 million in 2009/10 to 39.8 million by 2014/15. During the same period, the number of mobile subscribers increased from 6.7 million in 2009/10 to 38.8 million by 2014/15. The share of rural kebeles with access to telecom services (within a 5km radius) increased to 97% by 2014/15 from 62.1% in 2009/10. The other significant achievement in the telecom sector during this period of Growth and Transformation Plan I was the introduction of 3.75G and 4G Internet networks with the capacity to provide services to 60 million customers. As a strategic direction to enhance the ICT infrastructure, the government administration, industrial development and private sector development have begun to invest heavily in technological integration. Furthermore, ICT equipment-producing industries have started to emerge in the Ethiopian economy, while a number of ICT services for enterprises have already become operational in the ICT Parks constructed in Addis Ababa. To enable the community to benefit from ICT services in the country - 35 ICT centers, 19 community radio stations and 230 public information desks have been established by federal offices. To improve accessibility and the quality of education and health services, 18 and 22 ICT-supported education and health service centers have been set up (National Planning Commission, 2016).

Despite the rapid growth of value added, e-commerce is still in its infancy and is not widely used. Some key e-commerce sectoral trends in the country are as follows:

a) The government of Ethiopia (MICT) has prepared a draft national law to govern e-commerce.

b) Ethiopian banks issue debit cards and operate automated teller machines (ATM) but do not provide credit card services to their customers.

c) Internet services have recently improved as a result of Ethiopia's connection to Seacom's underground/sea fiber optic cable through Djibouti. In 2016, the fourth generation Long-Term Evolution (4G LTE) Internet service was launched in Addis Ababa.

d) The government has worked towards inter-connecting ATMs in Ethiopia, enabling an ATM cardholder to withdraw funds from any ATM of the 18 commercial banks operating in the country.

e) ET Switch S.C (fintech) an emerging business model and a shared ownership company with commercial banks operating in Ethiopia, has been created to improve bank-to-bank integration.

8.1.1 Internet Penetration in Ethiopia

According to the ITU (2018) database the percentage of individuals using Internet in Ethiopia experienced an incremental growth from 0.22% in the year 2005 to 13.86% in the year 2015 at a cumulative annual growth rate of 45.74%

FIGURE 1. Percentage of individuals using the Internet in Ethiopia
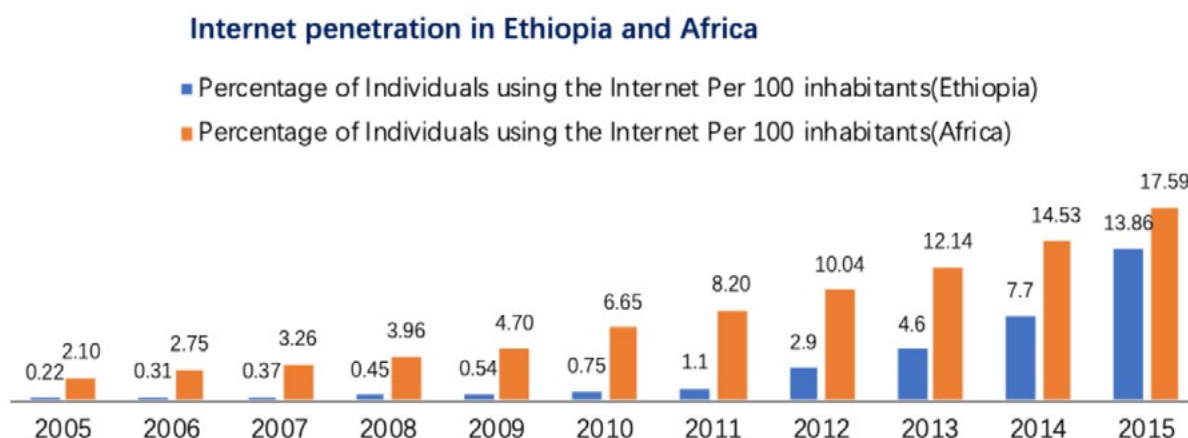
Source: International Telecommunication Union (ITU) statistical data base, 2018.

Furthermore, the ITU estimates that the number of Internet users in Ethiopia increased from 0.45% (374,310) in 2008 to 13.86 % (13.77 million) in 2015, due to increasing Internet user growth. The use of mobile Internet has also witnessed an incremental growth from 0.22% in 2005 to 13.86% in 2015. An Africa network survey on ICT shows that the proportion of mobile Internet users was 1.2% in 2012 driven by the increasing use of social networking tools such as Facebook with a million Facebook users in 2013. Currently, the number of mobile Internet users across the country has reached 9,326,029.

ICT experts suggest that the incremental growth of Internet penetration in Ethiopia is attributed to an increment of network infrastructure throughout the country within the initiatives made by major telecom companies (such as Ethio telecom, ZTE and HUAWEI), the introduction of broadband and fiber optic infrastructure (Dongle, CDMA and EVEDO), and the improvement of smart phone accessibility.

Almost 99.55% of Ethiopia's population had no Internet access in 2005. Despite an incremental Internet access growth from 0.45 % in 2008 to 13.86% in 2015 - approximately 86.14% of the population is currently

Internet deficient and it is below the average Africa Internet penetration of 17.6%. E-commerce development can greatly help address this deficiency in Ethiopia.

Major ways to access Internet services in Ethiopia

Major ways to have access to Internet provided by the national ICT authorities of Ethiopia (specifically via Ethio telecom) and facilitate e-commerce development is through the adoption of a 4G and 3G LTE Internet (data only) Package, ADSL Internet (Asymmetric Digital Subscriber Line), EVDO Packages and CDMA1X (Ethio telecom, 2018).

ICT infrastructure development in Ethiopia

The Ethiopian government has continued to invest in the communication infrastructure to meet the growing demand of the e-commerce market. A two-phase vendor credit project between the Ethio telecom, Huawei Technologies and ZTE in 2013 greatly improved the IT infrastructure of Ethiopia and allowed the government to meet increasing customer demands. In the first phase, ZTE rolled out 10,000 km of optic fiber across the country and the expansion of mobile transmission network to a capacity of over 30 million subscribers and a CDMA

FIGURE 2. Key ICT indicators for the Africa region (Internet penetration rate)

Key ICT indicators for the Africa region (Internet penetration rate)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fixed-telephone subscriptions	1.5	1.5	1.5	1.5	1.6	1.5	1.4	1.3	1.1	1.1	1.1	1.0	1.0
Mobile-cellular telephone subscriptions	12.4	17.8	23.5	32.2	38.0	45.4	52.5	59.1	65.5	70.8	76.4	74.6	77.8
Fixed broadband subscriptions	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4
Individuals using the Internet	2.1	2.8	3.3	4.0	4.7	6.7	8.2	10.0	12.1	14.5	17.6	19.9	21.8
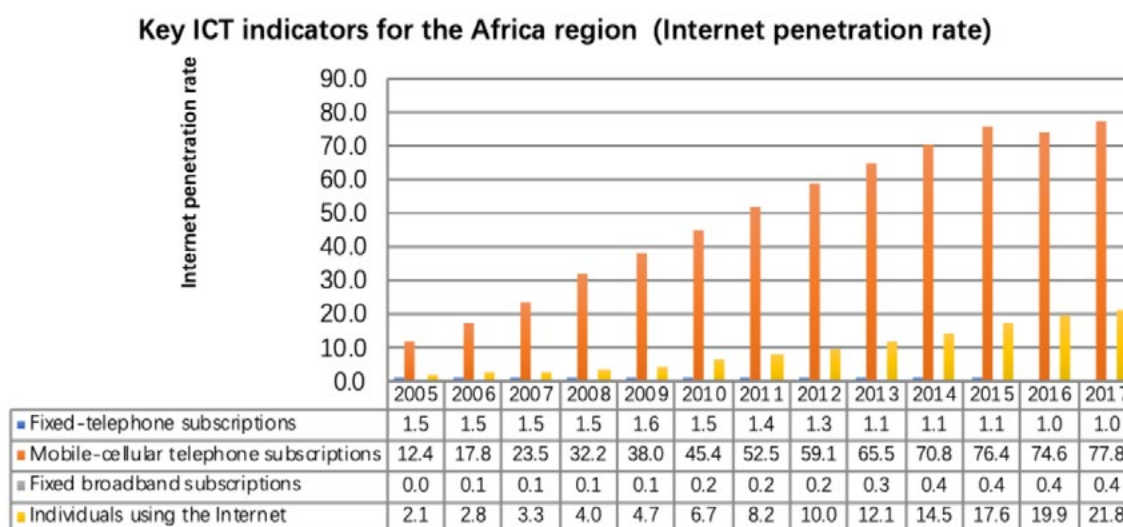
Source: Data computed from ITU statistical data base, 2018.

FIGURE 3. Fixed-broadband subscriptions (in thousands) in Ethiopia (2005-2015)

Fixed-broadband subscriptions(in thousands) in Ethiopia (2005-2015)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fixed-broadband subscriptions(1000)	0.26	1.04	1.50	3.50	4.11	6.35	8.54	238.07	471.29	478.00	559.00
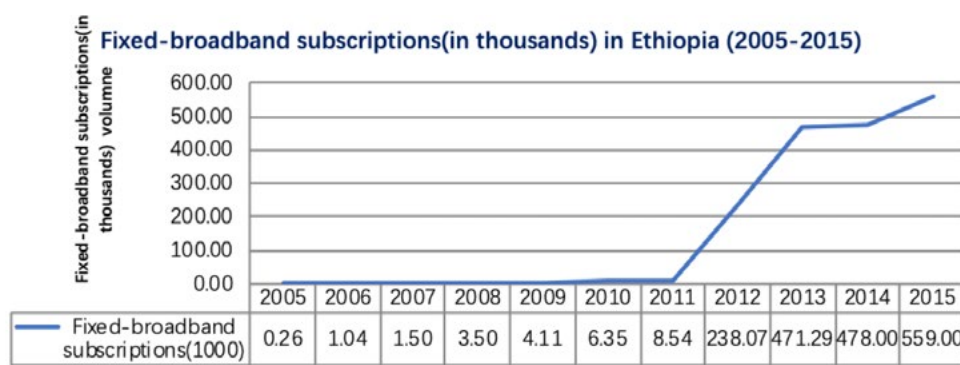
Source: Data computed from ITU statistical data base, 2018.

wireless network established covering rural towns. The second phase focused on increasing wireless telecom coverage from 64% to 90%, the number of mobile subscribers from 27.5% to 45% and Internet users to about 20%.

Ethiopia has also been working on stimulating the demand for the underlying infrastructure by increasing access to the public sector network. The e-government strategy that was approved in 2011 envisages the implementation of 219 e-services, comprising 79 informational and 140 transactional services over a five-year period. Implementation is proposed through 12 priority projects and service delivery would be through four primary channels: portals; call centers; mobile devices; and common service centers (MICT, 2018) 228. Key projects implemented by the government include:

» The SchoolNet project: provides educational satellite television broadcasting to 1,710 high

schools in Ethiopia via a total of 15,600 Plasma TVs.

» The WoredaNet project: provides a terrestrial and satellite-based network linking 950 districts with the primary objective of providing ICT services, such as video conferencing, directory services, messaging, voice over IP, and Internet connectivity to the Federal, Regional, and Woreda level government administrative units across the country (MCIT,2018).

8.1.2 Connectivity and connection speed

Ethio Telecom is the only telecom operator (public owned) company engaged in telecommunication service in the country, both for residence and enterprises with fixed and mobile Internet packages. The connection speed of Internet depends on the specific requirements of both enterprises and residential customers, however, the connection speed of Internet for the international information highway has increased from 8GB to 40 GB over the past ten years (2008-2017).

[228]Minstry of Information and Communication Technology (MCIT), 2018.ICT infrastructure development in Ethiopia. MCIT

TABLE 1. Internet penetration level in Ethiopia from 2005-2015

Year	Fixed-broadband subscriptions	Percentage of individuals using the Internet	Mobile-cellular telephone subscriptions	Fixed-telephone subscriptions
2005	261	0.22	410630	610347
2006	1036	0.31	866700	725046
2007	1496	0.37	1208498	880088
2008	3498	0.45	1954527	897287
2009	4107	0.54	4051703	915058
2010	6353	0.75	6854000	908882
2011	8535	1.10	14126659	829008
2012	238067	2.90	20523889	797501
2013	471285	4.60	25646865	761450
2014	478000	7.70	30490000	820000
2015	559000	13.86	42311629	890642

Source: ITU, 2018.

FIGURE 8. Penetration of fixed-telephone and mobile-cellular telephone subscriptions, 2005-2015 (ITU, 2018)
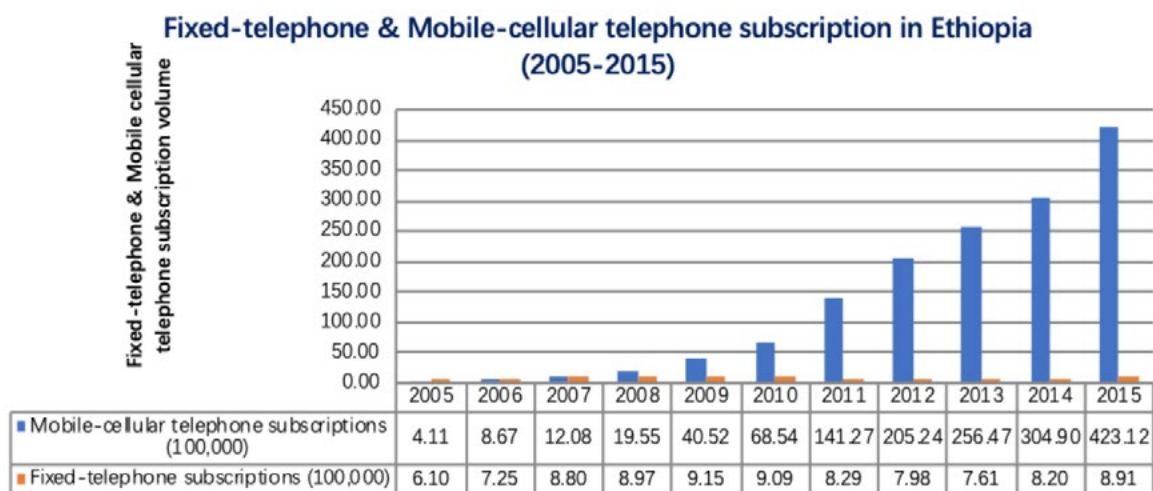
Source: ITU, 2018.

The ICT sector in Ethiopia has witnessed substantial growth over the last decade in terms of fixed-broadband subscriptions, the percentage of individuals using the Internet, mobile-cellular telephone subscriptions and fixed-telephone subscriptions. Mobile telecommunications grew from a mere 411,000 subscribers in 2005 to over 4.23 million subscribers by the end of 2015.

8.1.3 Fixed-broadband subscription

The number of Ethiopia's fixed-telecommunications customers (subscribers) increased from 610,347 in 2005 to 890,642 subscribers in 2015 with a CAGR of 52.41%. The trend in most of the services of Ethio telecom, especially the fixed-broadband subscription trend in Ethiopia, witnessed a steady incremental growth from 2012 (year) onwards. Indeed, this might be justified by two major interventions: 1) co-operating with France telecom to manage their operations and 2) increased deployment of mobiles. However, compared to the international level, the number of fixed-broadband subscribers in Ethiopia is very small, which can be attributed to the lack of competition and the increasing monopoly of Ethio telecom to determine their own

prices in the market. This shows that Ethiopia's current e-commerce policies restrain the development of the ICT sector as an engine of social and economic growth.

8.1.4 Mobile–cellular telephone subscription in Ethiopia

The trend in mobile-cellular telephone subscriptions exhibited an incremental growth from the year 2011 onward from 14.2 million to 42.3 million in 2015, this might be fueled by increasing Internet access, social media users, B2C[229] start-ups as well as the start-up of C2C, and university graduates joining the labor market.

8.2 DOMESTIC E-COMMERCE MARKET

8.2.1 Trend analysis of the sub-market in domestic e-commerce

There are few e-commerce models (B2B, B2C, C2C, O2O & C2M) and start-ups in Ethiopia which are not fully-

[152] e-commerce business model that connect buyer with suppliers

FIGURE 9. Fixed-broadband subscriptions in Ethiopia (2005-2016)

Source: ITU, 2018.
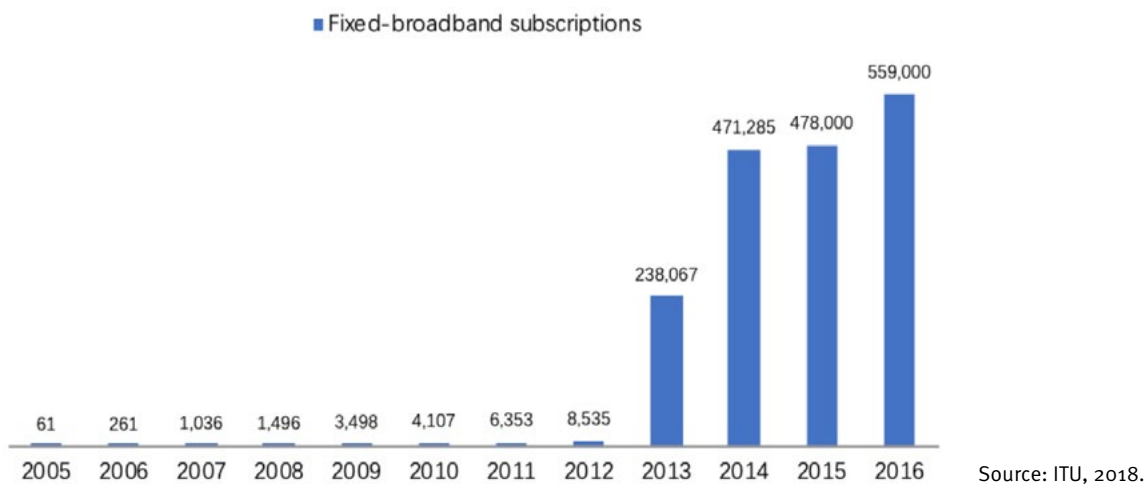
FIGURE 10. Mobile-cellular telephone subscriptions by year

Source: ITU, 2018.
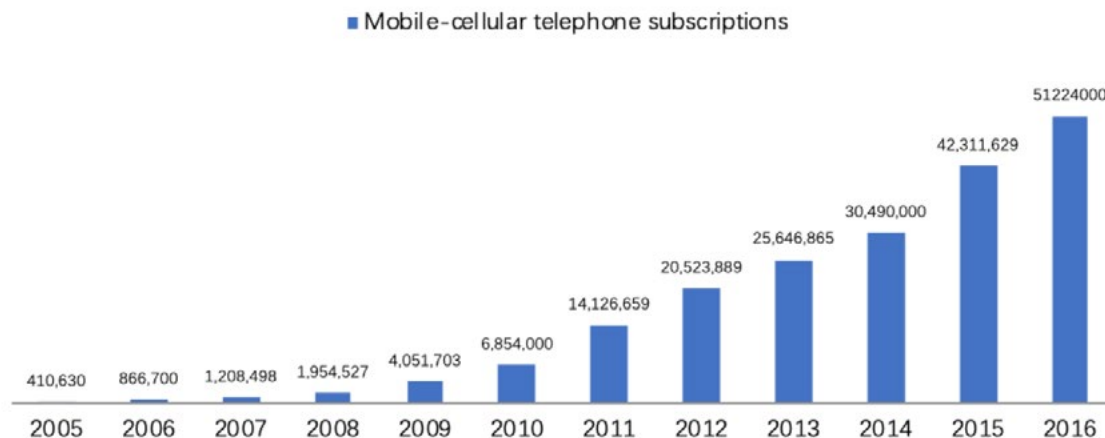
fledged to exercise the e-commerce process chain due to the lack of an e-commerce regulatory framework. Hence, quantification of the domestic e-commerce markets in terms of their market size, transaction value, sales, customer number and major products were found to be challenging to incorporate in this report. This might be justified by the lack of deployment of trained human power in e-commerce companies and the national central statistic agencies responsible for collecting analysis and divulging ecommerce-related information. Hence, the government is promoting the creation of a strong digital marketing environment – as evidenced by plans to create a statistical and consolidated database to promote trade facilitation and enhance business relationships.

Business-to-business (B2B)

Major actors of the B2B e-commerce model operating in Ethiopia involve interactions between the following stakeholders: banks, governmental bodies, the Ethiopian Commodity Exchange (EcX), co-operative unions, and exporters. The IFMIS has enabled businesses that sell their goods and services to government agencies to do so through a structured bidding process (B2G).

Online retail market (B2C and C2C)

Major actors of the B2C perspective include malls and supermarkets engaging with their customers using the point of sale. Similarly, BelCash.com, ethiojobs. net, employethiopia.com, ezega.com, ethiosera.com, jumia.com.et, and jobwebethiopia.com are a few other C2C businesses that connect suppliers with buyers or jobseekers with employer organizations.

Online-to-Offline (O2O)

The majority of C2C e-commerce practices constitute as

online-to-offline e-commerce in Ethiopia, due also to an unavailability of credit cards to customers. O2O is a business strategy that draws potential customers from online channels to make purchases in physical stores by enticing customers through emails and advertising.

New emerging e-business activities

Among the new emerging e-business activities in Ethiopia, EthSwitch and the iceaddis sharing economy e-commerce business models are the most prominent examples.

EthSwitch fintech innovation business model in Ethiopia

EthSwitch is backed by the Ethiopian Banker's Association. The National Bank of Ethiopia helped to establish a national payment system as an important step in order to build collaborations with all the connected member banks and for them to benefit from interoperability as well as to provide a new level of convenience and access for their consumers.

Iceaddis Sharing Economy business Model in Ethiopia

Iceaddis, established in 2011, is Ethiopia's first innovation hub and tech start-up incubator to enable youth driven sectors to share ideas and initiate projects pertinent to Ethiopia's ICT development and to establish sustainable local businesses.

Based on the 2017 assessment made by MICT on Ethiopia's e-commerce readiness, using the e-commerce maturity model parameters, Figure 12 presents the e-commerce readiness radar chart below [230]

FIGURE 11. E-commerce readiness of Ethiopia
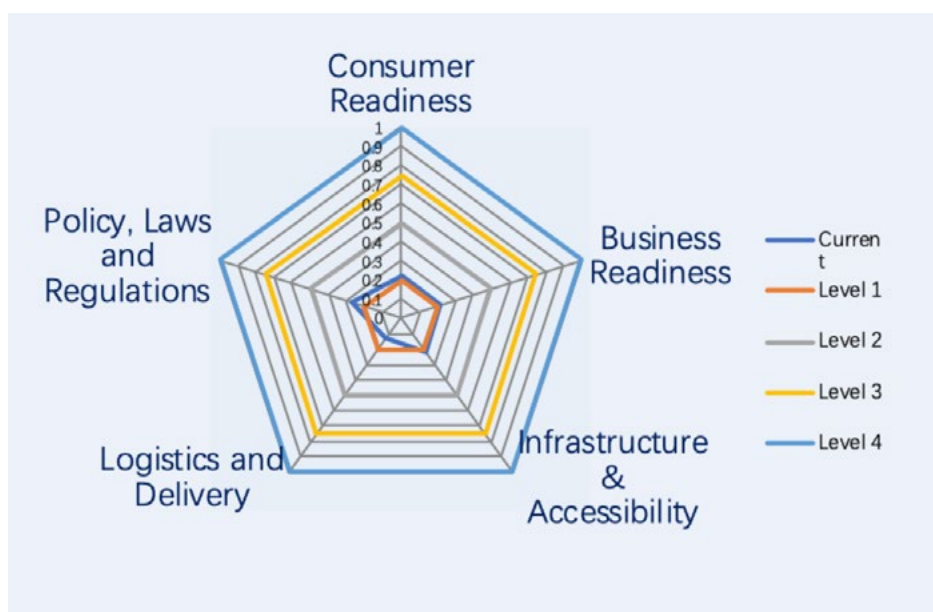
Source: MICT, National E-commerce manual presentation, 2017.
NB:
Level 1 = Parameter Score from 0 to 0.2
Level 2 = Parameter Score more than 02 but less than 0.5
Level 3 = Parameter Score more than 0.5 but less than 0.75
Level 4 = Parameter Score from 0.75 to 1.0

[230] MICT, 2017. National E-commerce manual. Presentation by MICT for National E-commerce manual development.

8.2.2 Key players in the e-commerce ecosystem

Major online marketplace in e-commerce process chain

The major marketplaces and actors in the e-commerce process chain in Ethiopia are as follows:

» **The Ethiopian Commodity Exchange (ECX)**

The ECX is a national multi-commodity exchange in Ethiopia that provides low-cost, secure marketplace services to benefit all agricultural market stakeholders and invites industry professionals to seek membership enabling them to participate in trading. The ECX design is unique in that it integrates the entire 'eco-system' related to the market and their activities are regulated by a regulatory agency. This integration enables a country such as Ethiopia, where none of the individual components may exist as stand-alone institutions, to mutually support and reinforce the ECX market objectives (ECX, 2018).

» **Public and private banks**

Public and private banks in Ethiopia work together by sharing their databases and technology (ATM) through the Etswich system platform. Despite financial developments and liberalizations in the country, the Ethiopian banking system is still underdeveloped due to a heavy reliance on cash. This might be attributed to a number of factors like inconsistent network infrastructure (slow Internet connection), the unfamiliarity of customers with new banking systems and the lack of foreign banks.

» **Online C2C, share economy and fintech business models, private e-commerce companies connecting buyers and suppliers**

In addition to the aforementioned marketplaces and actors in the e-commerce process chain in Ethiopia, the following are some of the C2C businesses that bring buyers and supplier to their web stores.

E-payment gateway

The major e-payment gateways operating in the Ethiopian banking industry are listed in Table 3 below.

The regulation of online payments in Ethiopia with e-commerce platforms is still in its infancy, the Ethiopian government (MCIT) is in the process of drafting national laws to govern online payments and e-commerce in general. Meanwhile, Ethiopian businesses that accept online payments must comply with credit card companies' standards and regulations, as well as with the payment card industry data security standards. Furthermore, it has been found necessary to enact e-commerce laws with a view to promoting the continuous development of e-commerce, regulating market order, and safeguarding the legitimate rights and interests of entities in the business activities of e-commerce.

Logistics and delivery

The public and private companies involved in logistics and delivery of the e-commerce process chain in Ethiopia include Ethiopian Airlines (EAL) and the Ethiopian Shipping and Logistics Services Enterprise (ESLSE), among others. EAL flies to more than 85 destinations across five continents, 37 freighter destinations and 18 domestic flight destinations. However, the contributions of private and public owned companies listed below also play a great role.

TABLE 2. E-commerce start-ups in Ethiopia

C2C private e-commerce	C2C private e-commerce	Sharing economy e-commerce business model
https://www.jumia.com.et https://www.2merkato.com http://www.shebashopping.com http://www.sheger.net https://www.ezega.com http://www.yegbu.com https://www.esetube.com http://delala.com	http://www.22bole.com http://www.sheger.net https://sheromeda.com http://www.addisbuy.com https://www.cargebeya.com https://www.EthioGif.com http://www.ethiojobs.net https://www.ezega.com	Iceaddis (www.iceaddis.com) Fintech e-commerce business model Etswitch S.C Belcash Technology Solutions PLC (www.belcash.com) (Hellocash, HelloDoctor, HolloBill, Hollojob and Hellotebeka)

Source: Accessed from companies' respective website, 2018.

TABLE 3. E-payment gateways in Ethiopia.

Western Union Bole Atlantic International Dowit Paco Money World Remit X-press Money Tewekel	Blue nile Transfast *Turbo* Cash Moneygram Express Money Dahabshil

TABLE 4. Logistics resources and operations in Ethiopia

Logistics Mode	Ownership	Resources and Operations
Air freight	Civil A.A Private Airlines	Addis Ababa air transport hub, 4 international airports, 14 asphalt airports and 30 gravel/grass airport 1600 million tonne km estimate (2017)
Road cargo logistics	Ministry of Trade and Industry, Private	65 thousand vehicles, 86 % public and 14 % private. Total yearly QTY 600000 tonnes
Ocean cargo	Ministry of Trade and Industry and some private	9 ocean-fairing vessels 150,000 MT Modjo and Semera dry ports and 0.8 million MT warehouses
Third- party logistics service providers (3PL)	Privately Owned	53 licensed freight forwarding firms and 21 goods-transit and shipping agents
Courier service providers	Privately owned	DHL International, Federal Express, there are also ten local courier service companies

Source: MCIT, e-commerce manual first draft presentation, 2018.

8.3 CROSS-BORDER E-COMMERCE

8.3.1 Import/ Export Statistics

FIGURE 12. Import and export, trade balance of Ethiopia (20010-2015)
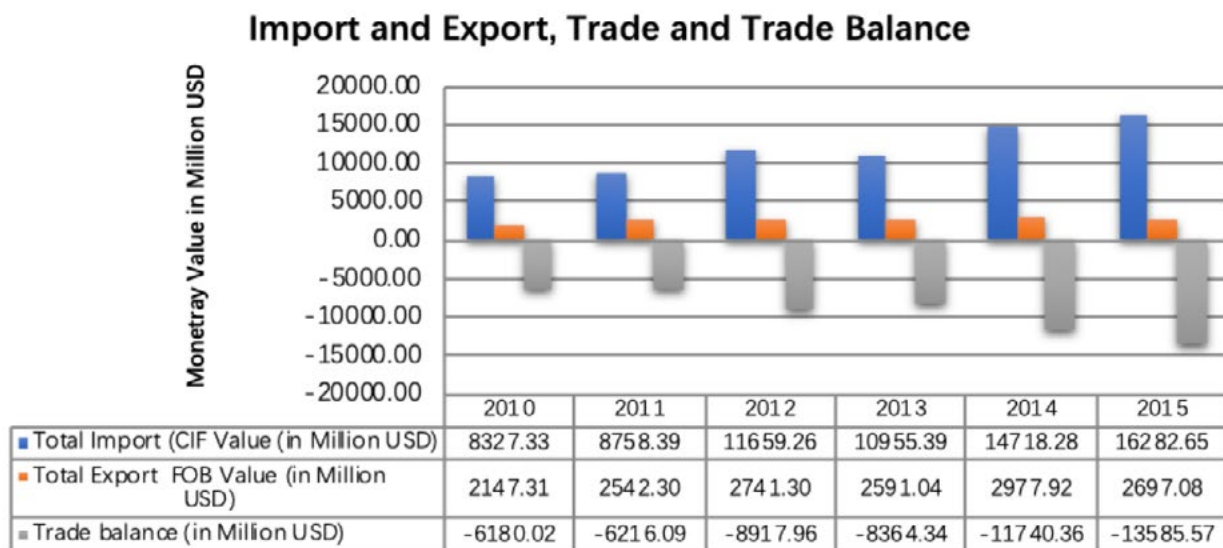
Source: Data computed from the MOT, 2018.

Direct purchase imports/exports

Ethiopian foreign trade is based on the following categories:

1. Agriculture, hunting, forestry and fishing
2. Mining and quarrying
3. Manufacturing
4. Electricity, gas and water supply
5. Construction
6. Wholesale and retail trade
7. Transport, storage, and communication
8. Financial intermediaries, insurance, real estate and business services
9. Community social and personal services
10. Private household exterritorial NGO

Licenses are given to import and export traders where importers sell their products through wholesalers/retailers to consumers. Importers can sell very few commodities directly to consumers. Additionally, producers and investors can directly import raw materials for their products and projects. Furthermore, specific traders can import 'select' products to be consumed only at the border. Goods which are imported in this way will be classified as illegal when distributed to the central cities of the country. ESLSE is the nation's primary bulk import and export mode of transport for international trade.

Bonded imports/exports

Bonded imports save the utilization of foreign currency in cases where shipping containers are damaged and for service costs in the event of delays. They also decrease cargo traffic and promote trade. However, due to abuse of customs officers, the country might experience uninspected goods (quality issue) being distributed to the market as well as tax evasion being practiced.

8.3.2 Major trade partners

Ethiopia's major trade partners are China, Germany, Somalia, Saudi Arabia, Switzerland, the Netherlands, Sudan, the United States, Djibouti, the UAE, Italy, Japan, Belgium and Israel as they are the top ten export destinations for major exportable products such as coffee, oil seeds and pulses, gold, dried legumes, livestock products (leather, live animals and meat), fruit, vegetables and flowers, textiles, natural gum, spices and mineral products.

The major imports of Ethiopia are refined petroleum, transport equipment, vehicles, planes, helicopters, and/or spacecrafts, packaged medicine, mixed mineral or chemical fertilizers, machinery and textiles. The top origins for products imported to Ethiopia are from China, the United States, India, Kuwait and Italy.

8.3.3 Cross-border-related issues and challenges

Among the major challenges for cross-border-related issues, which affect the country's international competitiveness are: smuggling and contraband business; the difficulty of after sales services (refund and return); the data sharing culture among the supply chain actor; limited international e-payment; weakly integrated customs and tariffs systems for collaboration/consolidation in the supply chain of trade transactions; the very costly and low competition of trade logistics; the lack of competitiveness in the international market by domestic firms; the unavailability of a regulatory framework for e-commerce business, and foreign currency shortages, among others.

8.4 E-COMMERCE REGULATION AND LAW

8.4.1 Domestic e-commerce laws and regulations

Ethiopia doesn't have e-commerce laws and regulations; however, both are being drafted by the MCIT. All e-commerce-related transactions are being governed by the five basic trade laws under the Ethiopian Civil Code which was declared in 1960.

However, there are different legal frameworks (laws, regulations, acts and proclamations) in place which are currently enforced in Ethiopia and cover the key areas, such as e-contract and digital signatures, consumer protection, data protection and privacy protection, cybercrime prevention, intellectual property, etc.

E-contract and digital signature

The IT revolution has greatly influenced Ethiopia and hence, it is important to list shortcomings of the 1960 commercial law to propose solutions to promote businesses competition in the global economy. Achieving this aim will not be an easy task and requires capable lawmakers with a broader view of the world and in-depth intellectual capital. An electronic signature is a very flexible feature hence; Ethiopia should intensify the start-up of e-procurement practices and accommodate e-contracts and digital signatures as one of its components.

Consumer protection

Presently, commercial activities and the rights of concerned traders and buyers are regulated by the Trade Practice and Consumer's Protection Proclamation (No. 685/2010) which highlights the obligations of the seller, rights of the buyer, illegal or harmful trade practices and their corresponding legal repercussions to ensure the best interests of the general public.

Data protection and privacy protection

All versions of the Ethiopian constitutions have provisions dedicated to the right to privacy. The recent Ethiopian Data Protection Act, Version 1.1, 2009, also considers data protection and privacy protection issues.

Cybercrime prevention in Ethiopia

The Computer Crime Proclamation No. 958/2016 deals with a host of issues ranging from hacking to disseminating spam and combating child pornography. The existing laws are not adequately tuned with the technological changes and it has become necessary to incorporate new legal mechanisms and procedures to prevent cybercrime.

Intellectual property rights in Ethiopia

There is an established legal regime for the protection of intellectual property rights in Ethiopia and the country is also a member of the World Intellectual Property Organization. Intellectual property rights issues are governed by the following proclamations and regulations:

» Proclamation No. 123/1995 concerning Inventions, Minor inventions and Industrial Designs,

» Council of Ministers Regulation No. 273/2012 on Trademark Registration and Protection

» Inventions, Minor Inventions and Industrial Designs Regulations (1996)

» Regulations No. 121/1993 on Transfer of Technology of the Council of Ministers

8.4.2 Government policies and initiatives to support e-commerce

The key government initiatives taken in Ethiopia to drive e-commerce activities include the following:

» The first draft e-commerce policy and laws implementation manual was produced by MCIT in order to consolidate the trade law on e-commerce and other modern marketing not yet implemented

» MCIT has taken the implementation of e-commerce as an initiative and has conducted its first consultative meeting with various stakeholders

» Tax exemption for the ICT sector lasts about 2 years of their operation

» An ICT park infrastructural development for welcoming e-commerce and ICT-related businesses

» Provision of training and educational support for a majority of public sector organizations to get them familiar with e-procurement in collaboration with different public universities, especially the School of Commerce (AAU)

» E-procurement implementation in selected public organizations with IFMIS

8.4.3 International trade agreement

Ethiopia has signed different agreements (bilateral and multilateral) and treaties and has started many initiatives to facilitate cross-border e-commerce transactions and enhance the existing infrastructure.

Generally, Ethiopia has made a number of preferential trade agreements with many countries. Under the various Generalized System of Preference (GSP) schemes, Ethiopia is one of the beneficiaries of preferential trade access for a wide spectrum of commodities from a number of developed countries, including, among others, Australia, Canada, the European Union, Japan, Norway, and the United States of America. The two most important duty-free market access opportunities that Ethiopia currently enjoys are the EBA and the African Growth and Opportunity Act (AGOA) schemes.

Ethiopia originally signed a Treaty of Amity and Economic Relations with the United States in 1951, which was updated in 1994. The country is eligible for preferential access to the U.S. market under the African Growth and Opportunity Act (AGOA). In 2015, Ethiopia was approved for AGOA privilege extension for the next 10 years until 2025.

Ethiopia is a signatory to the following trade agreements:

» Treaty Establishing the Common Market for Eastern and Southern Africa (Kampala, 5 November 1993)

» Agreement Establishing Intergovernmental Authority on Development (Nairobi, March 1996)

» African, Caribbean, and Pacific Group States (ACP)-European Union Economic Partnership Agreement (Cotonou, 23 June 2000)

» At the continental level, Ethiopia has signed and ratified the Abuja Treaty that aims to establish an African economic community among the continents with 54 countries.

» Ethiopia's accession to the World Trade Organization has been underway since 2003

» Ethiopia has signed different trade agreements mainly bilateral investment treaties (with 30 countries), double taxation avoidance treaties (with 12 countries), generalized system preferences (extended to LDCs by most developed and developing countries) and AGOA

8.5 CHALLENGES AND RECOMMENDATIONS

8.5.1 Problems and challenges
(Please refer to Table 5.)

8.5.2 Strategies and recommendations for e-commerce development in Ethiopia

» Intensification of the initiative taken by MCIT to produce the draft legal and regulatory frameworks for e-commerce implementation and address the remaining regulatory gaps through undertaking surveys.

» Strengthen cross-border harmonization: cybercrime, consumer protection, e-signatures.

» Modernize the banking sector to shift from cash dominated transaction to e-payment practices by ensuring a high level of security of their transactions.

» Shifting cultural perception on e-commerce through awareness campaigns across the supply chain actors in e-commerce. A market-oriented policy and gradual liberalization of the telecom sector are crucial for competitiveness and economic development, only if careful policy choices are made to foster Ethiopia's ICT sector.

» Intensifying the development in availing affordable ICT infrastructure (Internet, broadband) to enhance digital literacy among producers and users.

TABLE 5. Challenges confronted by ICT infrastructure, domestic e-commerce development, cross-border e-commerce development and challenges for government regulation

1. Challenges for ICT infrastructure	2. Challenges for domestic e-commerce development
» Poor backbone of infrastructure and high cost » **Network and bandwidth dependency**: Access to e-commerce platforms through desktops, mobiles, and other devices are dependent on network bandwidth » **Merchant's lack of online experience**: Small merchants are unfamiliar with technology and need to be trained on the use of e-commerce technology » **Lack of expertise in peripheral activities**: MSMEs lack of expertise in peripheral activities where they seek the support of e-commerce platforms and logistics partners such as managing inventory, handling invoicing and providing consumer insights » **Technology integration and perception gap**: MSMEs are not well versed with e-commerce technology frameworks and business operations » **Lack of training:** Lack of training for doing e-commerce transactions is a critical roadblock for the transition to online platforms » **Cash on Delivery (CoD) as a mode of payment**: Customer preference for CoD increases the chances of returns, locking up working capital for both the marketplace and sellers	» Lack of e-payment system practices » Lack of expertise to adopt e-commerce » Lack of sustainability and scale for the use of ICT in development programmes » Lack of knowledge to support and nurture the effective exploitation of ICT to benefit development through e-commerce » Weak e-governance, coordination and partnerships » International connectivity and cyber security » Unavailability of legal frameworks for e-commerce » Cultural preferences for traditional commerce » Low levels of e-literacy and less awareness of e-commerce practices » Limited use of the Internet among businesses and consumers » Insufficient access to affordable ICT infrastructure » Inadequate online payment facilities » Limited e-commerce skills among enterprises
3. Challenges for cross-border e-commerce development	**4. Challenges for government regulation**
» Economic policies to carry out cross-border international banking » Inadequate trade logistics and facilitation » Lack of security and trust in online transactions » Inadequate online payment facilities	» Lack of framing laws for each sector of ICT-based services » Absence of statistical data on e-commerce » ICT policy, legal and regulatory frameworks

» Identify potential sectors (goods or services) for domestic and cross-border e-commerce.

» The e-inclusion campaign has to be considered as a means to promote e-commerce through expanding the reach of the Internet across Ethiopia and computer literacy programmes through high-quality network infrastructure (fixed or mobile broadband) as well as increasing the availability of online Amharic (local language) language content, intensifying mobile payment, placing e-signature law, and issuing smart ID cards or salary cards for government employees.

» Facilitation of cross-border e-trade and the digital economy by having different trade agreements with different countries and working in cooperation with international organizations to prioritize e-commerce development needs including: UNIDO, UNCTAD, UNCITRAL, ITC, etc.

8.6 MICRO AND SMES (MSMES) AND E-COMMERCE

8.6.1 MSME landscape in Ethiopia

As mentioned before, there are no formally registered and recognized SMSEs involved in e-commerce business, however; the following tables and figures illustrate an increase in the number of Ethiopian SMSEs (1960-2018) and their capacity to absorb unemployment in the country.

TABLE 6. Regional number of MSMEs and employees absorbed in MSMEs in Ethiopia (1950-2010)

Year	Number of Employees & SMSEs	AddisAbaba	Afar	Amhara	Benishangul	Gambella	Harer	Oromia	SNNPR	Somalia	Tigrai	Grand Total
1960-1969	Employee										1	1
	SMSEs										1	1
1970-1979	Employee										3	3
	SMSEs										1	1
1980-1989	Employee			6							22	28
	SMSEs			2							8	10
1990-1999	Employee			98		1	7	53	142		220	521
	SMSEs			15		1	1	4	5		69	95
2000-2010	Employee	40		1380	25	12	49	614	4231		1902	8253
	SMSEs	3		262	1	1	8	37	67		560	939
2011-2018	Employee	396	238	6252	183	204	163	12067	10752	7252	20724	58231
	SMSEs	21	31	1320	32	8	26	556	674	63	4434	7165
Total (1960-2018)	Employee	436	238	7736	208	217	219	12734	15125	7252	22872	67037
	SMSEs	24	31	1599	33	10	35	597	746	63	5071	8209

Source: The Ethiopian Federal Small and Medium Manufacturing Industry Development Agency, 2018. NB: Census data is computed other than data for Oromia region. (Interpolation and extrapolation techniques were computed to fill the black data)

The number of SMSEs in Ethiopia and the total unemployment absorbing capacity has increased from 1 SMSE in the country with unemployment absorbing capacity of 1 (from 1960 to 1970) to 4434 SMSEs and 20,724 employees during the period 2011-2018.

This indicates that SMSEs have great potential to reduce unemployment rates and contribute to the economic development of the nation. Hence, engaging SMSEs in e-commerce business will have economic implication to the nations in terms of unemployment reduction and contribution to the GDP of the country.

FIGURE 13. Number of SMSEs in Ethiopia (1960-2018)
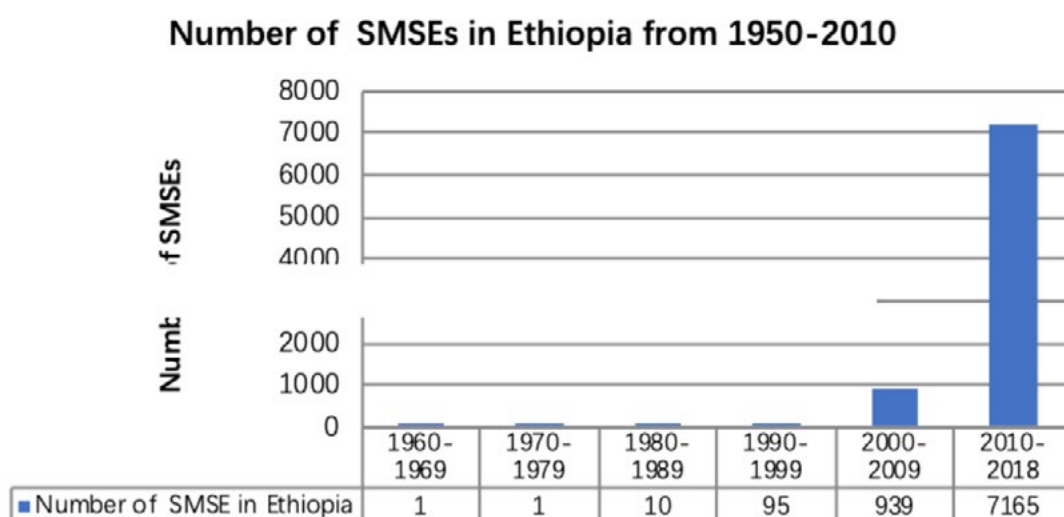
Number of SMSEs in Ethiopia from 1950-2010

	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2018
Number of SMSE in Ethiopia	1	1	10	95	939	7165

Source: The Ethiopian Federal Small and Medium Manufacturing Industry Development Agency, 2018.
NB: Census data is computed other than data for Oromia region (Interpolation and extrapolation techniques were computed to fill the black data)

FIGURE 14. Number of employees absorbed in SMSEs in Ethiopia (1960-2018)
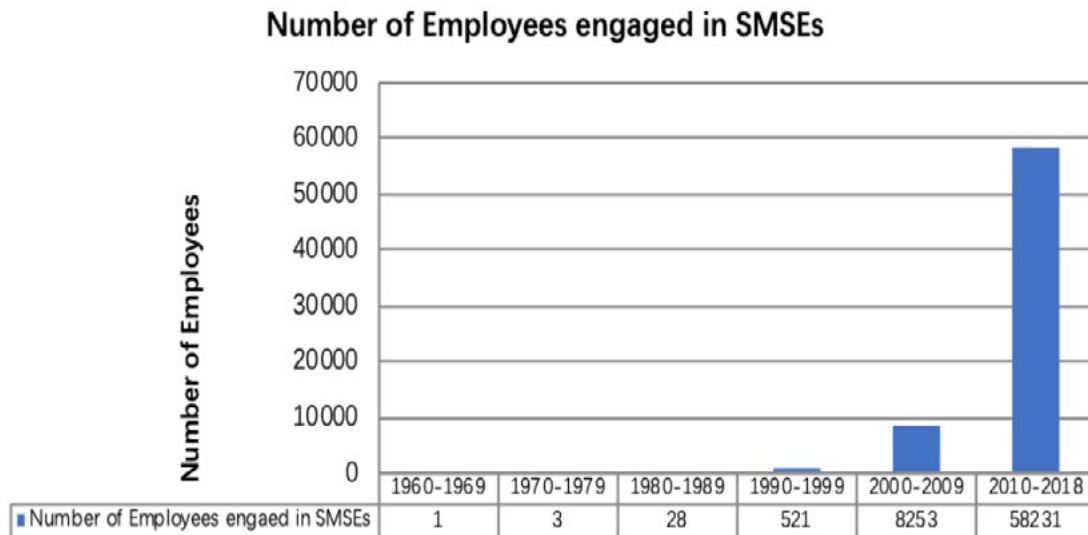
Number of Employees engaged in SMSEs

	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2018
Number of Employees engaed in SMSEs	1	3	28	521	8253	58231

Source: The Ethiopian Federal Small and Medium Manufacturing Industry Development Agency, 2018.
NB: Census data is computed other than data for Oromia region. Interpolation and extrapolation techniques were computed to fill the black data

8.6.2 E-commerce challenges for MSMEs

Please refer to Table 5.

8.6.3 Existing support for MSMEs e-commerce activities

In order to facilitate and capacitate SMSEs' involved in e-commerce activities, the government of Ethiopia extended the following support, among others:

» In order to streamline e-commerce business in the Ethiopian market, the Belcash International Technology group with the Ethiopian Federal Small and Medium Manufacturing Industry Development Agency has undertaken a demands assessment survey with the support of Norwegian aid and developed an industry portal for selected SMSEs. Additionally, an awareness creation forum was organized for SMSEs in e-commerce development and sales presentation techniques using an online portal.

» As a national strategy, MCIT developed a portal for SMSE in the manufacturing sector in order to help them to promote their products for the export market.

» Awareness creation training was provided to SMSEs through the funding opportunity given by COMESA on e-commerce and management information systems.

» The "Center of Entrepreneurship" established a national strategy to strengthen university and industry linkages, in all public universities in the country, with the support of the Entrepreneurship Development Center.

9. MEXICO E-COMMERCE DEVELOPMENT REPORT 2018

9.1 STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

9.1.1 Internet penetration

According to INEGI[231], Mexico´s official data source, in 2017, 63.9% of people (those aged 6 years old or more) are Internet users, which means that 71.3 million utilize it in the country (through devices such as mobiles, computer, laptop, etc.) Regarding Internet connections, 17.4 million households have it, which is 50.9% of the total; in other words, half of the families in the territory pay for Internet services in their homes (see Figure 1).

In six years (2012-2017) the number of households with Internet connection doubled- in 2012 the number of users was 7.9 million and then in 2017 the number increased to 17.4 million, from 26% to 51% of the total.

Considering that the total population of Mexico is over

123 million, this means 58% of Mexicans are Internet users. Comparing this data with other countries, the figure is higher than the total population of Italy, France or the United Kingdom. Nevertheless, according to CONEVAL (an official national poverty data source) almost 54 million people are classified in the poverty category. In this sense, there is a paradox between people being connected and those who don't have sufficient resources for daily life.

Given the age groups of Internet users in the country, Figure 2 shows that youth are generally more active on the Internet than the older generation.

The group with the highest percentage (20%) as Internet users are people aged at 25 - 34 years old, equivalent to 14 million users and 46% of Internet users are under 25 years old. On the contrary, the lowest percentage is 7%, belonging to the age group of 55 or above with 4.6 million Internet users, highlighting the fact that the gap between two different generations is significant.

FIGURE.1 Mexican households with Internet connection
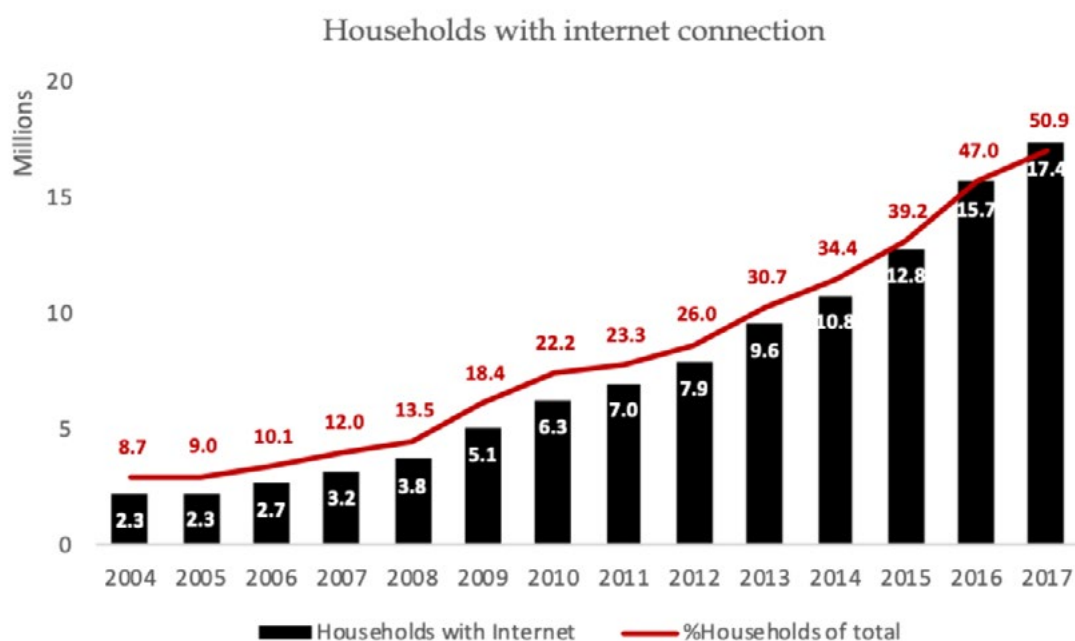
Source: Instituto Federal de Telecomunicaciones (IFT).

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[231] Instituto Nacional de Estadística y Geografía (Nacional Institute of Statistic and Geography)

FIGURE 2. Internet users in Mexico by age group

> 55
6 - 11
45 - 54
12 - 17
Total users
71,340,853
35 - 44
18 - 24
25 - 34
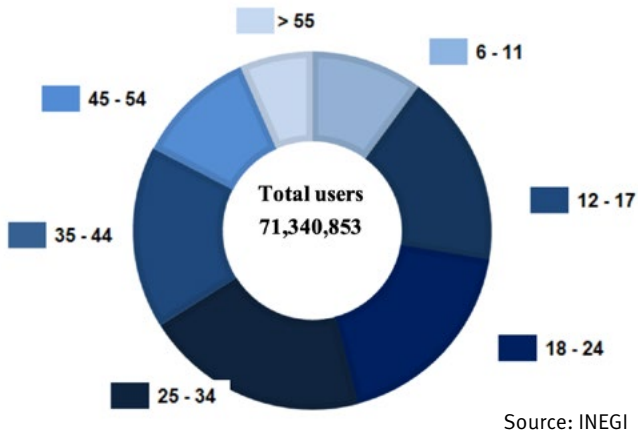
Mexico, the world´s 13th largest country, covering an area of 1,972,550 km², is divided in 32 federal states. The geographical distribution for the 71 million users within the territory is shown in the Figure 3. It is clear that Mexico State, Mexico City, Jalisco, Veracruz and Nuevo Leon constitute a large proportion of Internet users (41.8%). Meanwhile, these five states also have the largest population, which represents 39% of the total population.

Mexico State has 15% of the Internet users and 14%

of the total population: Mexico City 9% of the Internet users and 7% of the total population; Jalisco 7.3% of the Internet users and 7% of the total population; while Veracruz has 5.5% of the Internet users and 7% of the total population; Nuevo Leon 5% of the Internet users and 4% of the total population, respectively. But, when the distribution of Internet users is compared with that of the population, the ranking demonstrates that the poorest states have relatively low numbers of Internet users and the states with better economic standards have a higher percentage of Internet users.

In Mexico City 73% of its own population are Internet users. This result implies that this is the leading state in the country, while the state with the lowest proportion of Internet users relative to its population is Chiapas with 32% of the population as Internet users.

» 4 states have above 70% of its population as Internet users, i.e. Mexico City, Baja California, Sonora and Baja California Sur.

» 12 states have above 60% but below 70% of the population as Internet users.

» 10 states have around 50% of the population as Internet users.

» 6 states have less than 50% of the population as Internet users, i.e.Veracruz, Zacatecas, Michoacán, Oaxaca, Guerrero and Chiapas.

FIGURE.3 Internet users in Mexico by federal state

	Users (k)	%		Users (k)	%
Country	71,341	100			
Mexico State	10,723	15.0	Hidalgo	1,571	2.2
Mexico City	6,421	9.0	Guerrero	1,534	2.1
Jalisco	5,175	7.3	San Luis Potosí	1,447	2.0
Veracruz	3,924	5.5	Yucatán	1,376	1.9
Nuevo León	3,598	5.0	Tabasco	1,338	1.9
Puebla	3,185	4.5	Querétaro	1,232	1.7
Guanajuato	3,045	4.3	Morelos	1,197	1.7
Baja California	2,597	3.6	Quintana Roo	1,154	1.6
Chihuahua	2,399	3.4	Durango	975	1.4
Tamaulipas	2,276	3.2	Aguascalientes	830	1.2
Michoacán	2,212	3.1	Zacatecas	767	1.1
Sonora	2,151	3.0	Nayarit	731	1.0
Coahuila	1,887	2.6	Tlaxcala	687	1.0
Sinaloa	1,827	2.6	Baja California Sur	568	0.8
Chiapas	1,756	2.5	Campeche	548	0.8
Oaxaca	1,746	2.4	Colima	468	0.7

Figure 3 shows the total number of Internet users distributed by state. In order to compare the data, we need to mention some points about the number of users in each state: 1) The first point infers that Mexico City (one of the states with the highest population) has the highest percentage of users / population, with 0.73 or 73% and 2) The data has been separated in different intervals, above 70%, between 60% and 70%, near 50 and below 50%.

9.1.2 Connectivity and connection speed

Most households have a good Internet connectivity and high connection speed. While 80% of the households have access to Internet connection speeds above 10

Mbps[232], only 2% of households have high speed access (above 100 Mbps) and the rest are between 256 Kbps[233] and 9.99 Mbps.

It is also important to mention that Internet users with a speed within *10Mbps-100Mbps* have grown by 10.54% since 2017, from 1.1 million in 2013 to 13.5 million in 2017, and Internet users with a speed of *"100 Mbps or above"* increased by 23.61% when compared to 2013 (13,000 connections in 2013 rose to 341,000 in 2017). Figure 4 presents the dynamics in Internet connectivity, with a faster speed being a priority.

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[232] Megabits per second
[233] Kilobits per second

TABLE 1. Connectivity speed of household Internet connections by year

Speed Connection	2013	2014	2015	2016	2017	% 2017
256 kbps - 1.99 Mbps	640,030	645,259	786,315	585,604	468,716	2.74
2 Mbps - 9.99 Mbps	10,923,654	10,895,916	3,079,752	2,862,328	2,764,185	16.13
10 Mbps - 100 Mbps	1,174,573	1,510,121	10,753,259	12,290,041	13,557,843	79.13
› 100 Mbps	13,859	24,579	135,932	330,191	341,076	1.99
Total	12,754,129	13,077,889	14,757,273	16,070,180	17,133,837	100.00

FIGURE 4. Dynamic of Internet users by speed of connection
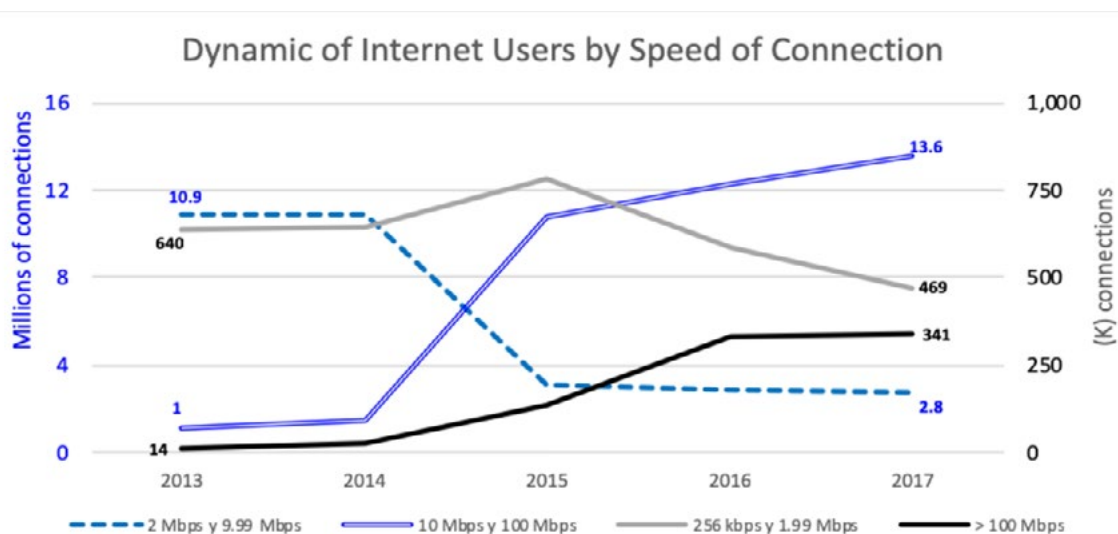
Source: IFT.

9.1.3 Fixed-broadband subscription

In 2017, the penetration of fixed-broadband is above 50 subscriptions per 100 households, which means 17,131,891 accesses:

» 42.3% are connected through digital subscriber lines (DSL)

» 37.5% via coaxial cable

» 18.3% by optical fiber

Furthermore, the optical fiber system has the highest increase with 304% from 774, 000 in 2013 to 3.1 million in 2017, and coaxial cable connection from 2.9 million to 6.4 million growing 117% in the same period.

Digital subscriber lines (DSL) and Optical fiber are the connections with the best growth; on the other hand Satellite seems to be extinguishing as Table 2 and Figure 5 highlight.

TABLE 2. Fixed-broadband household connections

	2013	2014	2015	2016	2017	%_2017
Coaxial cable	2,960,052	3,661,860	4,930,871	5,571,233	6,430,141	37.5
Digital subscriber line (DSL)	8,461,706	7,967,318	7,948,769	7,655,422	7,252,462	42.3
Optical fiber	774,563	908,893	1,512,650	2,540,595	3,130,373	18.3
Other technologies	47,782	54,196	49,197	55,187	55,702	0.3
Satellite	30,744	17,201	12,045	10,973	9,839	0.1
No information					92,058	0.5
Land fixed wireless	477,269	466,407	303,689	235,724	161,316	0.9
Total, fixed-broadband access	**12,752,116**	**13,075,875**	**14,757,221**	**16,069,134**	**17,131,891**	100

FIGURE 5. Fixed-broadband connections
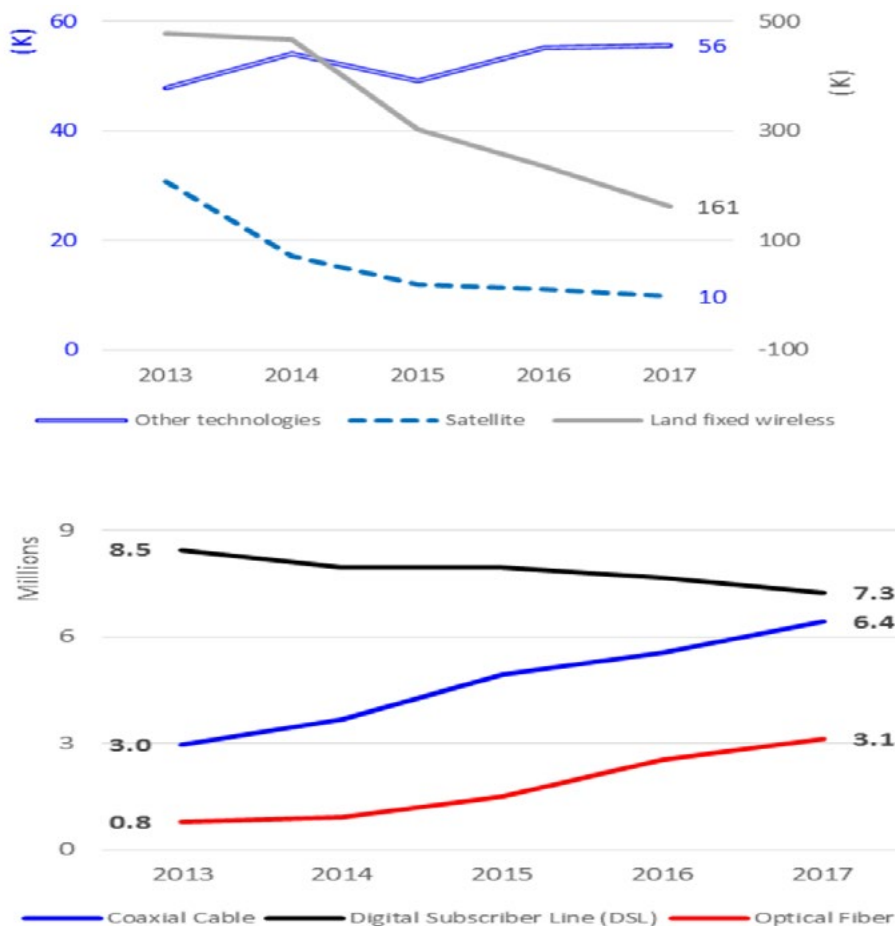
Source: IFT

Mobile cellular subscription

Mobile broadband subscriptions in 2017 were 82,168,016, in other words the teledensity was 65 lines per 100 inhabitants. 59 million (27%) are prepaid lines and 22 million (73%) are postpaid lines. Both percentages have remained stable since 2013.

TABLE 3. Mobile cellular subscriptions

	Postpaid lines	Prepaid lines	Total Lines
2013	9,290,518	25,323,884	34,614,402
2014	13,431,767	38,020,983	51,452,750
2015	14,400,705	49,518,911	63,919,616
2016	20,087,657	54,985,363	75,073,020
2017	22,539,876	59,628,140	82,168,016
%_2017	27.43	72.57	100

Source: IFT

9.2 DOMESTIC E-COMMERCE MARKET

E-commerce in Mexico has a small percentage of the market; nevertheless, in recent years it has been strengthened due to initiatives for public and private sectors because of consumer behaviors in the country. Less than 50% of the population has banking access and most people prefer cash transactions (92% of adults), mainly for the fear of being exposed to some type of fraud. However, the expansion of Internet access through mobile devices and other Internet gateways that facilitate efficient control and services, has helped the development of this sector.

Since 2010, the observed growth of e-commerce is progressing at a large pace. Figure 6 shows that the average growth from 2010 to 2013 was 50%; 33% in 2015 and reduced further to 9% in 2016. In terms of e-commerce sales, there has been an increase from US $1,815 million in 2015 to US $17,650 million in 2016, and is expected to surpass US $21,000 million in 2017, representing a growth of 20%. This data reflects a dynamic market, considering the 5% growth rate of retail sales during the last four years, on average.

The scale of the e-commerce market in Mexico is lower than that of other countries in the region. Mexican e-commerce sales accounted for 1.7% of the retail market in 2016, while the average in the Latin America region was 2.6%. The gap was similar in 2017, where the percentage of Mexico's e-commerce sales in the retail market reached 2%, while the region reached 3% (Figure 7). In 2019 it is expected that e-commerce sales will represent 2.6%[234] of the retail sales in Mexico.

FIGURE 6. Volume and growth of annual e-commerce sales in Mexico
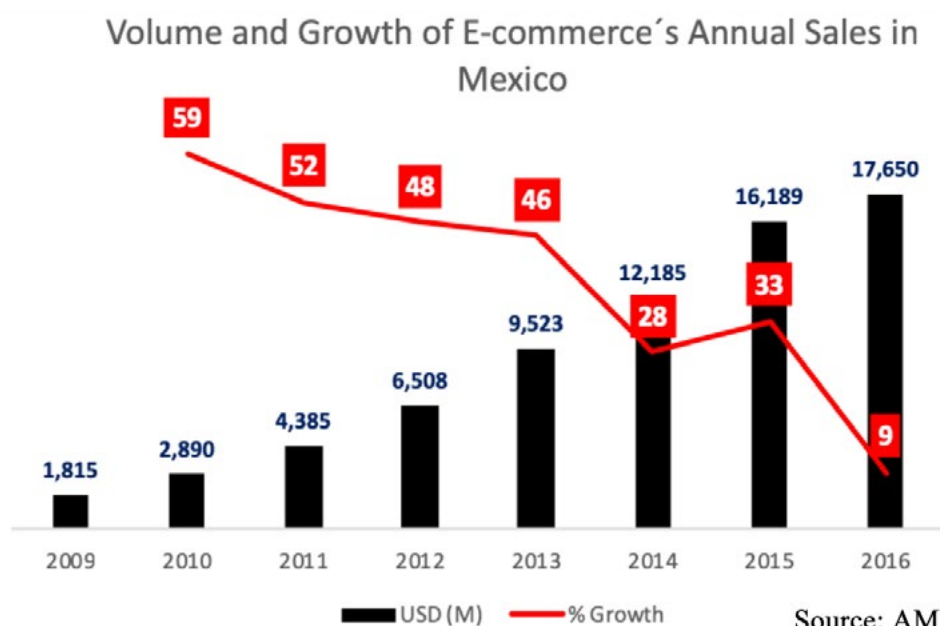
[234] ISDI estimation (Institute for Internet Development)

FIGURE 7. E-commerce sales as a % of total retail sales

E-commerce Sales as % of Total Retail Sales

Latam: 2.6 | 3

Mexico: 1.7 | 2

■2016 ■2017
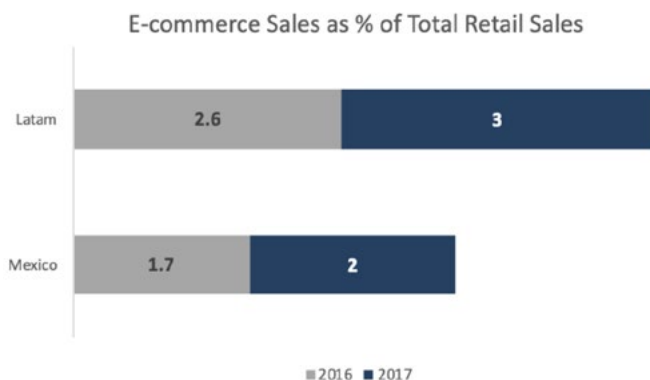
Source: AVMO

9.2.1 Trend analysis of sub-market in domestic e-commerce

Business-to- business (B2B)

The activities involved in B2B in Mexico are still very limited. In an article from Forbes Mexico[235], the head of the Mexican Online Sales Association (AMVO) said "Mexico is still underdeveloped in B2B and presents great business opportunities. To accomplish this, it is necessary to start with a digital transformation of companies." All data and studies concentrate on B2C and C2C.

TABLE 4. E-commerce in Mexico per quarter

Online retail market (B2C and C2C)

According to the AMVO´s report, entitled 'Insight E-Commerce', there are two main figures which explain the consumer behavior of the search and consumption in Mexico (data includes both B2C and C2C):

» Only 20% are recurring online buyers

» 18% of consumers make their research online and pay online

To understand these behaviors further, the activities with credit and debit cards demonstrate that customers who purchase online constitute a lower proportion of the total e-commerce sales. Table 4 displays the number of authorized online purchases with credit and debit cards. In 2015, the total e-commerce sales in Mexico amounted to US $16,189 million (Figure 6) of which US $3,288 million were authorized online with credit and debit card, meaning that the rest was purchased via physical stores or other modes of payment.

Also, it reveals the evolution that online shopping has had in recent years, as well as the seasonal effect:

» There is a growth rate of 110% in the period of 2015-2017, with the maximum increase of 167% in the fourth quarter – which is ascribed to the "El Buen Fin [236]" (The Good Weekend) effect.

» The reported data of the first quarter of 2018 is higher than that of last year, foreseeing better results at the end of the year. The blue part shows a linear projection which totals US $11,200 million at the end of 2018, half of the annual goal (US $21,000 million in 2017).

Ecommerce Mexico				
Authorized purchases Credit and Debit Card				
Quarter	$ millions (USD)	#	%Annual Growth	Average purchase (USD)
1Q 15	941	10,231,877		92
2Q 15	782	9,212,218		85
3Q 15	764	9,056,140		84
4Q 15	801	9,486,020		84
2015	3,288	37,986,255		87
			2015-2017	
1Q 17	1,334	32,562,583	42	41
2Q 17	1,668	39,035,988	113	43
3Q 17	1,773	46,507,541	132	38
4Q 17	2,139	55,630,610	167	38
2017	6,914	173,736,722	110	40
			2017-2018	
1Q 18	2,231	57,890,373	67	39
2Q 18	2,684		67*	
3Q 18	2,783		67*	
4Q 18	3,573		67*	
2018	11,271			

Source: IFT

[236] https://www.forbes.com.mx/comercio-electronico-b2b-y-su-valor-agregado/
[237] The idea is like *Black Friday* day in USA.

Online-to-offline (O2O)

43% of the online searchers buy products in physical stores. Online-to-Offline constitutes almost half of the e-commerce sales in Mexico, where the customer journey began online, looking for options, and then ends in a physical store. For example, 7% of customers research in physical stores but purchase online, while 48% of customers go to malls and purchase there.

Figure 8 represents the percentage of different surveys conducted in 2017 which show the preference of customers and their behavior about product searches, and payment processes.

In addition, Figure 9 displays the categories of products mainly bought by customers on e-commerce platforms. Products such as: apparel and accessories; digital downloads; event tickets; travel; and transportation are the top 5 categories customers prefer to buy online. However, it is worth highlighting, that apparel and accessories are products that serve as an example of products which customers can explore online but go to physical stores to complete the purchase.

New emerging e-business activities

Omnichannel strategy is a hybrid business which mixes the online and offline experience. This consists of offering a uniform experience in its different channels of sale, which offers, in turn, a better experience for the clients, no matter if the customers visit the online site or go to the showrooms of a company. It is increasingly important for e-commerce businesses to offer contact points in the physical world, whether through physical stores, showrooms or offering their products in the points of sale of other retailers.

9.2.2 Key players in the e-commerce ecosystem

According to an AMVO report, the main potential in Mexico is the confidence that great enterprises of the industry have in the country. One of them is Mercado Libre, which had a record growth of 125% in 2017, with 6.5 million daily visits to its page, placing it as the main competitor in the country.

Another big competitor that has recently arrived in Mexico is Amazon. It started operations in 2015 with 50 million catalogue products, and is building a second storage in Mexico State, aiming for prime services (maximum delivery time of 2 days). Linio is another player with a very successful process in the country, with Mexico becoming the main market for the company. Liverpool had a growth of 61% of its online sales in 2016 and the growth of Walmart was 27% in the same period. Walmart has invested US $90 million just in its digital platform to ensure high-quality service and operation.

FIGURE 8. Size of business model
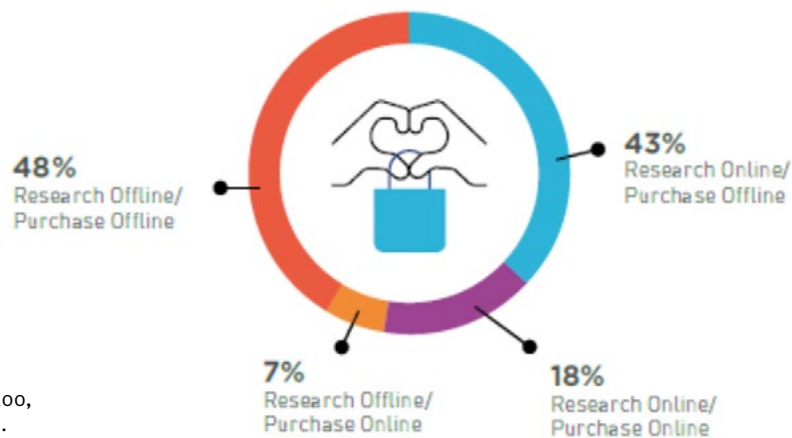
Source: AMVO (% are not in base 100, the data is from different samples).

FIGURE 9. Categories of products bought via e-commerce between 2016 – 2017
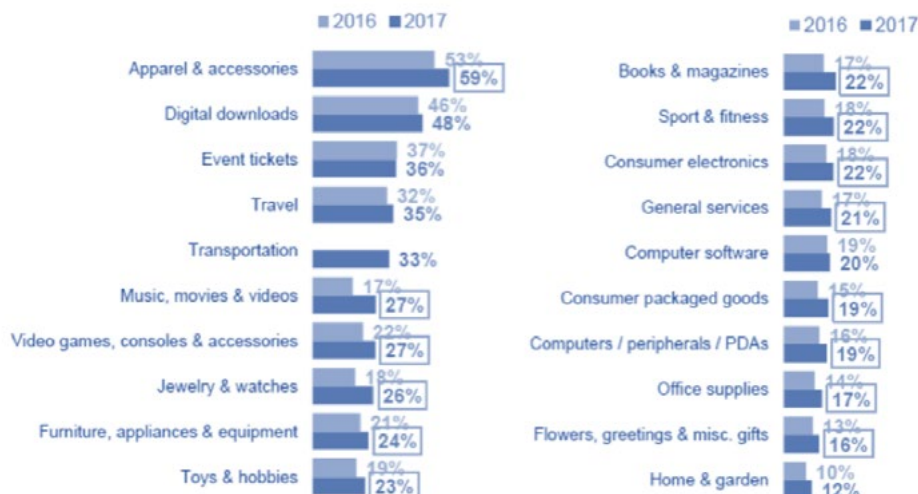
Source: AMVO.

TABLE 5. Key players in the e-commerce ecosystem

B2B / Coupons / Food Delivery / Mobile Recharge / Tickets / Baby and Kids / Beauty & Cosmetics / Craftwork	Culture / Fashion / Home & Decoration	Multicategory	Multicategory Equipments / Office Supplies / Pharmacy / Sports / Supermarket / Video Games	Accommodations & Hotels / Airlines / Online Travel Agency / Online Travel Agency / Transportation
Mx.Oriflame.Com	Gandhi.Com.Mx	Mercadolibre.Com.Mx	Tienda.Telmex.Com	Booking.Com
Mx.Avon.Com	Porrua.Mx	Amazon.Com.Mx	Apple.Com	Airbnb.Mx
Groupon.Com.Mx	ElSotano.Com	Walmart.Com.Mx	Bestbuy.Com.Mx	Hoteles.Com
Cuponatic.Com.Mx	Casadellibro.Com	Coppel.Com	Officedepot.Com.Mx	Cityexpress.Com
Sindelantal.Mx	Mixup.Com.Mx	Liverpool.Com.Mx	Lenovo.Com	Volaris.Com
Dominos.Com.Mx	Pendulo.Com	Amazon.Com	Cyberpuerta.Mx	VivaAerobus.Com
Recarga.Com	Target.Com	Linio.Com.Mx	Inova.Com.Mx	Interjet.Com
Cinemex.Com	Privalia.Com	Ebay.Com	Steren.Com.Mx	Aeromexico.Com
Ticketmaster.Com.Mx	Priceshoes.Com	Elektra.Com.Mx	Motorola.Com.Mx	Interjet.Com.Mx
Cineticket.Com.Mx	Andrea.Com	Sams.Com.Mx	Sony.Com.Mx	Despegar.Com.Mx
Ticketmaster.Com	Forever21.Com	Aliexpress.Com	Pcel.Com	Expedia.Mx
Fandango.Lat	Shein.Com	Wish.Com	Dell.Com	Bestday.Com.Mx
Superboletos.Com	Osom.Com	Chedraui.Com.Mx	Officemax.Com.Mx	Reservamos.Mx
Bebitos.Mx	Bershka.Com	Claroshop.Com	Farmaciasanpablo.Com.Mx	MexicoDestinos.Com
ElfCosmeticos.Mx	Devlyn.Com.Mx	Soriana.Com	Fahorro.Com	Zonaturistica.Com
Avon.Com	Gaudena.Com	Gearbest.Com	FarmaciasGuadalajara.Com.Mx	Pricetravel.Com.Mx
Deviantart.Com	Pullandbear.Com	Amazon.Es	Netshoes.Com.Mx	Ado.Com.Mx
Etsy.Com	Zara.Com	Sears.Com.Mx	Adidas.Mx	Primeraplus.Com.Mx
Lumen.Com.Mx	Mango.Com	Elpalaciodehierro.Com	Nike.Com	Etn.Com.Mx
	Primeriti.Es	Costco.Com.Mx	Innovasport.Com	Odm.Com.Mx
	Homedepot.Com.Mx	Famsa.Com	Marti.Mx	Reserbus.Mx
		Sanborns.Com.Mx	Superama.Com.Mx	
		Mercadolibre.Com.Ar	Heb.Com.Mx	
		Kichink.Com	Lacomer.Com.Mx	
		Dx.Com	Steampowered.Com	
		Banggood.Com	Playstation.Com	
		Walmart.Com	Gameplanet.Com	
		Mercadolibre.Com.Co		
		Ebay.Es		
		Mequedouno.Com.Mx		
		Bestbuy.Com		

Source: Ecommerce Institute

Table 5 shows the e-commerce ecosystem in Mexico while,Table 6 displays the top 20 companies in e-commerce. The main competitors are Mercado Libre, followed by Amazon and Linio.

Major online marketplace platforms

TABLE 6. Major online marketplace

RNK		Channel	Category	Ranking Change	RNK		Channel	Category
1		Mercadolibre.Com.Mx	Shopping	Remain 1	1		Mercadolibre.Com.Mx	Shopping
2		Linio.Com.Mx	Shopping	↑ 11 places	2		Amazon.Com.Mx	Shopping
3		Apple.Com	Shopping	↑ 4 places	3		Walmart.Com.Mx	Shopping
4		Aliexpress.Com	Shopping	↑ 8 places	4		Coppel.Com	Shopping
5		Cinemex.Com	Online Paid Services	↑ 6 places	5		Liverpool.Com.Mx	Shopping
6		Privalia.Com	Shopping	↑ 8 places	6		Amazon.Com	Shopping
7		Walmart.Com.Mx	Shopping	↓ 5 places	7		Linio.Com.Mx	Shopping
8		Ado.Com.Mx	Travel	↑ 2 places	8		Ebay.Com	Shopping
9		Ticketmaster.Com.Mx	Online Paid Services	↑ 51 places	9		Elektra.Com.Mx	Shopping
10		Ebay.Com	Shopping	↑ 21 places	10		Sams.Com.Mx	Shopping
11		Liverpool.Com.Mx	Shopping		11		Cinemex.Com	Online Paid Services
12		Coppel.Com	Shopping		12		Aliexpress.Com	Shopping
13		Amazon.Com.Mx	Shopping		13		Wish.Com	Shopping
14		Amazon.Com	Shopping		14		Target.Com	Shopping
15		Wish.Com	Shopping		15		Ticketmaster.Com.Mx	Online Paid Services
16		Homedepot.Com.Mx	Shopping		16		Homedepot.Com.Mx	Shopping
17		Groupon.Com.Mx	Online Paid Services		17		Tienda.Telmex.Com	Shopping
18		Netshoes.Com.Mx	Shopping		18		Chedraui.Com.Mx	Shopping
19		Mx.Avon.Com	Business Industry		19		Apple.Com	Shopping
20		Booking.Com	Travel		20		Bestbuy.Com.Mx	Shopping

Walmart has 2 advantages in contrast with most other e-businesses:

» The logistics

As a retail store, Walmart has many branches to ensure the satisfaction of the customers. In case of any issues with the products, the clients can easily go to a store nearby and change it.

Distribution centers ensure the volume of products in existence is much larger than other retailers, so the availability and quantity of options is better and larger.

» The Brand

Walmart is a tough client, due to this, the bargaining power gives them an advantageous place to push down the prices of the products, making the company more competitive in price and reliable in quality.

E-payment gateway

A survey made by AMVO reported that almost 97% of the online buyers made purchases through online channels, in 2016 it was 95%. There is another 48% that use different channels such as physical stores. Again, the number is higher than that of 2016 (41%).

FIGURE 10. The Status of online payment by payment tools and electronic devices
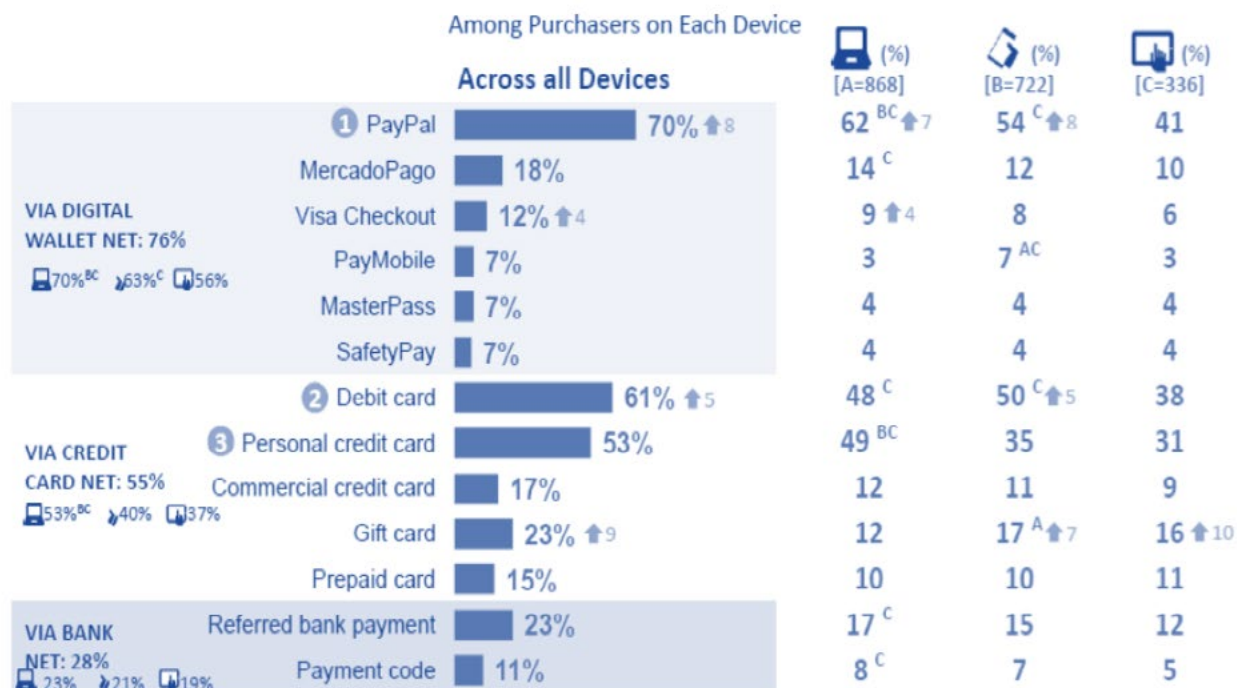
Source: AMVO.

» Through digital wallet, 70% used PayPal- 62%, via computer, 54% via mobile and 41% using a tablet. The second provider used is MercadoPago with 18% of digital wallet.

» Debit cards are used by 61%, credit cards 53%; mainly via computer, 48% and 49%, respectively.

» The third option is deposits via bank app or QR, with 23% and 11%.

FIGURE 11. The status of online payment by payment tools and electronic devices
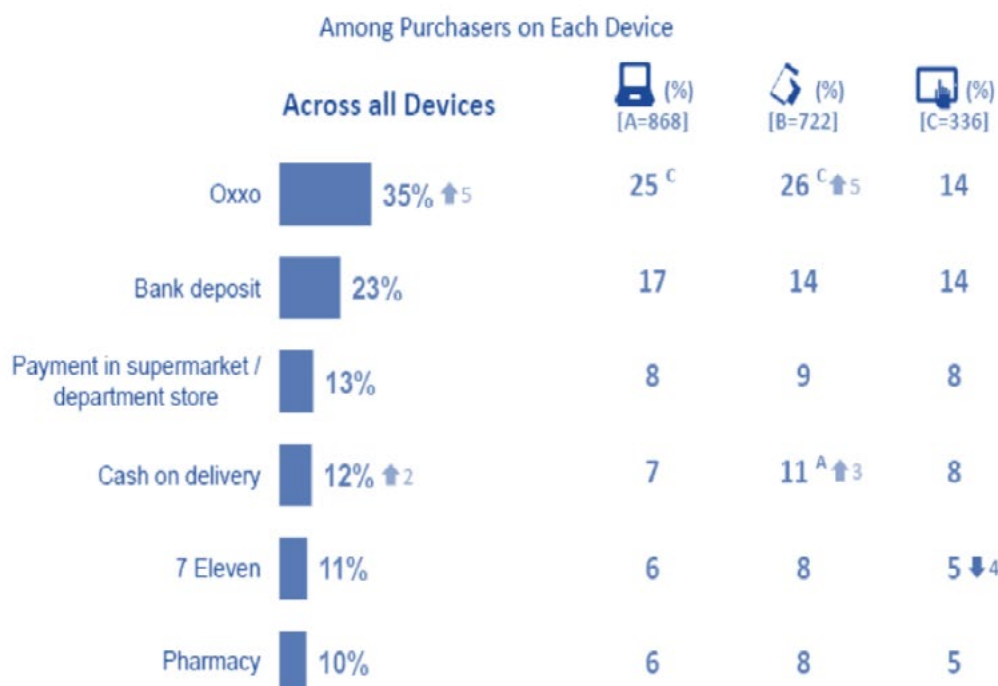
Source: AMVO.

Figure 11 shows that Oxxo (retail store) increasingly wins customers' preferences to realize payments. This kind of operational model has been very successful because in Mexico there are almost 15,000 Oxxo retail stores, which makes it much easier to find one close to home/office rather than a bank (which is the preferred online payment modality for 23% customers that participated in the AMVO survey). The utilization of cash on delivery increased in 2016.

Logistics and delivery

In 2016 the delivery and package services grew 6.2% in volume. This is increasing but with some problems: Mexico is a country with insufficient delivery services and one of the biggest issues is the installed capacity - delivery enterprises focusing on products weighing over 70 kg is very low. Furthermore, an inefficient postal code system leads to delivery delays- often between 3 and 7 working days.

The different competitors in Mexico found that the largest players can take advantage of the logistics. For example, retail stores use their distribution centers to make faster deliveries than small stores or new players. 72% [237] of the e-commerce clients in Mexico look for delivery services that are no longer than 2 days, such as Amazon which offers one day delivery on select products. Due to this observation, it is estimated that 68% of the customers who already decided to buy online leave during the purchase process and 92% of the customers think that the most important factor is free delivery.

9.3 CROSS-BORDER E-COMMERCE

FIGURE 12. The status of international purchases

Source: AMVO.

[237] UPS.

Mexico's major trade partner in e-commerce is the United States with 75% of transactions while the second is Asia with 49%. The main reasons for buying abroad are lower prices and the lack of availability of select products in Mexico.

9.3.1 Major trade partners

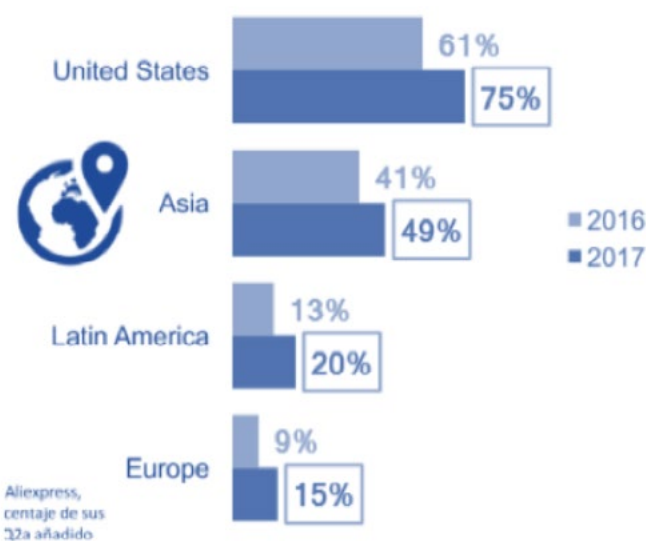According to several surveys made by the Mexican Online Sales Association (AMVO), the main trade partner is the United States. The share of the country's exports to the USA is higher than 80% of the total exports and its share of imports is approximately 50% of the total imports. In other words, Mexico's consumers' and producers' main trade partner is their closest northern neighbor.

Although the TPP agreement is expected to increase the relationship between the Asian countries, it will be difficult to replace the USA as an essential partner for Mexican companies.

9.3.2 Business category and model

Figure 10 shows the existing channels that customers use to interact with online stores.

The main channel is through computer, followed very closely by mobile - both above 50% - while tablets account for 40%. As for payment, PayPal represents confidence to consumers and more than 70% of consumers use this service. Furthermore, Mexicans are also attracted to cash on delivery as a payment modality.

9.3.3 Cross-border-related issues and challenges

The North America Free Trade Agreement (NAFTA) is being discussed, and one of the topics is the inclusion of a specific chapter of e-commerce. The main objective is to standardize the trade under US $300 to be tax free among the three countries (Mexico, the USA and Canada), making e-commerce easier in this region.

Nowadays each country has different tariff thresholds:

» Mexico: US $50

» USA: US $800

» Canada: 25 CAN (current US $19.04)

9.4 REGULATION AND LAW

9.4.1 Domestic e-commerce laws and decrees

Currently, there is not a specific legal framework of e-commerce in Mexico. The procedure is to implement the same laws and rules for those physically sold, depending on the product that is involved in the transaction.

[238] These results are from different surveys, that is why the number does not sum 100%.

E-commerce in Mexico is regulated by the rules that are aimed at protecting consumers and the validity of commercial contracts made through electronic mediums. Some of these legal provisions are the Federal Law of Telecommunications, the Federal Consumer Protection Law, Commercial Law, the Federal Civil Code, the Fiscal Code of the Federation, the Federal Copyright Law, and the Industrial Property Law. Although the Commercial Code and the Civil Code expressly regulate electronic commercial operations, the other laws have secondary applications, such as the protection of intellectual property, the rights of consumers, Internet services, security in banking transactions, among other functions.

Some legal considerations are:

» Penalties with carriers

Materials and waste to which law refers for the transportation of materials and hazardous waste, the parcel and messenger regulation, issued by the Communications and Transport Minister, considers that the responsibility, in case of loss or theft of merchandise, is to respond to the total or partial losses suffered by the merchandise, except in fortuitous cases or forces greater, and where appropriate, indemnify the client.

» Perishables

In accordance with the Regulation of Sanitary Control of Products and Services, issued by the Ministry of Health, to carry out the transport of food and beverages, it should be ensured that the sanitary characteristics that make them suitable for human consumption are conserved. In the same way during transportation, perishable feeders are ready to conserve temperature and require freezing to conserve it. Hygiene practices for the process of food, beverages or food supplements, these must be transported in vehicles, perishable goods and food must be protected from contamination by pests or physical contaminants.

» Drugs/medicines

To carry out the transport of medication, it is necessary to have the sanitary authorization issued by the Federal Commission for the Protection against Sanitary Risk (COFEPRIS) in compliance with the provisions of the General Health Law, in the same way the means of transport will always be kept clean, in good condition and with safety conditions established. Their operators must be trained to apply emergency measures in the eventualities or accidents and training is provided by COFEPRIS. The use and elaboration of drug advertising must meet the criteria established in the General Health Law.

» Imports and exports

Must be a moral or physical person with business activity, registered in the Federal Taxpayers Registry. Have inventory control systems in an automated way that maintains contiuously updated records of the control data of foreign trade goods.

Obtain the information, documentation and other means of proof necessary to verify the country of origin of the goods for purposes of tariff preferences, country of origin marking, application of quotas and other measures established for this purpose in accordance with the Law of Foreign Trade.

The goods that are introduced to national territory, to be destined to a customs regime, are obliged to transmit the information relative to its value and in its case, by electronic document to the authorities as well as other data related to its trading.

Pay taxes to foreign trade.

9.4.2 Government policies and initiatives to support e-commerce

The private sector started a campaign with the objective of having a special day in Mexico, like Black Friday in the USA, to stimulate the consumption in the country, and to help various sectors in the economy that have many seasons in red numbers. The idea was negotiated among different sectors, especially the public sector, to make an agreement.

'El Buen Fin' (The Good Weekend) is the name of a programme or strategy planned to move the domestic economy forward. At the end of November, there are 3 days when the stores place discounts. The results can be seen in Table 4, comparing the volume of sales in the 4th quarter of 2015 and 2017 with the other quarters. In 2017, it is estimated that US $5,130 million sales of which US $138 million were from e-commerce.

Another programme designed specifically to boost the e-commerce is called 'Hot Sale' and currently the stores that have online shops offer lower prices online than in their physical stores. The main purpose of this is to advertise their Internet pages and capture more customers into their e-commerce.

9.4.3 International trade agreement

Mexico has 12 Free Trade Agreements (FTA) and commerce agreements with 33 countries. This is one of the most open economies in the world, but in terms of e-commerce regulation a lot of aspects must be improved. The recent force of this industry is challenging the actual system, exposing many gaps in laws and guidelines.

Recently Mexico signed an agreement called TPP-11 (Trans-Pacific Partnership or Comprehensive and Progressive Agreement for Trans-Pacific Partnership, CPTPP) which has an e-commerce section. According to Article 14.2 of the TPP, the parties have recognized the economic growth opportunities provided by e-commerce, and the importance of frameworks that promote consumer confidence in e-commerce and avoid unnecessary obstacles to its use and development.

» Contain the common language of the FTA in relation to tariffs and non-discrimination in digital products (Articles 14.3 and 14.4), which says that TPP requires that the parties have to harmonize their national law with the international ones, concordant with the Model Law of the Uncitral of 1996 on Electronic

Commerce, or the United Nations Convention on the Use of Electronic Communications in International Contracts (Article 14.5). Moreover, it requires the parties to implement measures for consumer protection.

» In accordance with Article 14.7, the parties must adopt or maintain laws that proscribe fraudulent or deceptive business activities that harm or may harm online consumers. The same article encourages cooperation between consumer protection agencies of the parties.

» The personal information of the consumer must be protected by national laws, following the national standards (Article 14.8). Chapter 14 also encourages the transition to paperless trade, while Article 14.9 suggests that the parties should strive to make the administration of commercial documents electronic and that they are legally equivalent to paper versions.

» Promote the movement of cross-border data and information. Article 14.11 addresses the transfer of information by electronic mediums which should not restrict trade.

» Establish that no party may require a person to use or locate the computer facilities in the territory of that party, giving flexibility to use the computer facilities located in any place. Unsolicited commercial electronic messages are also regulated in this chapter. For the first time, the parties must legislate in this area to protect consumers from unwanted requests.

» Call for cooperation between parties, the parties must work together to assist small and medium enterprises to exchange information and share experiences in rules, policies, and comply with various issues. These include:

    » The protection of personal information

    » Online consumers and unsolicited electronic commerce messages

    » Security, electronic communication, authentication and electronic government

    » Cooperation in cybersecurity

    » No party will require the transfer or access to the source code of the computer programme if it is the property of a person from another party. Therefore, providers cannot be forced to share the programme code with the government or with others.

These e-commerce regulations are part of the general agreement, but the major trade partner of Mexico, the USA, is not included.

9.5 CHALLENGES AND RECOMMENDATIONS

9.5.1 Problems and challenges

The biggest issue for larger expansion of e-commerce is the security in transactions.

TABLE 7. Claims on Internet commerce

Claims on internet commerce			
2016	**Claims**	**% Favorable resolution**	**Answer time (Working day)**
Q1	396,140	92.3	16
Q2	380,669	89.4	15
Q3	403,116	91.2	12
Q4	470,852	91.7	8
	1,650,777	91.2	13
2017			
Q1	579,649	92.7	14
Q2	875,406	95	8
Q3	926,468	92.6	11
Q4	882,582	91.1	5
	3,264,105	93	9
Growth 2017 -2016	97.73		

Source: Comisión Nacional para la Protección y Defensa de los Usuarios de Servicios Financieros (Conducef).

Table 7 shows the number of claims on Internet commerce in Mexico:

» From 1.6 million claims in 2016 to 3.2 million in 2017, there is an increase of 98%, of which 7% are not favorable to the consumers.

The economic amount of cyber fraud increased to US $327 million in 2017; 122% of the amount claimed was paid and 91 out of 100 cyber frauds were resolved in favor of the user. This problem of cyber fraud, and even identity theft, is scaring new potential e-commerce clients, which has to be resolved in order to expand the customer base.

From the side of online stores, the problem turns out to be additional spending, due to insurance and the purchase of security systems or applications to prevent fraud. More than half of stores use the analysis and prevention tools from a third-party, and also implement user names and passwords in their platforms to lower all types of fraud.

Challenges for ICT infrastructure

ICT infrastructure is developing at a good pace.

Challenges for domestic e-commerce development

The delivery service, as mentioned earlier, is one of the problems to be resolved. It is not just the number of

companies that offer the service, but also the logistics they must implement. In Mexico only 40% of the roads are paved and just 4% have four lanes. Furthermore, 34% of the roads are with improved gaps or dirt, making it difficult to manage faster deliveries.

The availability of data is crucial to develop programmes and proposals about deep investigations and analysis on e-commerce flows, but currently the level of information of this industry is low when compared to other countries.

Challenges for cross-border e-commerce development

For international cargo, the country has a sea port which is among the global top 100, and the internal connections with this port and other transportation make it difficult to send products at high speed. The FTA with North America does not have a specific clause about e-commerce: the importers of the three nations, Canada, the USA and Mexico, need to pay different tax amounts for their activities. Nevertheless, the main challenge to the country is how to update the terms in order to fulfill the necessity of regulating the e-commerce if the NAFTA is no longer available.

Challenges for government regulation

Regulation is another issue. The last approved regulation related to e-commerce in Mexico took place in 2000, when congress convened a meeting to review the recommendations made in 1998 by the OECD[156] to follow guidelines, formulate and implement the self-regulatory schemes, protect the consumers, in matters of e-commerce.

_____
[239]Organization for Economic Cooperation and Development.

9.5.2 Strategies and recommendations

In the short term, the recommendations to e-commerce companies are to be clear and transparent with online customers about the length of shipment time. In the medium term, the e-commerce companies should try to diversify their warehouses to be closer to the clients (if possible). The long-term solution is in the hands of the government, such as the infrastructure required, like mediums, physical infrastructure, and the legal framework.

Regarding cyber frauds, the private sector involved in e-commerce, grants a special seal to its community to guarantee to the clients that all the online stores within it are totally secure. For the long-term, the security is in the hands of the public sector, which must ensure better security and payment systems. The banking system also has the responsibility to improve their online systems, POS (point of sale) and the speed of response to claims.

9.6 MICRO AND SMES (MSMES) AND E-COMMERCE

According to the principal data provider in Mexico, INEGI, in the last survey named ENAPROCE 2015: National Survey on Productivity and Competitiveness of Micro, Small and Medium Enterprises, 97.6% of the total enterprises are considered as micro enterprises and concentrate 75% of labor force (employment), while small enterprises represent 2% of the total with 13.5% of the labor force and medium enterprises 0.4% and 11% of labor force usage (see Figure 13).

FIGURE 13. National survey on productivity and competitiveness of micro, small and medium enterprises

Enterprise Size	Enterprises		Labor force employed
	Number	%	%
Micro	3,952,422	97.6	75.4
Small	79,367	2.0	13.5
Medium	16,754	0.4	11.1
Total	4,048,543	100.0	100
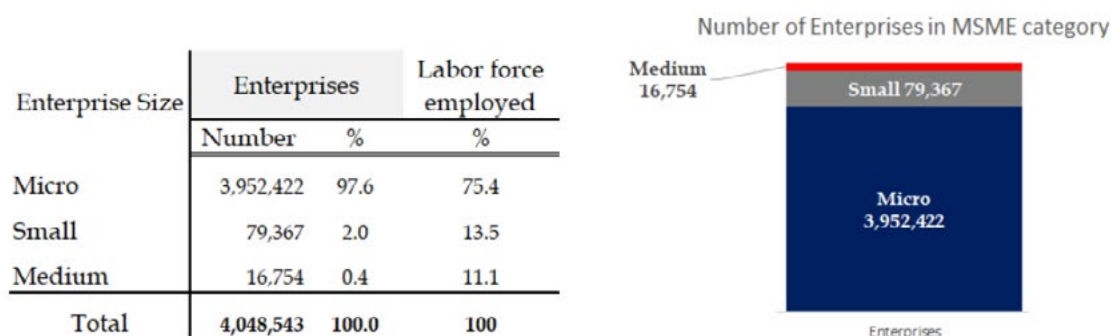
Source: INEGI – ENAPROCE 2015.

10. UK E-COMMERCE DEVELOPMENT REPORT 2018

10.1 CURRENT STATUS OF CONNECTIVITY AND ICT INFRASTRUCTURE

According to the statistical summary released by the Office for National Statistics, 89% of adults in the UK used Internet in the first quarter of 2017. In terms of age usage gap, 99% of the youth are clearly more capable of having access to the Internet than other generations aged 75 or over.

As the fundamental infrastructure of Internet connection, broadband speed is vital for regional potential economic growth. England (22.6Mbps) still has higher broadband speed on average than other regions. On the other hand, the superfast broadband which offers more stable and fast Internet connection services mainly covers urban areas including London, Manchester, Birmingham and other cities.

The impacts of Internet on business development are crucial and there is a strong linkage between the scale of business and broadband speed used. 62% of giant businesses with over 1000 employees prefer superfast broadband service than smaller businesses.

The terminal of Internet access has also changed during 2000 to 2016 in the UK. The number of fixed-broadband subscribers has increased from 0.05 million to 25.15 million, counting around 38% of the total number of population. Meanwhile, the number of mobile cellular subscribers has also experienced a steady increase from 43.45 million to 78.53 million.

10.2 DOMESTIC E-COMMERCE MARKET

10.2.1 Trend analysis of sub-market in domestic e-commerce

As the largest e-commerce market in the European area, the total UK e-commerce sales experienced steady growth during 2008-2016. Overall, the annual average e-commerce sale over total turnover is 17.5%.

There are two main channels for e-commerce transaction - EDI and website. Sales through websites account for £236.4 billion while EDI (electronic data interchange) sales were £274.1 billion (current US$ 361.04 billion) in 2016. As the main entity of business-to-business (B2B) e-commerce, the EDI e-commerce plays a dominant role on traditional industries including manufacturing and wholesales. The distribution of sales through websites across the industry is more even and the wholesales, with £53.4 billion in 2016, own the largest share amount.

The great impacts of the scale of business on an enterprise's e-commerce activity shows that only 25.7% of SMEs did e-commerce business on average while 57.5% of enterprises with 1000 employees or more made purchases on the e-commerce market in 2016 – excluding some fundamental online purchasing services, including online reservation/bookings, description of goods or services, availability of order tracking online, customization and personalized contents for regular customers. The great impacts of social media such as Twitter and Facebook on young groups who use e-commerce services more intensely may provide an efficient connection between enterprises and customers. 90% of large enterprises use social media compared with 58% of businesses with 10 to 49 employees and 30% of micro-enterprises.

According to an eMarketer report in 2017, the scale of the retail e-commerce market is forecasted to reach £80.33 billion (current US$ 105.81 billion) in 2018 and £86.96 billion (current US$ 114.49) in 2019. The proportion of total sales has experienced a constant increase since 2015 and is forecasted to keep increasing at 18.1% and

Figure 1, Total e-commerce sales (excluding micro-enterprises).
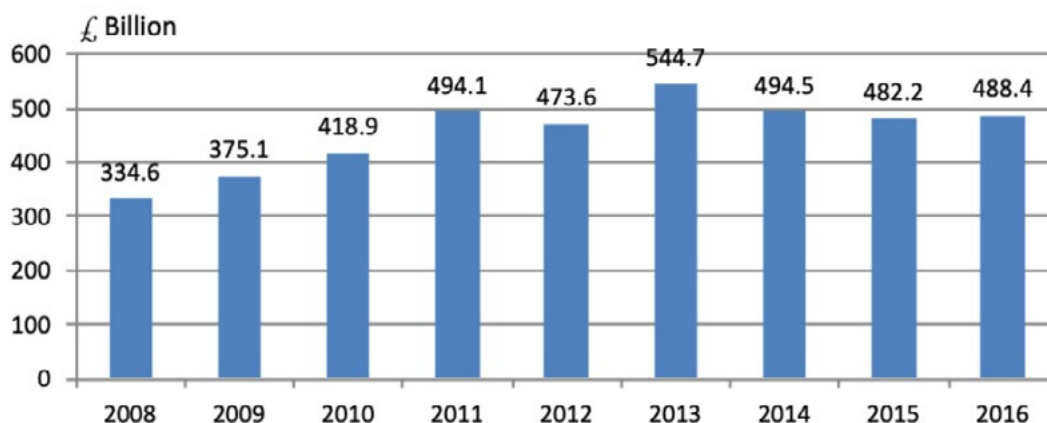
Data Source: Office for National Statistics, 2016

19.3% in 2018 and 2019. Furthermore, the expected e-commerce revenue would have an annual growth rate of 5.8% from 2018 to 2022 of US $129,592 million. The e-commerce sales forecasting reveals that fashion will continue to be the largest market share with US $29,615 million in 2018 and it is expected that the 69.9% of shoppers that preferred online shopping in 2018 will increase to 74.4% in 2022.

Business-to-business (B2B)

The development of e-commerce in the UK has shown a constant growth trend since 2008. The overall e-commerce sales increased from £375.1 billion (current US $ 494.01) to £488.4 billion (current US $643.22) during 2009-2016 for enterprises with 10 or more employees. The e-commerce sales for micro businesses (less than 10 employees) experienced a 14% increase from £19 billion (current US $25.02) to £22 billion (current US $28.97) from 2014 to 2016.

However, although business-to-business (B2B) e-commerce still plays a dominant role on the e-commerce market, compared with other sub-markets, the channel of e-commerce sales may slightly change due to the emergence of website sales with the dropdown of traditional EDI for B2B e-commerce. As seen in Figure 2, as the traditional e-commerce transaction platform, EDI had £317.7 billion (current US $418.41 billion) B2B sales in 2015. However, we observe a dropdown of EDI sales after reaching its peak in 2013 while sales through websites increase steadily. Implicitly, apart from the diminishing of traditional B2B e-commerce channels due to business closure or channel transformation, website transaction has become the emerging growth mean of B2B transactions.

The distribution of B2B e-commerce sales by industry and scale of business also shows a high consistency with the whole e-commerce market - that enterprises with over 250 employees have the dominant share on both EDI and website sales.

B2B enterprises with outstanding performance include: ForestBrown, HPD Software, Lawson Conner, My Home Move, Sorted Group, Virtualstock and Xceptor. All of them are in the service sectors, especially in innovative and high-tech industries.

Online retail market (B2C and C2C)

The UK also owns the largest and most comprehensive B2C e-commerce market in Europe, ranked top in the 2017 e-government index. Overall, the B2C e-commerce sales have increased from £100.2 billion (current US $131.9 billion) to £142.2 billion (current US $187.19 billion) from 2012 to 2016. Although GDP growth rate showed a downward trend and the consumer confidence index also decreased due to Brexit, the number of e-shoppers kept increasing to 56.6 million accounting for 82% of the overall purchases in 2016. The average spending for each e-shopper increased from €3,079 (current US $4053.2) to €3,625 (current US $4772) from 2013 to 2015 [240] [241]. In 2016, the top 20 biggest online retailers' sales increased by 23%.

Overall, department stores, with an almost 20% increase than last year, have become the most popular online sale destinations than other sectors online. The frequency survey of purchasing categories shows that books are mostly purchased online although the most popular goods are still clothes and sports goods. Interestingly, although 8% of e-shoppers start their shopping journey in-store, they make the purchases online eventually,

[240]Please see "United Kingdom B2C E-commerce Report 2016" published by Ecommerce Foundation in 2017 for more details.
[241]Detailed data source came from emarketer report "UK Retail and Ecommerce: Economic, Sales and Buyer Trends for 2016–2021".

Figure 2. B2B e-commerce sales in the United Kingdom (UK) from 2012 to 2015, by type of sales (in billion GBP).
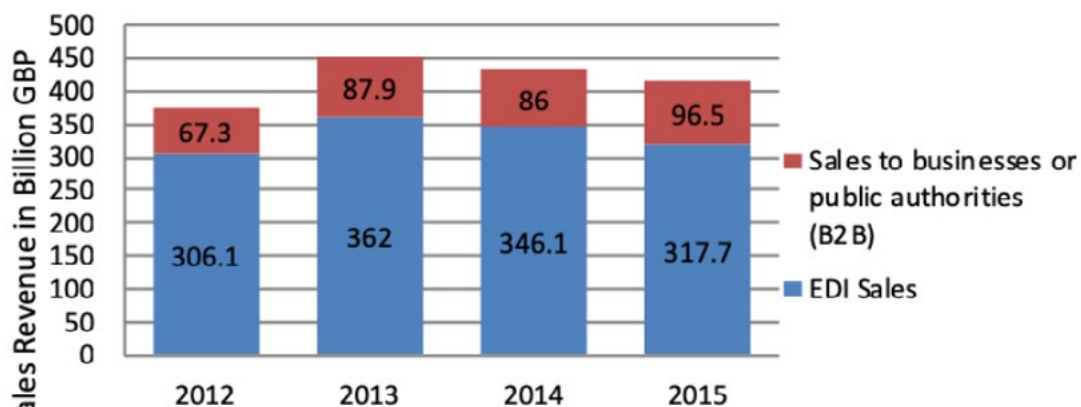
Source: Office for National Statistics (UK) © Statista 2016

Additional Information: Enterprises with 10 or more employees.

which suggests online shopping has surpassed the high street stores to become the destination for shopping. Consistent with the demographic distribution, people aged 25-34 purchase online the most.

New emerging e-business activities

Overall, the online alternative market scale increased from £666 million (current US $877.26 million) to £3.2 billion (current US $4.22 billion) in 2013-2015. There are 1.09 million funders making fund transfers through online alternative finance platforms in the UK. As a comparatively matured market, the combination of all four primary models, crowdfunding being a platform of these emerging e-commerce transactions, can be traced either by the category of activities or the platform of transactions.

Figure 3 show the market volume of each specific online alternative finance models. P2P business and consumer lending is a primary online alternative for financial means with a market value of £881 million (current US $1.16 billion) and £909m (current US $1.20 billion) excluding the real estate lending. The P2P e-commerce market experienced a growth rate of 53% and 39% for both consumer lending and business lending sectors in 2014-2016 respectively. Donation based funds is £12 million, reward based fund is approximately £50 billion, P2P Business lending excluding real estate lending own £881 million, P2P consumer lending has market size £909 million, Equity based funds is £245 million and Community shares own £61 million in 2015.

According to the UK Fintech Census 2017, the number of fintech companies has increased to 1600 holding 1400 email addresses since 2001. The fintech services were mainly used by 57% of SMEs 56% of financial institutes, 50% of individual consumers and 48% of non-financial institutes. Unlike the U-shape trend of annual revenue of fintech for the rest of the world in 2014-2016, the revenue of fintech in the UK has a steady growth from

£4.1 million (current US $5.40 million) to £5.0 million (current US $6.59). Around 50% of the enterprises expect their growth in the next twelve months to be over 100%.

We may also show the market volume by tracing different primary platforms of crowdfunding. Figure 4 shows that Crowcube had the largest market share according to transaction records in September 2017 while, Kickstarter and Indiegogo are the representatives of foreign platforms in the UK.

10.2.2 Key players in the e-commerce ecosystem

Major online marketplace platform

Although Argos was rated as the top retailer online in 2017, other traditional online retailers still own a wide range of e-shoppers. eBay, with 28.5% and 20.9% of market share of all apps for Apple ISO and Andriod system respectively, has become the most popular e-commerce platform. On the other hand, Amazon Prime was subscribed by 26% of the e-shoppers as the top platform in the market. In summary, Amazon, eBay and Argos, were ranked as the top three online service providers for desktop/mobile users in 2016.

E-payment gateway

The top 10 e-payment gateways in the UK include: PayVector, Braintree, HSBC, Mandido Payments, Alipay Global, Sage Pay, Cardstream, Payment Express, Bitpay and Quickpay. Paypal and Worldpay have also been widely used in the market.

Logistics and delivery

The UK's logistics and post sector is a business worth £55 billion (current US $72.48 billion) that accounts for 5% of the GDP in the UK. There are 63,000 companies with 1.7 million employees. In recent years, there are

Figure 3. Market Volume by Alternative Finance Model, 2015

- Peer-to-Peer Consumer Lending
- Peer-to-Peer Business Lending
- Peer-to-Peer Business Lending (Real Estate)
- Invoice Trading
- Equity-based Crowdfunding
- Equity-based Crowdfunding (Real Estate)
- Community Shares
- Reward-based Crowdfunding
- Pension-led Funding
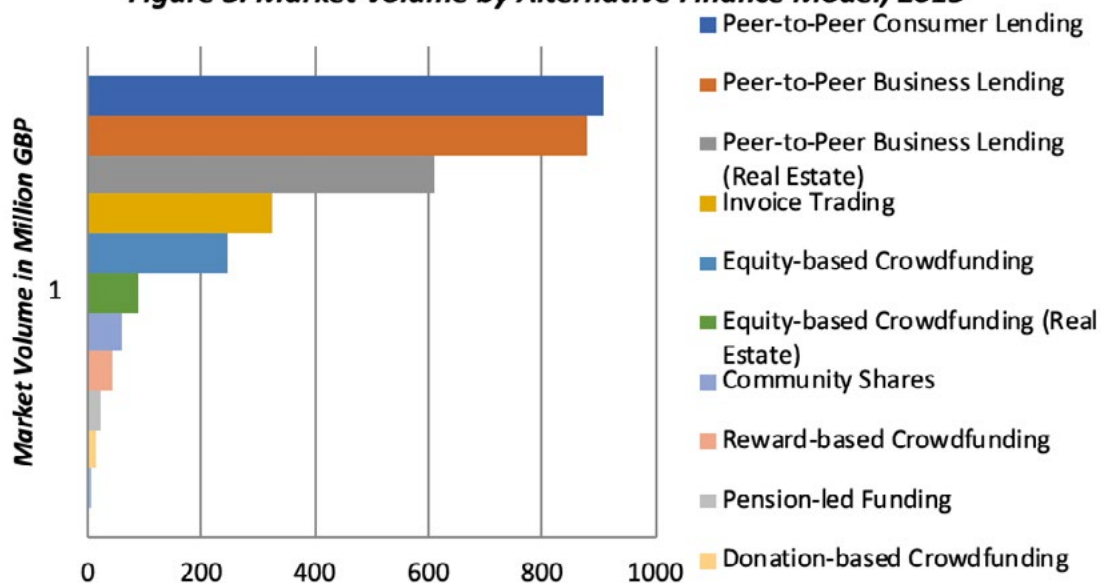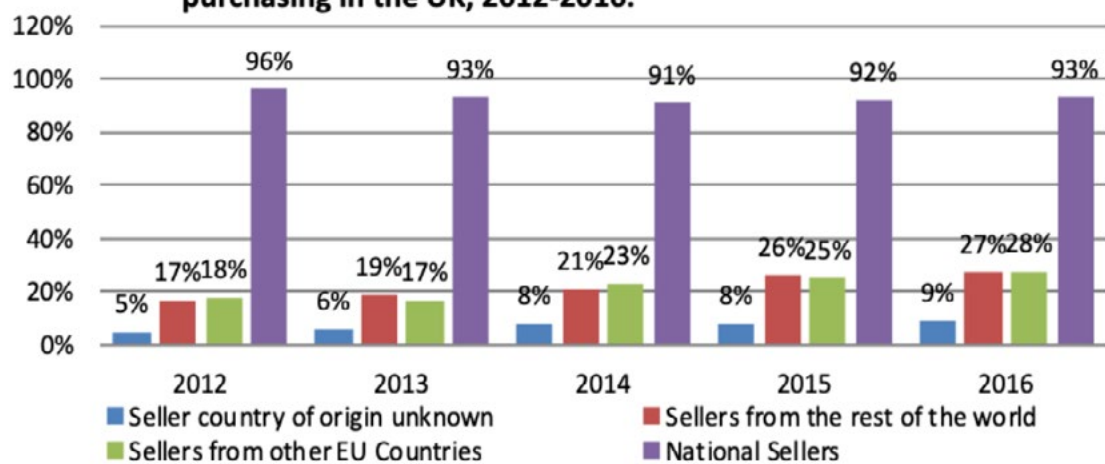- Donation-based Crowdfunding

Figure 5. Locations of sellers in goods/services for Internet purchasing in the UK, 2012-2016.

Data Source: The source of this information is   Respondents could have multiple

five aspects that have impacted business development: the rise of fuel prices and climate change; fierce competition; emerging markets and consolidation; the increase of outsourcing; and technology development.

The logistics sector in the UK can be classified as: freight transportation; maritime and port operations; postal and courier activities; and warehousing, storage and handling. The market share is dominated by local SMEs, while some large firms for each section includes: Gist; HOYER; P&O Ferrymasters; Stobart Group; and Wincanton.

For logistics for e-commerce, Amazon is still in the leading position due to its low price and convenient service. Besides, the boundary between B2C and B2B will vanish gradually by transferring the operation experience of B2C to B2B. With the development of technology, the emergence of e-commerce will reshape the patterns and ways of doing business.

10.3 CROSS-BORDER E-COMMERCE

In terms of the international market exploration, along with the 34.2% aggregate market share of website e-commerce sales, 19.5% of the transactions appear within the UK while orders received from the EU and the rest of the world account for 8.2% and 6.5% respectively. On the other hand, the aggregate sales through EDI with only 7.8% market share have 1.6% and 0.9% market share coming from the EU and the rest of the world. It suggests the leading position of B2C e-commerce is mainly driven by website sales while B2B e-commerce business done through EDI is less internationalized.

As the most popular e-commerce destination, the UK has attracted online purchasing mainly from EU countries. Figure 5 shows the locations of Internet purchasing sellers and highlights that the dominant amount of purchasing appears within the country while the second largest proportion of purchasing is from the rest of the world and the EU. Meanwhile, the booming growth of

cross-border transactions between China and the UK has accounted for 38% of the purchasing as the top importer through e-commerce purchasing among the rest of the world (in Oct 2016) [242]. The US with 24% is the third main e-commerce trade partner after the EU and China.

10.3.1 Business category and model

So far, cross-border e-trade between the UK and the EU countries still uses the Free Trade Agreement as the preferred trading channel. However, there could be uncertainty regarding customs under the soft, hard or even WTO framework. The soft break model would lead to less household welfare in the UK in the mid- and long-term; this may potentially have less negative impacts on e-trade between the UK and other EU countries.

On the other hand, the signed partnership agreement between the UK Trade and Investment (UKTI) with the Shanghai Cross-Border E-Commerce Public Platform may significantly offer support for SMEs in the UK to increase their exports to China through bonded exports in a special free trade zone in Chinese pilot cities.

10.3.2 Cross-border-related issues and challenges

The challenges of cross-border issues for the UK come from both traditional issues and the uncertainty after Brexit. Traditional issues include: market selection; language; trust of transaction (moral hazard); data security; human resources and internal responsibilities; development prosperity; logistics; returns and tax issues. The emergence of e-commerce has expanded the map of cross-border e-trade to developing and developed countries. OECD countries with well-organized and large-scale markets have attracted e-commerce sellers from other countries. However, the emerging market with its relative preferential policies may also offer potential development opportunities

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242 Data for statistical analysis is from International Post Cooperation, "Cross-border E-commerce Shopper Survey, 2016".

for foreign sellers. The dilemma is therefore to balance high competition in the OECD countries' market facing uncertainty or extra risks from emerging markets. It is obvious for those companies from non-English speaking countries to operate cross-border e-trades through opening English websites and making contacts with buyers in English, etc.

The distance issue may cause moral hazard during the process of purchasing, delivery and funds transactions. Although the issue of the Data Protection Act 1998 and other related laws/regulations make the UK safer in terms of data protection compared with the EU countries, there are still 49% of survey respondents concerned about their data security. The great potential of e-commerce development includes increased human resources, access to new resources and the establishment of cross-border businesses. Logistical barriers exist due to the high shipping costs, extra fees at times of delivery, including duties and taxes and lengthy shipping times. Furthermore, the high return costs may be a consumer concern during cross-border e-shopping.

Political stability has a significant impact on cross-border e-commerce activity. Survey's shows that after voting to leave the EU, 51% of people expect that cross-border e-commerce will become more complex - no matter whether a Brexit deal can be successfully negotiated. Main impacts would focus on laws/regulations, geographic border issues and trade agreements. Finally, the strong fluctuation of taxation and foreign exchange rate leads to more uncertainty during cross-border transactions.

10.4 E-COMMERCE REGULATION AND LAW

10.4.1 Domestic e-commerce laws and regulations

Apart from some basic laws and regulations covering trade and other commercial activities, there are four main Acts Directives and laws that businesses must comply with when selling goods and services online.

The Distance Selling Acts 2000

This act concentrates on the consumer rights while others are more focused on e-commerce business regulations in terms of business setup and confidential information protection.

The Data Protection Act 1998 and ICO Cookie Law

Customer information including addresses, preference, personal details and characteristics can be collected by business partners through e-commerce for marketing and even dealing purposes. In the UK, there are two laws aimed to protect the customers from inappropriate usage of this collected data from online buyers. The Data Protection Act 1998 clearly listed the most general regulations in terms of data collection and usage, notification to customers and constrains on data dissemination geographically.

The Electronic Commerce (EC Directive) Regulations 2002

The Electronic Commerce (EC Directive) Regulations 2002 was implemented in the EU's Electronic Commerce Directive 2000 into UK law. The directive was introduced to clarify and harmonize the rules of online business throughout Europe with the aim of boosting consumer confidence. In the regulation, e-commerce was defined as "any service normally provided for remuneration at a distance, by means of electronic equipment for the processing (including digital compression) and storage of data, at the individual request of a recipient of the service". The requirement for an information service to be 'normally provided for remuneration' does not restrict its scope to buying and selling online. It also covers services (in so far as they represent an economic activity) that are not directly remunerated by those who receive them, such as: those offering online information or commercial communications (e.g. adverts) or providing tools allowing for search, access and retrieval of data." However, the directives and regulations have exceptions to taxation; betting, gaming or lotteries; data protection; the activities of a public notary; the representation of a client and defense of his or her interests before courts; or cartel laws.

Consumers' Rights

The Distance Selling Act 2000 and the Electronic Commerce (EC Directive) Regulations 2002 focus on consumers' rights. The Distance Selling Act 2000 listed comprehensive regulations to protect consumers' rights excluding B2B transactions. However, the contract sections of the Electronic Commerce (EC Directive) Regulations 2002 list the very important principle that the "Country of Origin" principle is not applicable to the terms of consumer contracts. Therefore, one may need to comply with regulations of countries where the customers are located.

10.4.2 Government policies and initiatives to support e-commerce

Government ICT Strategy – the Strategic Implementation Plan published in 2010 was a long-term programme of reform to improve government ICT services and promote savings. The application of the thirty specific actions, which form the foundational activities, was required to attain the strategy's four core objectives of: reducing waste and project failure; stimulating economic growth; creating a common ICT infrastructure; using ICT to enable and deliver change; and strengthening governance.

The plan was withdrawn in 2014, 24 months after its publication in 2011. The new guidance of ICT services established by the government is based on eighteen "Digital Service Standards" given by the service manual team. During the 24 month application of the Government ICT Strategy, the Cameron government signed and kept updating the progress of four sub-strand strategies annually. The Greening Government

ICT Annual Report summarized the completeness of ICT government greening activities, showing a steady increase of ICT services and the establishment of related datasets for analysis. Until 2015, over 80% of the department achieved Level 3 maturity in: governance and promotion; architecture; greening their end users' support arrangements; consolidation and utilization of devices; procurement; travel reduction; resources; space and energy optimization; corporate reporting with significant improvements for information and data management; investment decisions; running projects; solution design and electronically enabling customer services.

10.5 CHALLENGES AND RECOMMENDATIONS

10.5.1 Challenges for ICT infrastructure

Challenges for domestic e-commerce development

The big impacts of Brexit caused uncertainty not only in the effects on international trade exploration with the EU but the very high "Divorce Bill" that could predictably lower the disposable income level as well as the consumption confidential index in the following decades. Indeed, it may lead to the decline of e-commerce sales in terms of real value. Moreover, the uneven distribution of e-commerce businesses by the size of firms and regions could be a traditional barrier for SMEs to adopt new technologies through innovations. The SME clustering in London showcases the big advantages of ICT in large cities and the potential economic agglomeration by exploring more businesses from the e-commerce market. In this context, the proper distribution of SMEs involved in e-commerce through the establishment of ICT infrastructure and new policy is a key topic to be discussed.

Challenges for cross-border e-commerce development

The big impacts of Brexit could be the primary challenges for government regulations on cross-border e-commerce with EU countries. Meanwhile, the increasing import tariffs by the Trump government may also have indirect impacts on the Chinese domestic economy with which UK intends to extend the value of its cross-border e-commerce exports.

Challenges for government regulation

After the occurrence of Facebook's user information leakage incident, data protection is the top challenge when the government supervises online communication and business information. Proper regulation addressing data storage-preventing improper usage of individual or household data along with transparent collaboration with related business parties are potential paths to solve similar latent issues in the future.

10.5.2 Strategies and recommendations

In order to overcome each of the barriers mentioned above, recommendations might be proposed from the macro, meso and micro perspectives, for example, at the firm level, within the immediate business environment, and at the national/international level.

10.6 MICRO AND SMES (MSMES) AND E-COMMERCE

10.6.1 MSME landscape in the country

MSMEs play a dominant role in the UK, especially in micro businesses (unregistered), in recent years and overall, the share of MSMEs accounted for 99.8% of all businesses in 2017. Specifically the number of unregistered self-employed businesses has increased 52% since 2000. For registered businesses, the number of SME employees has increased by 59% since 2000, while the number of self-employed businesses increased from 0.85 million to 1.2 million with 28% higher than small and median business. The Small Business Survey also introduces the share of SME export goods/services and its trends experienced a 6% dropdown from 24% to 18% during 2007-2016.

Figure 6. Growth in the number of MSMEs, 2000-2016.
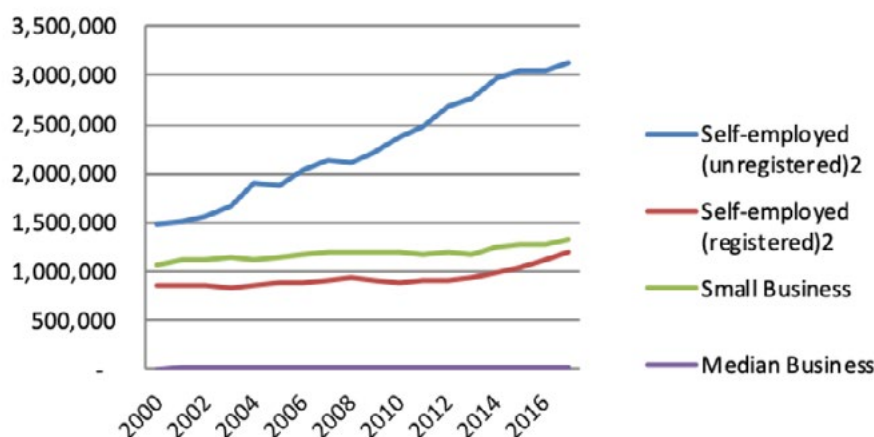
Data source: Office for Natinoal Statistics, Business Population for the UK and Region, 2017

The geographic distribution of SMEs businesses shows a strong variation and London, as the largest city, has the highest density of businesses. Generally, the concentration of businesses is higher in the south than in the north, whereas regionally, the density of businesses in England is much higher than Wales, Scotland and Northern Ireland. Consistent with previous conclusions, self-employed businesses are the most prominent type of SMEs in each region.

The total number of ex/importers kept increasing during 2013-2016 while the value of exports showed an unstable U-shape. The exports for SMEs are much smaller than larger businesses but show an upward trend which is contrary to the trends of large businesses. The EU, as the largest ex/import destination, plays a vital role in SME exports. SME imports in the UK increased 7.8% from both EU and the rest of the world during the time period. For the export destinations, the share of SMEs with two to five export destinations increased from 34% to 52% from October 2016 to February 2017.

10.6.2 E-commerce challenges for MSMEs

The e-commerce business done by SMEs may vary by the scale and size of businesses (Actinic, 2002; UK Online, 2002), industry sectors, and age of enterprises (Daniel and Myers, 2000). Figure 8 shows the e-commerce conducted by the SMEs by industry sector in 2014.

Figure 7. **The number and the employment turnover of SMEs by industrial sectors.**
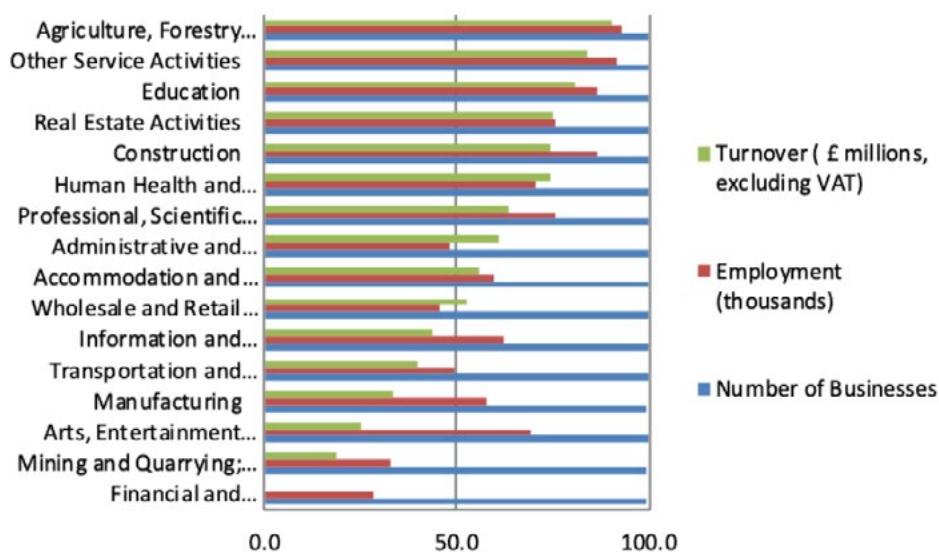
Data source: Office for Natinoal Statistics, Business Population for the UK and

Figure 8. **Share of SMEs that employed e-commerce solutions in the United Kingdom (UK) in 2014, by industry sector.**
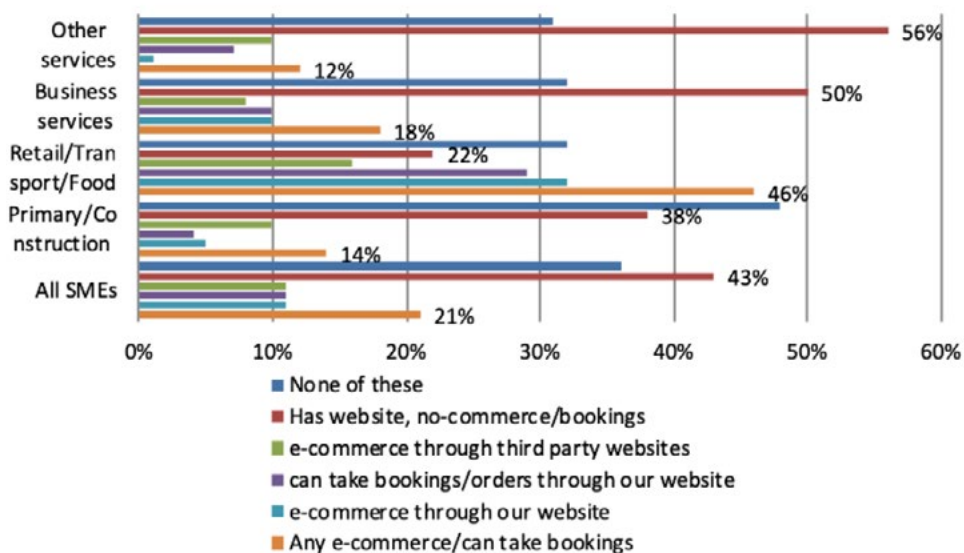
Simpson and Docherty (2004) summarized the general barriers of entry of e-commerce for SMEs in the UK – as listed in Table 1

TABLE 1. Summary of the reasons and barriers for SMEs adopting e-commerce.

Reasons for adopting e-commerce	Barriers to adopting e-commerce
To improve business competitiveness	The unwillingness of managers to be responsible for technological change
To try out new e-commerce models	Use of ICT to reduce costs and improve efficiency rather than for trading online
Management eagerness/motivated CEO	Fear of entry into global markets
The need for better communications	Readiness and adoption rates vary by industry sector
Admission to world markets	The older the SMEs, the less likely they are to use e-commerce
Greater opportunities for innovation in SMEs due to SMEs' smaller organizational structure	Integration of legacy systems is difficult
	Executive understanding is poor
Perceived benefits	Ignorance surrounds the technology, fueling concerns about security, costs, legislation and interoperability
Organizational readiness and external pressures	Legislation surrounds the technology, fueling concerns about security, costs
To increase sales	Legislation and interoperability
Impression management	Lack of profitable business models
Advertising costs can be reduced	Lack of qualified employees
Company size and perceived importance of e-commerce to business purpose	Complexity of available e-commerce services
To improve communications with customers	Limited resources
External pressures from a new type of customer value proposition	Costs
Responding to competitors	Lack of awareness of what is involved
Low entry costs	Lack of skills
To enhance customer relationships	Lack of knowledge
The Internet as a "lifesaver" for ailing businesses	Lack of help
May reduce working hours for owner/manager in some businesses	Lack of time
	Inadequate telecommunications infrastructure
	Lack of trust
	Lack of relevance to their particular industry sector
	Lack of SMEs bespoke information
	Wrong type of product or service for e-commerce

10.6.3 Existing support for MSMEs engaging in e-commerce activities

The current support of e-commerce activities for MSMEs mainly focuses on business development and innovation through financial support. The access to finance barriers for MSMEs can be overcome by using e-commerce means. The 2017 Business Finance Survey of SMEs shows that crowdfunding has become the emerging spot of SMEs financing in recent years, and 60% of SMEs have realized that crowdfunding, leasing/hire purchase and venture capital are the new funding models to adopt. East England has become the region demonstrating the most willingness to consider crowdfunding as a financing method. However, the share of SMEs that wish to engage in P2P2 lending and crowdfunding are 18% and 19% respectively.

PART III:

OUTLOOK AND POLICY RECOMMENDATION OF E-COMMERCE COOPERATION AMONG BRICS PLUS COUNTRIES

1. COMMON CHALLENGES AND RECOMMENDATIONS FOR BRICS PLUS COUNTRIES

1.1 COMMON PROBLEMS AND CHALLENGES

Despite the vast opportunities presented by a digital economy, BRICS Plus countries have yet to overcome challenges to fully realize their potential in harnessing e-commerce for sustainable development. In addition to the absence of national legislation to support cross-border e-commerce, developing countries in BRICS Plus face barriers related to poor ICT infrastructure, trade facilitation and logistics, e-payments, and inadequate skills development. National strategies to understand the underpinnings of e-commerce are also lacking in many countries.

1.1.1 Challenges for ICT and other infrastructure

Typically, most developing economies are plagued by inadequate ICT infrastructure and power supplies, limited credit card usage as a payment option, underdeveloped financial systems, and a lack of purchasing power, which must first be addressed for an online economy to function well.

1.1.2 Challenges for domestic e-commerce development

Challenge #1: Lack of technical skills and business knowledge

The technical skills required to set up online operations may include coding, editing images, providing accurate product descriptions and navigating e-commerce platform memberships. Business knowledge refers to the ability to analyze the business success of e-commerce operations, including understanding market demand and defining growth strategies. For business knowledge, the common challenges among BRICS Plus e-commerce firms are a lack of market information and understanding of successful business models for e-commerce. While the majority see e-commerce as a channel for distribution, some companies also use it as a way of gathering market information.

Whereas technical skills and business knowledge are related to the establishment phase, when companies attempt to create their online business, lack of online visibility is a major obstacle in the operational phase, when the shop is online and operational. Online visibility in the operational phase is also a knowledge and skill issue. However, compared with the knowledge and skills required for setting up a virtual business, improving online visibility involves much more sophisticated technical skills, such as search engine optimization, and business knowledge to operate in different markets and manage online marketing and promotions.

Challenge #2: Accessibility and affordability of e-commerce platforms

Access to e-commerce platforms is also a more prominent issue for companies from BRICS Plus countries. Several reasons are highlighted for being denied access to e-commerce platforms, such as: companies are unable to provide proof of formal company registration, trading history, identity of directors or managers of the firm; companies do not have access to an online payment mechanism. Companies from Africa find it more challenging to meet documentation requirements, particularly trading history. Obtaining an internationally chargeable credit card could already be a challenge for some micro-sized firms operating in BRICS Plus.

In addition to, or in place of, membership fees, some e-commerce platforms charge a relatively high commission on the sales conducted through the platforms. Some e-commerce platforms, for example, may charge up to 40% commission on sales. Large international platforms usually charge between 7% and 15% commission. These rates are set depending on the estimated or perceived operational costs and risks, which means that rates are usually higher in developing countries and LDCs of BRICS Plus countries.

Challenge #3: Limited data interoperability and transferability between e-commerce platforms

Interoperability and transferability of data between e-commerce platforms are also reported as challenges for some BRICS Plus countries. Companies often cannot freely transfer their data from one e-commerce platform to another and need to manually recreate their online shops if they want to operate on a new platform. Apart from the additional cost of manually creating a new shop, the greatest challenge is the non-transferability of transaction records.

Transaction records are a verifiable trace of a company's performance and trustworthiness, which is vitally important for online businesses to attract new consumers or partners. E-commerce platforms typically claim ownership over these transaction records and other transaction-related data, which may imply a high platform-switching cost for e-commerce firms.

Challenge #4: Shortage of access to e-payment solutions

For e-payment, the main challenges include a missing link between third-party e-payment service providers and local banks. Besides, difficulties with e-payment security, such as signing up for a secure socket layer (SSL) certificate, the long time required for processing payments, inability to make withdrawals from e-payment accounts or transfer to their local banks should be paid attention as well.

The lower uptake of e-payment solutions in some BRICS Plus countries are economic in nature (inadequate ICT infrastructure and use, an unreliable and costly power supply, limited use of credit cards, lack of purchasing power and underdeveloped financial systems); sociopolitical (weak legal and regulatory frameworks, cultural preferences for face-to-face interaction and reliance on cash in society); and cognitive (poor ICT literacy, awareness and knowledge of e-commerce).

Despite the benefits associated with e-payments, a majority of SMEs have generally been slow in adopting the use of e-payment systems. In Indian slums, for example, businesses perceive cash as a more convenient and safer mode of payment[243]. In some cases, slow adoption is associated with implementation or regulatory constraints, or with the providers having focused initially on unsophisticated micro finance institutions as partners. The limited trust in online transactions is one of the reasons for the limited use of e-commerce by SMEs.

Cash on delivery are still prominent in some BRICS Plus developing countries like India, Cambodia and Ethiopia. Overall, there are different reasons for a strong reliance on cash on delivery in developing countries. Lack of access to e-payment solutions is the major factor behind the prevailing use of cash payments in developing countries. In addition, a lack of trust in e-payments may also be an underlying reason for low uptake from both consumers and companies. Since fraud with credit cards happens often, cash payment is often perceived to be a safe and universally accepted payment method. From an e-commerce perspective, reliance on cash results in higher transaction costs, as cash on delivery can only take place if the buyer is present to both receive and pay for the product. Statistics covering the Indian e-commerce platform Flipkart show that 1.2 delivery attempts were required per order in 2017, when 80% of all orders were cash on delivery[244]. This implies an increase of 24% in labor cost in last-mile delivery, i.e. from warehouse to the consumers[245].

1.1.3 Challenges for cross-border e-commerce development

Challenge #1: Need for domestic registration to sell through marketplace platforms

Many firms, especially SMEs are not familiar with the registration requirements. In most BRICS Plus countries, businesses are required to comply with a list of requirements indicated in various laws and regulations, and fulfilling these requirements implies that the online seller has a local business presence. The same + is required for cross-posting in cross-border e-commerce platforms. While registration requirements may be less of an issue if both sellers and platform operators are based in the same economy, it is a challenge if they are located in different economies. For instance, it would be difficult for a Russia-based seller that is not registered

as a business in China to open an account with a China-based platform operator.

Challenge #2: Physical obstacles involving delivery, customs and logistics

For the cross-border e-business, FIATA (International Federation of Freight Forwarders Associations) has identified physical challenges as well: (i) long distance delivery involving more checkpoints, segments, and coordinators, results in a complicated process that requires precision; (ii) providing logistics transportation plans to suit FIATA users' different needs; and (iii) transparency is a major concern as users want to know the status of their goods at all times. The World Customs Organization shows that data quality is a concern as many customers who send goods by international shipment are occasional shippers and are often not fully conversant with the requirements to ensure data quality.

Challenge #3: Insufficiency in branding and marketing

Branding and marketing is one of the most important intangible challenges for cross-border e-commerce. For buyers, one main reason for the attractiveness of e-commerce as a shopping channel is the relatively low price of listed products when compared to those sold in brick and mortar shops. Majority of sellers engaging in online platforms generally lack the economies of scale to produce more competitively-priced products relative to large firms. Firms must have a unique value proposition, besides price, to succeed in e-commerce. While marketplace platforms such as T-mall or Amazon help in accessing more buyers, sellers have to learn the 'tricks of the trade', i.e. to make their products stand out and be found among a whole lot of competitors. Increasing the visibility of their products requires engaging in branding and marketing activities. For example, if firms only re-package domestic products to facilitate their sale on international markets - it is not a feasible strategy because a product that might be popular in domestic markets may not be as attractive to international consumers. Many SMEs often lack the capacity to undertake market research and adapt products to different markets. Indeed, marketing costs are identified as the main difficulty for SMEs to engage in cross-border e-commerce.

Challenge #4 Language translation and information search difficulty

For cross-border e-commerce, it is imperative that information is translated accurately in the buyers preferred language. Many BRICS Plus SMEs face difficulties translating product descriptions from own languages to other languages such as English, Chinese and so on. Moreover, SMEs often lack the ability to price their products correctly, taking into account the logistics costs, taxes and duties in the destination markets partly because this entails significant efforts to gather information in these different economies.

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[243] Deepti, K.C. & M. Tiwari (2017). Understanding the movement of cash of the privately led enterprises in Dharavi and scope for electronic or mobile payments
[244] BI Intelligence (2018)
[245] Ibid

Challenge #5 Exchange rate losses and banking regulations

Payment system operators set the foreign exchange rates when it transfers payment to sellers in its domestic currency. This arrangement leaves sellers at a disadvantage if they have no other options. First, the foreign exchange rates used may be lower. Second, they may prefer to keep the sales in internationally traded currencies like the US dollar, Euro, Yen, or Chinese Yuan in order to facilitate purchase of production inputs. Third, they may want to time when and how much to withdraw from their foreign exchange accounts to take advantage of more favorable exchange rates. However, not all online sellers have the capability to open different foreign exchange accounts.

In addition, some marketplace platforms like Taobao that uses Alipay as a payment service provider require sellers to have a local bank account in China. While this is not an issue for domestic sellers, cross-border sellers (for ex. from the Republic of Korea) find this burdensome, making the services of intermediary firms who, in addition to registering locally do the open local bank accounts, even more indispensable. For foreign remittances, limits on the amount that can be transferred out of China can be another hurdle.

1.1.4 Challenges for government regulation

Even as BRICS Plus developing countries further strengthen their capacity for e-commerce, most of them face institutional issues, such as complicated border clearance procedures and red tape, and disharmonized customs requirements between states hinder intra-regional trade. Market-related risks, such as fraud, costs of adaptation, and a risk of crowding out also serve as barriers to entry. Governments must balance short term costs—such as the risk of losing tax revenue, the risk of job losses, and the risk of widening divides against potential long-term gain. Additionally, certain sociopolitical barriers must also be overcome, such as weak legal and regulatory frameworks relating to online transactions and cybercrime, cultural preferences for face-to-face interaction, and the society's reliance on cash.

1.2 STRATEGIES AND RECOMMENDATIONS

Given the challenges and diversity of e-commerce penetration in BRICS Plus, it is crucial for countries to develop national strategies that include measures to increase the awareness of e-commerce and its benefits across various stakeholders, to open the door for greater participation by individuals and businesses.

For the government, more concerted efforts are needed to ensure a comprehensive review of priorities with regard to e-commerce as well as to institute profound policy and structural reforms with broader stakeholder participation. UNCTAD (2015) suggests that policies that support infrastructure, e-payment solutions, human resources, and the legal framework should be among the goals.

The private sector needs to focus on market infrastructure to support a digitally-driven economy. This means being able to develop new business models and encourage innovation to realize the full impact of digital connectivity in well-functioning markets. Concerns regarding: online privacy; quality of goods and the associated guarantees on returns; logistics and transportation; and inadequate payment systems from the consumer side should be addressed completely. On the production side, issues relating to payment processing capabilities, logistics and transportation concerns, and high adjustment costs undermine the positive impact of e-commerce in business operations and should be prioritized.

Individuals and firms should be willing to educate themselves and acquire the necessary knowledge to make them accountable for implementing the e-commerce initiatives provided by the government and the private sector.

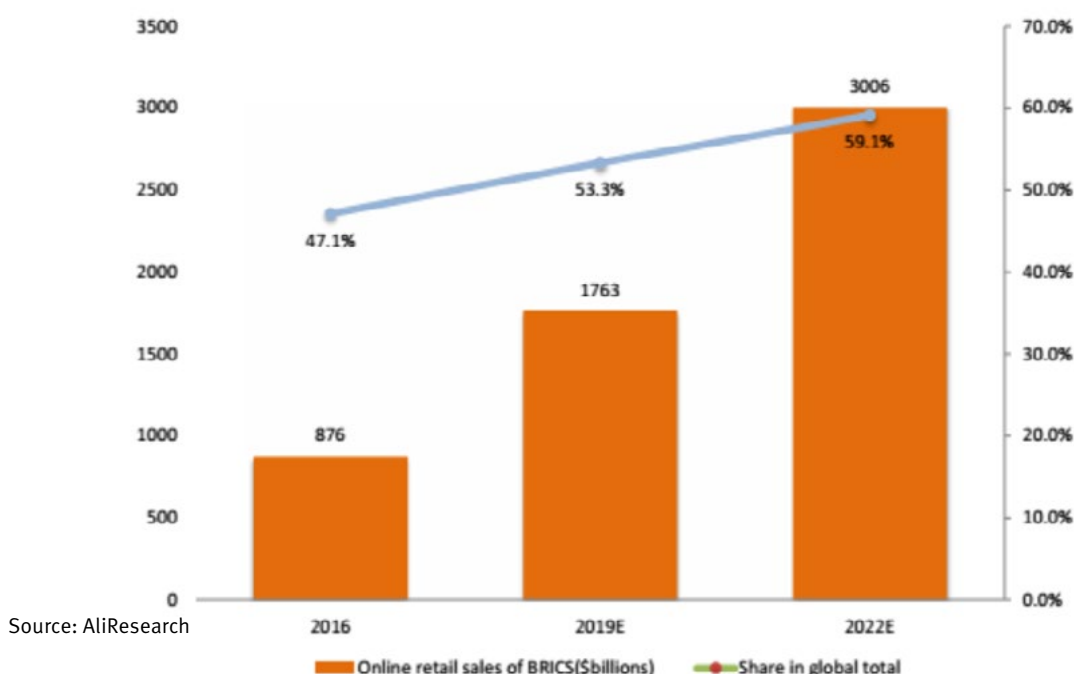# 2. POTENTIAL OF E-COMMERCE COOPERATION AMONG BRICS PLUS COUNTRIES

China has become the largest and fastest-growing e-commerce market around the globe, while the markets in Brazil, Russia, India and South Africa are also growing rapidly. By 2022, the number of online shoppers in BRICS Plus countries is expected to reach 1.35 billion, accounting for 61% of the global online shoppers. Their online retail sales will rise to US $3 trillion, contributing 59% of the world total; in particular, BRICS Plus countries will consist of 41% of global cross-border online retail with the sales climbing to US $553.6 billion[246].

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[246] Ali Research, 2017.

FIGURE. 1 Online retail sales of BRICS Plus countries (2016-2022)

Source: AliResearch

As a group of the world's most dynamic emerging economies and the model of cooperation among the developing countries, BRICS countries have great potential in promoting e-commerce development and implementing cooperation. In recent years, BRICS countries have implemented active and fruitful efforts and explorations in e-commerce cooperation.

In 2015, the BRICS leaders endorsed the Framework for BRICS E-Commerce Cooperation, which aims to better integrate BRICS e-commerce markets, identify methods and approaches to enhance e-commerce cooperation.

In 2016, the BRICS Trade Ministers' Communiqué emphasized the importance of cooperation on e-commerce, and BRICS leaders further committed, in the Goa Declaration, to strengthen them.

During the BRICS Dialogue on E-commerce held in

May 2017, BRICS governments agreed on the BRICS E-Commerce Cooperation Initiative, which mainly includes the following contents:

» Firstly, strengthening BRICS e-commerce cooperation mechanism, facilitating the establishment of the BRICS E-Commerce Working Group and comprehensively advancing pragmatic cooperation;

» Secondly, enhancing interactions within BRICS e-commerce industrial communities, actively carrying out exchanges and dialogues; and

» Thirdly, carrying out joint research on e-commerce, summarizing the status quo of e-commerce in BRICS countries and proposing suggestions for expanding in-depth cooperation. Currently, BRICS countries are carrying out further negotiations on the cooperation initiative, with significant progress expected to be made forthcoming BRICS Leaders' Summit.

Finally, BRICS countries have promising cooperation prospects with other developing economies in the field of e-commerce. In the context of rapid development of digital economy and e-commerce around the globe, BRICS Plus countries should take full advantage of the historic opportunity arising from e-commerce and

optimize domestic e-commerce policy and business environments. Especially, as for new technologies and new business types, BRICS Plus should actively reinvent regulation methods and improve service levels to facilitate digitized transformation and upgrading of all industries.

The BRICS Plus should enhance dialogues and coordination on e-commerce policies in multilateral trade systems, regional trade arrangements and bilateral mechanisms, to facilitate mutually beneficial opening, communication and cooperation in e-commerce-related industries, and therefore provide a new driver for BRICS Plus economic and trade cooperation.

FIGURE. 2 Cross-border online retail sales of BRICS Plus countries (2016-2022)
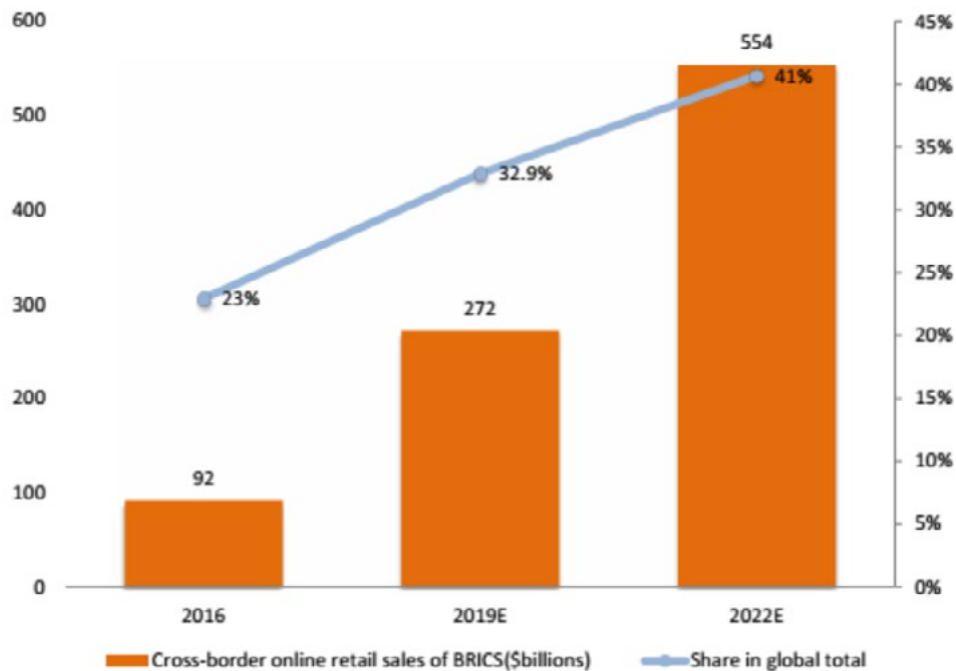
Source: AliResearch

3. PROMOTION OF DIALOGUE TO IMPROVE THE BUSINESS ENVIRONMENT OF E-COMMERCE

Strengthening institutionalized cooperation between public and private sectors from BRICS nations is a prerequisite for a stronger voice in the market. Statistics from the UNCTAD (United Nations Conference on Trade and Development) show that by 2018, 40 % of e-commerce's "business-to-consumer" service will be happening in developing countries and countries in transition, and the share for developed countries will drop to 60 %. BRICS Plus nations could standardize e-commerce protocols for international trade organizations and they are currently working on the possibility of cooperation and will release uniform e-commerce rules for its member countries.

The following are some suggestions on how e-commerce challenges can be addressed, and opportunities enabled through multi-stakeholder cooperation and dialogue:

I. Collaborate with shippers, carriers and border agencies to assess the risks and opportunities presented by e-commerce and enable policy makers to design smart and effective policies that both secure and facilitate the growth of this increasingly important economic activity.

II. Coordinate efforts by export and import countries, online platform providers and intermediaries such as the express industry to both raise awareness and facilitate compliance with revenue, safety and security obligations.

III. Refrain from erecting new barriers against e-commerce shipments, such as increasing inspection rates, requiring additional documentation like ID or passport data which many countries are doing or considering.

IV. Learn from new duty/tax collection models such as the vendor collection model as discussed by the OECD. This account-based revenue collection model is the same that is applied to domestic transactions. Therefore, it would establish a level-playing field between international and domestic transactions.

V. In the meantime, maintain commercially meaningful de minimis thresholds for all customs and taxes, at a minimum in line with the provisions contained in the WTO Trade Facilitation Agreement.

VI. Develop e-customs and e-taxation solutions that are paperless, connect with all relevant stakeholders and use intelligence-led and risk-based selectivity and targeting to improve the identification and targeting of high-risk shipments.

VII. Allow fair competition among public and private delivery service providers that reduces transportation costs, increases the quality of service and promotes the growth of e-commerce.

VIII. Consider negotiating multilateral or plurilateral trade rules to promote and facilitate e-commerce.

To facilitate cross-border e-commerce, international cooperation and coordination between different countries and development partners are essential. For example, countries and development partners can work toward the standardization of simple, transparent, and effective processes for global business and the efficient and automated exchange of information to simplify e-commerce.

Regular dialogues in BRICS Plus countries between various regulators and market players are useful to understand emerging technology trends. It is also important to hear policy developments that may be useful to replicate in other economies. For example, China's experience of digital free trade zones may provide lessons for others.

The regulatory environment is also key for sound development of the e-commerce sector. The B20 policy recommendation in 2017, for example, calls for G20 members to, "align their e-commerce-related policies with existing international principles and guidelines"[247]

Modern trade agreements should also focus on e-commerce and incorporate stand-alone chapters on e-commerce, aiming to ensure that companies and consumers can access and move data freely (subject to safeguards), prohibit the imposition of customs duties on digital products, and require members to respect consumer protection laws related to fraudulent and deceptive commercial activities online.

There has been a significant increase in the number of submissions related to e-commerce and discussions are geared toward enhancing the exchange of best practices and finding ways to address developmental challenges. Regarding e-signatures, for example, Argentina, Brazil and Paraguay shared their approach within MERCOSUR, addressing e-signature and advanced e-signature, its principles, mutual recognition, liability, and protection of personal data.

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[247] The Business 20 (B20) is the official G20 dialogue with the global business community. The B20 strives to deliver concrete, actionable recommendations to the G20.

4. CAPACITY BUILDING TO ASSIST MSMES TO INCREASE PARTICIPATION IN GLOBAL AND REGIONAL MARKETS

For some developing countries and LDCs in BRICS Plus countries, addressing the challenges of e-commerce literacy and capacity may also be important. For a functional e-business or e-payment system, providers need to be able to recognize the identity of their users, comply with standards and offer uninterrupted and reliable services. Adequate infrastructure for e-payment, in terms of telecommunication and banking networks, electricity, and ID systems, need to be in place for a functional e-payment ecosystem. Supporting financial literacy may also be important to increase awareness and knowledge and encourage a greater uptake of e-payments.

Actions could be conducted both nationally and internationally to strengthen firms' capacity and to improve their understanding of e-commerce. At the national level, capacity-building efforts could be tailored through different trade and investment support institutions (TISIs). There are national associations exclusively dedicated to e-commerce such as the Argentinean Chamber of Electronic Commerce. Such activities contribute to increasing firms' knowledge while offering visibility from potential clients, at least at the domestic level.

Similar initiatives take place at the regional level. E-commerce Europe, for instance, is an association founded by national e-commerce associations and represents more than 25,000 companies selling online to consumers in Europe. They offer an online certification for companies to obtain European Trustmark labels in order to increase consumers' trust when purchasing across European countries.

The following specific activities could be considered in this perspective:

   I.   Identify chokepoints and measures for businesses, especially MSMEs, to participate in cross-border e-commerce.

  II.   Identify, share and develop best practices among economies, especially MSMEs to participate in cross-border e-commerce.

 III.   Identify supply-side gaps such as knowledge of market expertise and trade rules, standards and service quality required to support the use of cross-border e-commerce in the region.

 IV.   Actively encourage public and private sectors to develop and implement projects in appropriate fora to address issues related to MSMEs' participation in cross-border e-commerce.

  V.   Encourage cooperation and collaboration between public and private sectors such as Public Private Partnership (PPP), Public-Private Dialogue (PPD) on existing and emerging issues in cross-border e-commerce.

 VI.   Support capacity building activities within economies to facilitate MSMEs' gain on e-commerce.

5. FACILITATION OF CROSS-BORDER E-TRADE AND THE DIGITAL ECONOMY

To achieve the objective of facilitating cross-border e-commerce, BRICS Plus nations should focus on the following working pillars.

Pillar #1: Promote transparent and predictable legal and regulatory measures that are business friendly and coherent to facilitate cross-border e-commerce in the region.

The lack of coherent policies and regulations on e-commerce has been one of the obstacles for cross-border e-commerce. Therefore, efforts should be made to assist BRICS Plus economies, especially developing economies, to understand and develop transparent and predictable regulatory and legal framework for cross-border e-commerce, with the aim of promoting better alignment among economies throughout the region. Consequently, working towards sharing best practices in e-commerce regulations in the region remains a priority to create a favorable environment to facilitate cross-border e-commerce and promote online consumer protection. The following activities could be considered in this perspective:

    I.   Review existing legal and regulatory issues related to cross-border e-commerce including but not limited to digital products.

    II.   Consider existing international standards and guidelines.

    III.   Identify choke points and measures to cross-border e-commerce from both a legal and regulatory perspective.

    IV.   Promote dialogue and interaction on new legal and regulatory issues among government agencies and other related stakeholders.

        Promote transparency and predictability in implementation of e-commerce regulations.

    V.   Share best practices as useful tools for capacity building of policymakers.

    VI.   Encourage BRICS Plus economies to undertake reviews of their domestic e-commerce policies.

    VII.   Conduct research on emerging technological and regulatory trends in e-commerce.

Pillar #2: Strengthen cross-border data privacy protection.

The importance of effective protection of information and data privacy should be recognized, while information and data flows among economies in BRICS Plus nations and among their trading partners need to be maintained. The following activities could be considered in this perspective:

    I.   Promote appropriate domestic data privacy protection for personal information.

    II.   Encourage BRICS Plus economies to update their individual data privacy action plan.

    III.   Facilitate discussion between the BRICS Plus privacy framework and domestic regulations to ensure the coherent and consistent approach to data privacy regulations.

    IV.   Support capacity building efforts among the BRICS Plus members to enhance their domestic data privacy regulations.

    V.   Share experience and best practices on issues related to cross-border data privacy regulations and policies.

    VI.   Enhance and strengthen international collaboration aimed at promoting interoperability between privacy frameworks.

    VII.   Continue regional monitoring developments in and share information with other international fora on cross-border privacy issues and initiatives.

Pillar #3: Facilitate cross-border paperless trade between BRICS Plus countries.

It is recognized that paperless trade, the advanced electronic submission and processing of documents is a key foundation of trade facilitation, and hence continued efforts to strengthen paperless trade are critical to the efficient processing and clearance of e-commerce shipments. BRICS Plus countries are encouraged to consider approaches to cross-border paperless trade facilitation in cooperation with the business community, particularly with MSMEs in the region. In addition, BRICS Plus economies could consider implementing the WTO Trade Facilitation Agreement (TFA), particularly those provisions which aim to make more information related to customs procedures available on the Internet (Article 1, Article 7 and Article 10).

The following ways to further facilitate cross-border paperless trade could be considered:

    I.   Identify chokepoints and build capacities for further facilitating cross-border paperless trade including business-to-consumer (B2C), business-to-business (B2B) and government-to-business (G2B).

    II.   Establish a favorable environment to facilitate cross-border paperless trade through streamlined shipments and clearance goods while supporting risk management.

III. Identify chokepoints and work towards strengthening the use of e-payment systems while ensuring security.

IV. Share best practices and support capacity building on cross-border paperless trade regulatory approaches including single window development and border management.

V. Working with the relevant sub-fora, explore other technologies and innovations to further facilitate cross-border paperless trade, while supporting effective risk management.

VI. Conduct collaboration with other international fora and organizations in this area such as the United Nations Commission on International Trade Law (UNCITRAL), World Customs Organization (WCO), Universal Postal Unit (UPU) or National Postal Operators (NPO), World Trade Organization (WTO) and other relevant organizations outside.

Pillar #4: Address emerging and cross-cutting issues in cross border e-commerce.

Existing and emerging cross-cutting issues related to cross-border e-commerce needs to be taken into serious consideration. This would require BRICS Plus countries to collaborate closely to find the most suitable solution for such issues:

I. Research, study and understand new and emerging cross-cutting issues related to cross-border e-commerce.

II. Identify barriers and encourage best practices sharing in facilitation of cross-border information flows for cross-border e-commerce.

III. Encourage the sharing of best practices on online consumer protection, taxation issues on cross-border e-commerce operators.

IV. Identify and share best practices for the promotion of electronic authentication methods including electronic signatures.

V. Identify barriers and encourage best practice sharing in border management, including but not limited to goods inspections processes at the border.

VI. Coordinate with the UPU or NPO and other stakeholders involved in cross-border delivery and distribution to safeguard and improve the sustainability of cross-border e-commerce.

VII. Raise awareness of cybercrimes and the need for strong, effective security in the use of ICTs for cross-border e-commerce.

VIII. Maintain implementation of emerging information communication technologies and indus-tries ensuring interoperability in the sphere of cross-border e-commerce in the region.

IX. Promote better measurement of cross-border e-commerce and analysis on its economic impacts, including measurements examining negative impacts of relevant protectionist measures and anti-competition practices.

It is worth noting that Jack Ma, Executive Chairman of Alibaba Group, proposed the Electronic World Trade Platform (hereinafter referred to as eWTP) initiative in 2016, with a view of keeping pace with the latest trends of surging e-commerce, incubating global trade rules fitting the Internet era, better helping MSMEs and developing countries. This initiative has received wide attention and immense popularity from both private and public sectors home and abroad. In September 2016, the eWTP initiative was accepted as a major policy recommendation of the B20 and included in the G20 Leaders Communiqué at Hangzhou Summit[248]

According to the B20 consensus, the eWTP is a market-driven, private sector-led, multi-stakeholder initiative for public-private dialogue and partnership to share best practice, incubate new e-trade rules, foster a more integrated, inclusive and effective policy and business environment for the development of e-commerce and digital economy in the Internet Age. It promotes three main goals:

» Promotion of public-private dialogue to improve the business environment, including simplification and regulation on standards, and harmonization of taxes.

» Cooperation with international organizations such as the WTO to prioritize e-trade development needs.

» Facilitation of cross-border e-trade and the digital economy through development of e-trade infrastructure and the adoption of best practices such as cross-border e-commerce experiment zones.

In March 2017, Jack Ma and Najib Razak, Malaysian Prime Minister, announced a plan to set up an e-commerce hub (eHub) in Malaysia to boost trade and e-commerce in the region. The eHub will be a part of the collaboration between Alibaba Group and the Malaysian government in the development of a Digital Free Trade Zone (DFTZ) in Malaysia. Both sides will jointly build the eHub to make it part of the digital economy infrastructure of Malaysia and a gateway to the world for MSMEs in Southeast Asia. It is hoped that in the years to come, the business communities of BRICS could further enhance communication and cooperation in the field of advancing eWTP initiative, strengthening e-commerce cooperation, promoting digital economy infrastructure, and consequently make substantial contributions to realizing the inclusive growth for all people of BRICS countries and the whole world through development of e-trade infrastructure and the adoption of best practices such eWTP, EPEC, Digital Free Trade Zone (DFTZ), eHub, BRICS Plus Cross-Border E-Commerce Training (CBET), etc.

[248] Ali Research, BRICS E-commerce Development Report 2017.

6. COOPERATION WITH INTERNATIONAL ORGANIZATIONS TO PRIORITIZE E-COMMERCE DEVELOPMENT NEEDS

At the global level, international organizations and donors can play a role in helping developing countries and LDCs improve their e-commerce readiness by providing assistance, and encouraging information sharing and cooperation.

Examples of international initiatives that provide helpful frameworks to ensure compatible national regulations include: the United Nations Commission on International Trade Law (UNCITRAL), Model Laws on Electronic Signatures and Electronic Commerce; the United Nations Convention on the Use of Electronic Communications in International Contracts; OECD Guidelines for Consumer Protection in the Context of Electronic Commerce; and Guidelines created by regional organizations such as the Asia-Pacific Economic Cooperation Forum. WTO's Work Programme on Electronic Commerce has been examining the trade-related aspects of e-commerce since 1998. Members have agreed at each WTO ministerial conference to continue the practice of not imposing customs duties on electronic transmissions.

The WTO's Trade Facilitation Agreement (TFA), which came into force in February 2017, is mainly dedicated to the facilitation of cross-border delivery, and many provisions in the TFA are useful in the context of e-commerce. For instance, TFA addresses the release and clearance of goods including expedited shipments. As such, the payment of customs duties could be made after the release of goods, against the provision of a guarantee. TFA also proposes a single window to submit customs documentation. All these measures are useful for facilitating e-commerce operations.

The increasing number of low-value shipments and the challenges this poses for customs clearance has also been widely discussed in the World Customs Organization (WCO). WCO's Immediate Release Guidelines (IRG) are relevant for the cross-border delivery aspect of the e-commerce value chain. The Revised Kyoto Convention from June 1999 acknowledges how the pattern of trade has changed as a result of e-commerce and includes a provision on de minimis values.

United Nations Industrial Development Organization (UNIDO) has been devoted to help the BRICS countries achieve the 2030 Agenda, especially Goal 9. By initiating the project "Promote the development and cooperation of SMEs between China and other BRICS countries through e-commerce development", UNIDO is taking a number of actions to promote e-commerce development in BRICS countries, including the production of an annual report in cooperation with SASS, the development of an online e-commerce training manual to address the skill development barriers in BRICS nations, and the facilitation of the establishment of Industry Alliances for E-Commerce. An Expert Group on "BRICS Plus E-Commerce Cooperation" has been formulated and meetings will be held on a regular basis to discuss e-commerce cooperation strategy. UNIDO and China's

Alibaba Group have been discussing deepening the cooperation on the Electronic World Trade Platform (eWTP) to support small businesses and sustainable development through e-commerce.

To mitigate risks related to e-payment and international transfer, inter-governmental bodies such as the Financial Action Task Force, that develops and promotes policies to protect the global financial system, have issued guidelines for a risk-based approach for prepaid cards, mobile payments and Internet-based payment services in order to prevent such circumvention.

It is also important to strengthen interoperability and competition of the enabling services needed for cross-border delivery. Cooperation among logistics providers is essential to increase interoperability and avoid market concentration. In this regard, the UPU (Universal Postal Union) has a number of recommendations and initiatives to increase interoperability of postal and delivery services. International bodies such as the ICT (International Competition Network), an informal venue comprising 104 competition agencies, could help countries to work towards the coordination of best practices by sharing information and enhancing exchanges among regulators.

Finally, BRICS Plus countries could borrow the experiences in which there are already several regional or international initiatives seeking to increase cooperation in consumer protection, including: the Consumer Protection Cooperation Network and the European Consumer Centres Network in the EU; the Iberoamerican Forum of Consumer Protection Agencies in Latin America, Spain and Portugal; the Central American Council of Consumer Protection in Central America; the ASEAN Coordinating Committee on Consumer Protection in South-Eastern Asia; and the Consumer Forum of East Asia Nations in China, Japan and Korea.

APPENDIX

1. BEST PRACTICES AND BUSINESS MODELS

1.1 BRAZIL'S BEST PRACTICES AND BUSINESS MODELS

Brazil has several issues such as the underdeveloped logistical infrastructure, the lack of talent availability, the online vs offline integration, the low mobile conversion and the high costs for consumers to browse on the Internet.

1.1.1 Overcoming the problem of underdeveloped logistical infrastructure

Netshoes implemented Correios within their operation, which guarantees the agility of direct routing to the client's home, reducing delivery time to less than 24 hours, and a new specialized service option for e-commerce which allows Netshoes to identify if the source of an item comes from a retailer that contracted the service and hence prioritizes it for delivery in peak demand, guaranteeing service excellence. In addition, Netshoes works with more than 15 local logistics partners in each region of the country.

1.1.2 Overcoming the problem of lack of talents availability

B2W Digital has done so by maintaining all its recruitment and selection, training and skills development programmes in-house. Facing the increasing demand for qualified professionals to work in the digital market, the company has sought to both appreciate and provide specific training tailored for each associate's profile to increasingly leverage results. In total, 69,505 hours in 2015 was dedicated solely to awareness, technical and behavioral training.

1.1.3 Overcoming the online vs offline integration

Magazine Luiza online sales currently account for 22.5% of the company's revenue. The segment's gross revenues grew 33.6%, which boosted the entire business and helped drive profit growth by 243% in 2017. Its growth is the result of a strategy of integrating physical and digital operations. Sales, inventory, distribution centers, transportation logistics and office staff are the same for both channels. The company leverages its 670 physical stores spread across Brazil as a strong operational base for the growth of e-commerce. The same truck that takes the inventory to a store in a certain region can also deliver the purchases made by the site, clients can order online and receive at the nearest store for reduced shipping costs, and the online marketplace, inaugurated in 2016, allows SMEs to sell either at Magazine Luiza physical stores or online.

1.1.4 Increasing conversion on mobile app

Mercado Livre is the largest online marketplace in Brazil with more than US $7 billion in revenue in 2017. Last year they launched their new mobile app with a conversational toll where the client could contact the seller directly like in a WhatsApp/ WeChat. This toll boosted engagement bringing Mercado Livre App among the top 5 apps downloaded either for Android or Apple application stores. The main hypothesis behind this function was that consumers talking directly with sellers would increase confidence and thus sales.

1.1.5 Overcoming high costs for mobile web browsing

Vivo is the largest ICT provider in Brazil and offers a service to its clients called Vivo Ads. The mechanism works as follows: the company that hires the sponsored ads services of Vivo Ads can offer its final client navigation on the company's own app or website without consuming the user's mobile Internet package. As a result, the customers spend on average 80% or more of the time in the apps and websites of these companies which increases the possibility of relating digitally with the brand. Since May 2016, when Vivo Ads was launched, more than 50 campaigns were served by the platform.

1.2 RUSSIA'S BEST PRACTICES AND BUSINESS MODELS

1.2.1 Yandex.Money

Yandex.Money operates effectively in Russia. This is a non-bank credit organization in the form of LLC, which has a license for 4 types of banking operations, including e-money transfer. Yandex.Money offers customers 3 types of wallets: anonymous, registered and identified. The company offers the following types of customer identification: through the Internet (for Sberbank customers, those who were identified by another wallet), in the office of Yandex.Money, by mail, through agents in other countries (Belarus, Ukraine, Kazakhstan). Through Yandex.Money money can be transferred to bank cards, and consumers can make payments for goods, services, fines, receipts and taxes. The company also created Yandex.CashDesk, which allows users to connect the gains of electronic payments to the company's account: in online stores and online services, on sites and offline-payments from bank cards, Mastercard, Maestro, Visa, Mir and other ways. The cash desk is suitable for individual entrepreneurs and legal entities, working in Russia and abroad.

1.2.2 Global Rus Trade

Global Rus Trade is a leading Russian e-platform of B2B cross-border trade. It was developed under the SMEs cooperation of BRICS in 2015 and presented to BRICS partners. The portal is a practical initiative aimed at the realization of the goals of the Strategy for BRICS Economic Cooperation.

Global Rus Trade supports and promotes non-primary exports in BRICS countries, Latin America, and Southeast Asian countries. The portal is constantly improved on the basis of ongoing research on current problems and requirements of Russian and foreign exporters and importers. More than 1500 companies from 55 countries have already registered.

The platform is developed taking into account the best practices of the world's leading e-platforms and implementing vital features for small and medium-sized businesses to enter new markets. The advantages of Global Rus Trade are the following:

» Free basic registration

» A large catalogue of active Russian companies and their goods and services

» A verification system of client-companies, which consists of automatic checking of the website and personal requests

» Culturally adaptive

» Automated translation into 10 languages

» Support from experts during the transaction

FIGURE .1 Fixed-broadband subscription rate (%)
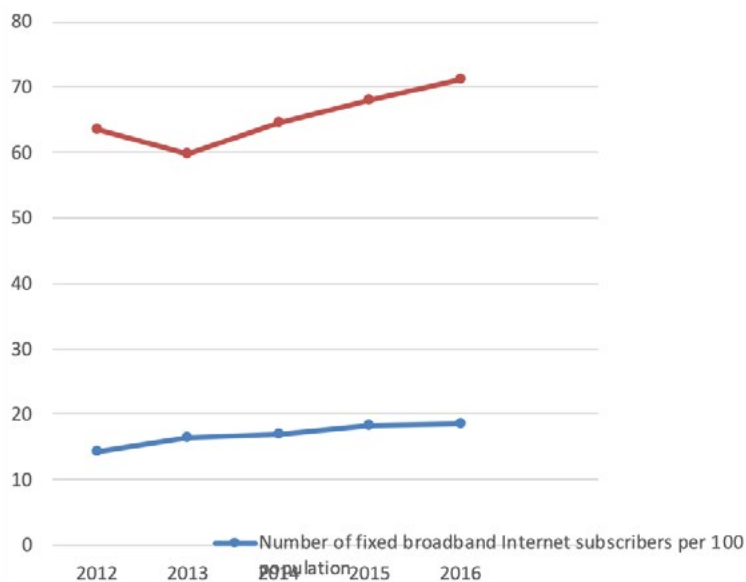
Source: Russian Federal State Statistics Service.

FIGURE 2. Share of the population using Internet for ordering goods and (or) services
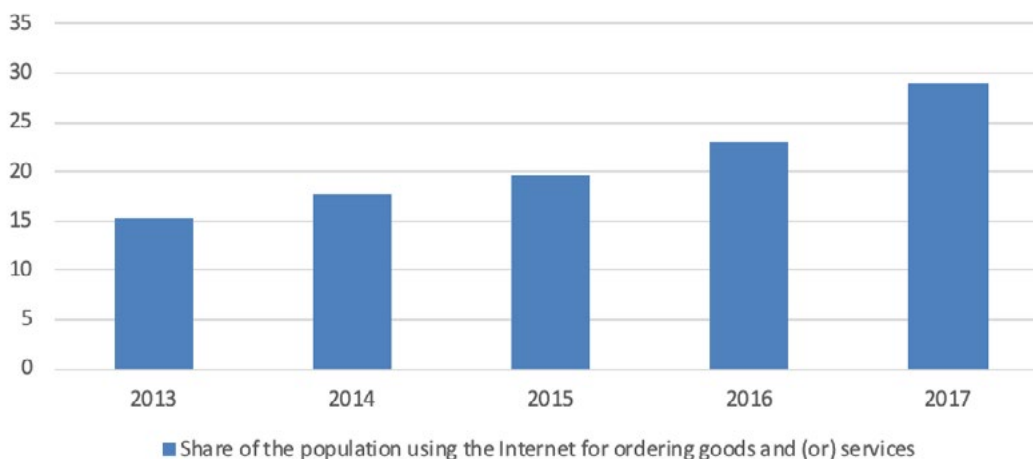
Source: Russian Federal State Statistics Service.

FIGURE 3. The distribution of imported parcels in 2017

China · USA · EU · Other countries
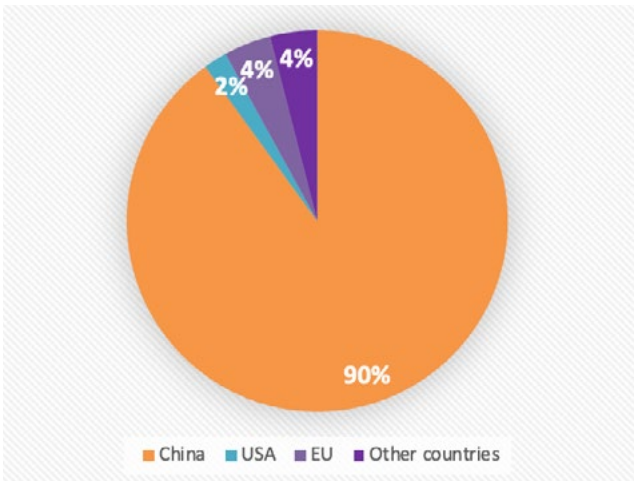
Source: National Association of Distance Trade (NADT)[249] .

FIGURE 4. Volume and growth rate of cross-border trade in Russia – import

billions of rubles
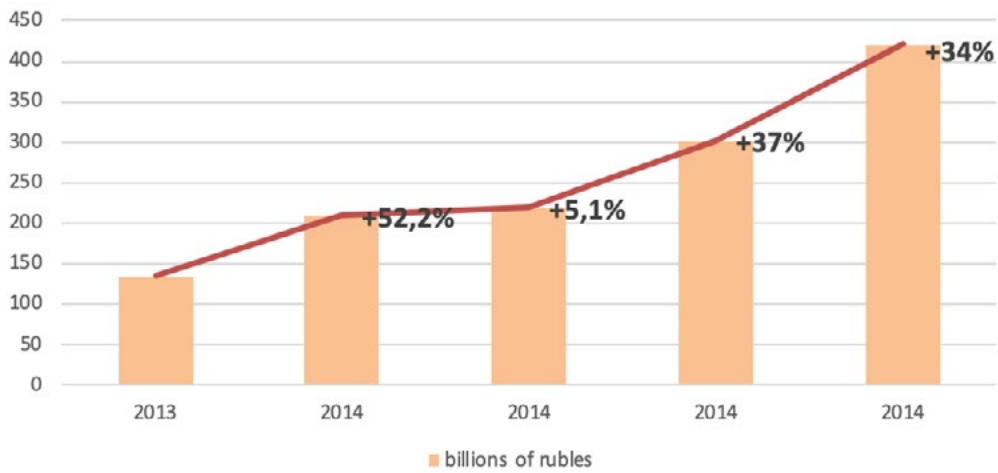
Source: Russian Association of Internet Trade Companies (AITC) [249] .

FIGURE 5. Volume and growth rate of Internet market in Russia – import

billions of rubles

domestic trade · international trade
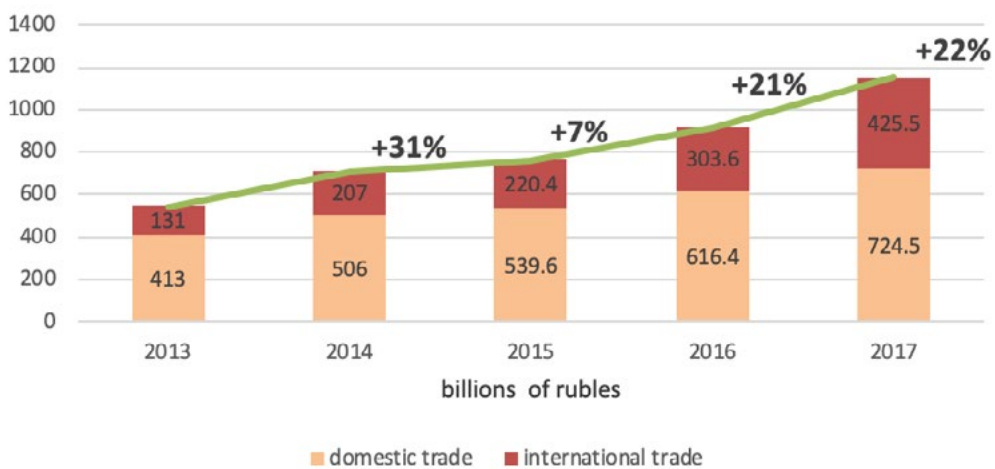
Source: Russian Association of Internet Trade Companies (AITC) [251]

[249] National Association of Distance Trade (NADT) http://ecomrussia.ru
[250] http://www.akit.ru/wp-content/uploads/2017/09/%D0%90%D0%9A%D0%98%D0%A2.-%D0%A0%D0%B5%D0%B7%D1%83%D0%BB%D1%8C%D1%82%D0%B0%D1%82%D1%8B-1H2017.pd
[251] http://www.akit.ru/wp-content/uploads/2017/09/%D0%90%D0%9A%D0%98%D0%A2.-%D0%A0%D0%B5%D0%B7%D1%83%D0%BB%D1%8C%D1%82%D0%B0%D1%82%D1%8B-1H2017.pdf

1.3 INDIA'S BEST PRACTICES AND BUSINESS MODELS

E-commerce companies in India are focused on making their businesses viable and operations sustainable. This has led to various changes being brought in their services as well as business models. Some trends that have emerged are as follows:

1. Introducing private labels to offer exclusivity and loyalty e.g. Myntra's roster of private brands includes Roadster, Dressberry, Anouk and actor Hrithik Roshan's HRX brand and its business posted a 5% profit at the EBITDA level in June 2017[252]. Evaluating different business models e.g. Oyo Rooms has moved away from an aggregator model for hotel rooms and now operates hotels under the Oyo brand.

2. Adopting technology such as AI and Chatbots to enhance customer experience

3. M-commerce has emerged as a secure supplement to the e-commerce industry and has been gaining popularity because of features such as push notifications, live chat, one-click calling, location-based notifications and in-app payments.

4. India's online education market is expected to grow eight fold during 2016–2021, primarily driven by the demand of consumers to develop a deeper understanding of a topic. Promotion of skills development schemes will help increase e-commerce adoption.

5. Logistics has evolved as a key enabler for e-commerce companies and acts as a way to differentiate their services, so as to have a competitive advantage over other players. More delivery options can increase customer traffic to an e-commerce platform[253].

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[252] http://economictimes.indiatimes.com/articleshow/62310767.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
[253] NASSCOM Strategic Review 2018

1.4 CHINA'S BEST PRACTICES AND BUSINESS MODELS

1.4.1 Logistics system of "Hema Supermarket"

The first Hema Supermarket in Shanghai was opened in January 2016. As a new retail sale business state resulting from the complete reconstruction of off-line supermarket Alibaba, Hema Supermarket is the cross-border integration of supermarket and catering, however, its rapid development benefits from its unique logistics system.

Decentralized network structure

The supply chain structure of Hema Supermarket is a set of new decentralized and distributed networks. The network structure is divided into three layers, namely "supplier-DC-shop warehouse", as is shown in the following figure.

In procurement, Hema Supermarket adheres to the integration of "direct procurement from the places of origin" and "localized direct procurement", and the procurement of partial commodities has been unified with that on Tmall.

In addition to traditional warehouses under normal temperature or low temperature, Hema Supermarket has also established a unique processing detection center (DC) with such functions as quality inspection, packaging and standardization of commodities.

The third layer of the network is the shop closest to consumers, and also the "shop warehouse", which, as the pre-posed logistics/warehouse center, also bears the function of online-offline integrated interactive experience regarding sales, catering and other issues.

"Four intelligence and one automation" system

Based on the decentralized network structure, Hema Supermarket pushes out the "four intelligence and one automation" system, namely an intelligent order-performance algorithm based on the collection of orders, intelligent shop warehouse operation system, intelligent distribution scheduling, intelligent inventory (goods ordered) distribution system and automation equipment, thus largely improving the logistics capacity of the pre-posed warehouse.

FIGURE 6. Supply chain structure of Hema Supermarket
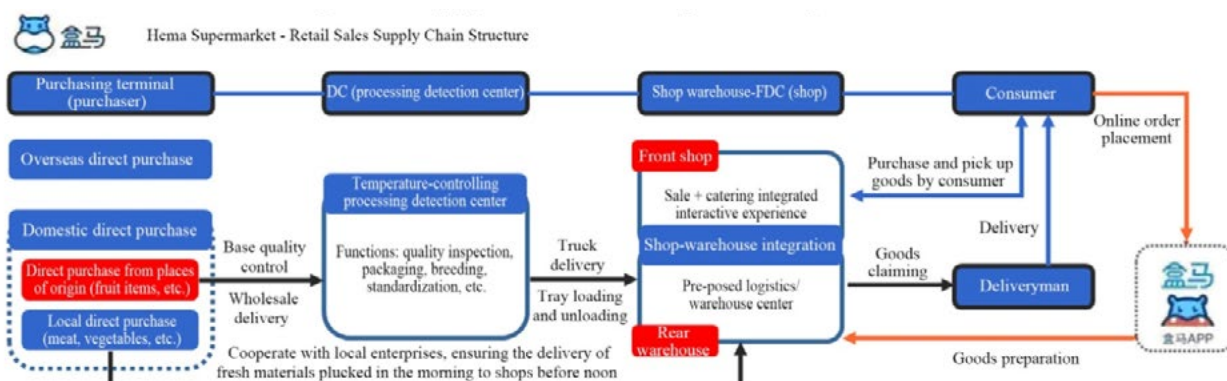
Source: The Uniqueness of Hema Supermarket Logistics, China E-commerce Research Center.

FIGURE 7. "Four intelligence and one automation" system of Hema Supermarket

Intelligent shop warehouse operation system
Analyze online and offline sales curve and balance personnel at different time frames to optimize manpower efficiency

Intelligent distribution scheduling
Figure out the optimal matching of order, batch and package to maximize distribution efficiency

Intelligent inventory (goods ordered) distribution system
Relying on shop + Taobao data, estimate commodity distributions in sifferent regions

Intelligent order-performance algorithm based on the collection of orders
Optimize order performance cost based on such algorithms as line, time series and temperature layer

Automation equipment
Hanging chain and other sutomation equipment in the shop

Source: prepared in accordance with relevant materials publicized.

Advantages of Hema Supermarket mode

Based on a new supply chain structure and intelligent and automatic system technologies, the logistics mode of Hema Supermarket has the following significant advantages:

1. <u>Fast speed.</u> Featured by shop delivery, Hema Supermarket logistics can ensure the delivery goods within half an hour within the distance of 3 kilometers.

2. <u>Low cost</u>. Thanks to its pre-posed network, Hema Supermarket is close to customers, and thus the temperature requirements for cooling, heating, freezing and freshness maintenance can be satisfied merely through the internal temperature layer without consuming consumables in large quantity. The secondary utilization of packaging materials can also further reduce logistics costs, thus making the cost far below traditional distribution costs on fresh food and materials.

3. <u>24-hour delivery service</u>. In March 2018, Hema Supermarket ensured 24-hour delivery services in all its 25 shops in Shanghai and Beijing so consumers can still enjoy the fastest half-hour delivery service during the closure period of such shops, namely from 10:00 p.m. to 7:00 a.m. the next day.

1.4.2 "Ali mode" for e-commerce intellectual property governance

During its years of exploration practices on the protection of intellectual property, Alibaba has formed a set of governance modes consisting of special governance structures (platform governance department) and special governance rules (platform rules), which are featured by the integration of active prevention and control and complaint treatment and that of science and technology, business and laws, thus creating its "Ali mode" for e-commerce intellectual property governance.

Governance by science and technology

Relying on its nine data technologies, namely commodity brain, fake authentication, image identification algorithm, semantic identification algorithm, commodity knowledge library, real-time blocking system, biological face identification, big data sampling inspection model and data collaboration platform, Alibaba can effectively protect e-commerce intellectual property. In the *Review and Prospect on the Protection of E-Commerce Intellectual Property in China*, Ali Research Institute points out that by the most advanced technical means just mentioned, Alibaba can actively take measures against commodities (links) suspected of intellectual property infringement and have 97% of such infringement commodities the moment they are online. In 2017, the quantity of commodities actively identified and deleted by data technologies was 27 times that of commodities deleted because of the complaints of obligees, which fully reflects the important role of governance by science and technology.

Governance by business

Through structuring integrity complaint mechanisms, Alibaba actively guides the complaint behaviors of obligees and protects their business interests. In August 2017, Alibaba publicized its "knowledge expressway" plan, aiming to erect intellectual property protection infrastructure by means of big data and Internet technology, thus benefiting global brand obligees for free.

At present, Alibaba has established a set of full-link active prevention and control systems covering user behaviors, commodities, logistics, trade and services, so as to block suspected infringement behaviors through model algorithms. Alibaba has also specially developed a new complaint treatment model to largely improve the automation level of complaint treatment, rapidly treat obvious intellectual property infringement behaviors and ensure the rapid connectivity of users to the "knowledge expressway". In the *2017 Annual Report of Alibaba on Intellectual Property Protection* it is revealed that 95% of intellectual property complaints (excluding malicious complaints) can be treated within 24 hours, ranking it top globally.

FIGURE 8. "Ali mode" for e-commerce intellectual property governance
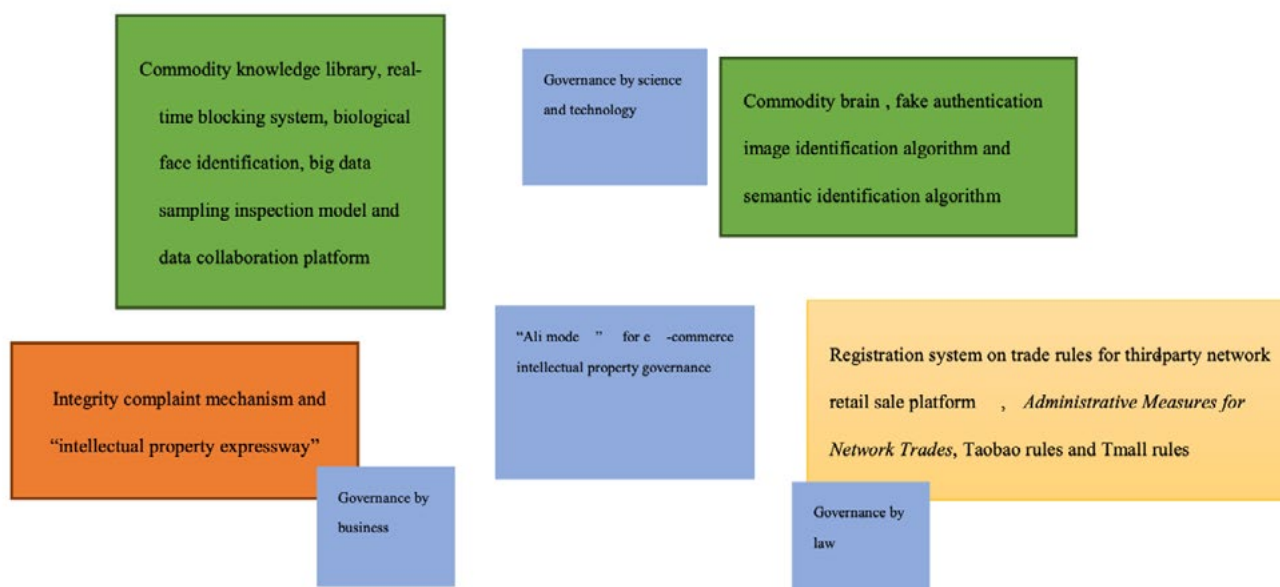
Source: prepared in accordance with relevant materials publicized Being propagable and reproducible, the governance mode of "Ali mode" will promote the all-around improvement of governance capacity in the field of e-commerce intellectual property, the overall e-commerce ecological system and even the social system.

Governance by law

On November 11th, 2010, Alibaba released a brand-new set of Taobao rules, divided into four parts, namely punishment, admission, trade and marketing, and continuously enriched and improved in subsequent practices. Up to now, there are over 60 Taobao rules and over 70 Tmall rules in total.

In January 2014, the Administrative Measures for Network Trades formulated by the State Administration for Industry and Commerce acknowledged that network platform has the right to formulate rules for management. In December 2014, MOFCOM promulgated the Procedural Provisions on the Formulation of Trade Rules for Third-party Network Retail Sale Platforms (Trial), and then established the "registration system on trade rules for third-party network retail sale platforms", requiring such platforms to register and publicize relevant rules in accordance with supervision requirements.

1.5 SOUTH AFRICA'S BEST PRACTICES AND BUSINESS MODELS

South Africa's Takealot is currently a market leader and a best practice in the country's e-commerce sector. Takealot was officially launched in June 2011, following the successful acquisition of an existing online store, Take2, by the US based investment firm, Tiger Global Management and Kim Reid in October 2010. Whereas Take 2 was a niche hobby and electronic entertainment store, focusing on video games, movies, books and imported products, Takealot established itself as a truly mass-market e-commerce retailer. Its products range from liquor and soft drinks to consumer electronics and

appliances. Given that Amazon is not officially present in South Africa; Takealot provides a real alternative to the global e-commerce giant locally.

Takealot has continued its growth trajectory in the past seven years, which included a merger with another online store, Kalahari. Furthermore, it owns a number of businesses, which facilitate its operations and logistics. There is the Takealot.com online store itself, fashion online store Superbalist.com, restaurant food delivery service Mr D Food, and its point-to-point courier service Mr D Courier. After it purchased shares in Mr Delivery, it rebranded it and also created a courier service. Its shares of Mr D Courier mean that Takealot controls its logistics network. This is especially important taking into account that the South African Post Office is notoriously unreliable. It must be noted that in 2017 Takealot increased both the delivery prices, from R35 (US $2.4) to R60 (US $4.2), as well as the minimum threshold to qualify for free delivery, from R250 (US $17.4) to R450 (US $31.3).

While Takealot has recorded a compound annual growth rate of 90% over the past four years, it is still not profitable. In fact, following the investment from Naspers, its CEO Kim Reid said that the R960 million (US $80 million) would take the company to a number that will get it to cash flow break-even and beyond. Takealot's customer service, product selection is great, but they are losing money via inefficient logistics practices and poor promotional vouchers. In the 2016/17 financial year, Takealot's turnover was R2.3 billion (US $190 million) and it processed over 2.9 million transactions from around 1 million customers.

1.6 AUSTRIA'S BEST PRACTICES AND BUSINESS MODELS

1.6.1 Blue Tomato

Blue Tomato was founded by the Snowboard European Champion Gerfried Schuller from Schladming. His enthusiasm for board sports was the basis for the foundation of the Blue Tomato Snowboarding School in 1989, which was the largest snowboard school in Austria at that time.

In the beginning, Gerfried Schuller started selling board equipment in a garage, which then became a success. In 1994, Blue Tomato opened its first shop in Schladming, primarily focusing on board equipment, and in 1997, he launched the first Blue Tomato online shop. The potential of e-commerce was recognized in early years and today, Blue Tomato is one of the leading omnichannel retailers in the board sports sector. In recent years, Blue Tomato even expanded into streetwear, ski and snowboard fashion trends. Blue Tomato offer various customer services on their website, for example, they offer individual consultation for each customer, where the customer can chose among several possibilities to communicate with the customer service e.g. via Skype, telephone, e-mail or live chat. The customer service team consists of people who love to snowboard and surf, therefore they use their enthusiasm, know-how and experience to help a customer to choose the right product and size. Blue Tomato employs over 500 people and has flagship stores in the best districts of Austria and Germany. In 2015, Blue Tomato had sales revenues of €69 million.

1.6.2 Open Bazaar:

OpenBazaar is an e-commerce platform that promises to help anyone sell anything. It is not a company or organization, but more like an open-source software which does not have transaction fees, monthly fees, or any bank or credit card requirements. OpenBazaar supports small businesses from over 30 countries such as Thailand, Slovakia, the USA, and Brazil and offers many different product categories such as music, clothes, international goods, handmade goods and local food products. It connects people directly via peer-to-peer networks and the data can be distributed across the network instead of storing it in a central database. Hence, the software is not controlled by anyone, but each user is in control of their own store and private data. Since January 2018, Bitcoin Cash and Zcash were added and allow sellers and buyers to transact in these too.

1.7 CAMBODIA'S BEST PRACTICES AND BUSINESS MODELS

1.7.1 Pipay

Pipay is receiving significant popularity from the youth (who love to shop online) in modern shops/stores/markets. As it proposes the e-payment method accessible by smartphone it is very convenient to use.

1.7.2 Cambodia Electronic Source

Cambodia Electronic Source ("CES") is an ICT marketplace founded about five to six years ago. It is the reference shop for the academics and researchers in ICT. It is available in Khmer and the English language and the customers may pay their order in Riel or US dollars. The originality of the platform is that it sells its products in stock, cooperates with their partners to sell the latter's products, and accepts the order on the specific products which are not available in its warehouse/catalogue to be imported so that the shoppers are not concerned about the customs clearance and the cross-border aftersales issues.

1.8 ETHIOPIA'S BEST PRACTICES AND BUSINESS MODELS

1.8.1 Electronic payment facilitating humanitarian response in Ethiopia [254]

Government institutions and NGOs are now discovering the benefits of electronic payments to deliver aid to people in remote areas of Ethiopia. Mercy Corps in partnership with Cooperative Bank of Oromia (CBO) has used the HelloCash service to provide cash transfers to 4,000 households affected by droughts in the Borena and Guji zones of Oromia region. In a similar pattern, MoFEC's used HelloCash in the Productive Safety Net Programme (PSNP) for households that are both chronically food insecure and underprivileged by providing regular cash and food transfers. The project took the Somali Micro-Finance Institute (SMFI) as its partner and started the Electronic Cash Disbursement Project to reach 25,439 households in the Somali region using HelloCash. However, previously Mercy Corps and several humanitarian and government offices had been providing cash support to people in a similar situation through manual cash payments, where by cashiers were being sent physically to remote areas and handing out cash to beneficiaries. Various international studies show that a manual payment such as this has major drawbacks like it creates risks to staff and beneficiaries in transporting cash, there is a slower pace in delivery, it poses higher costs, there is a lower level of transparency, and beneficiaries traveling a long distance to receive their aid increased cases of improper use of funds allocated for humanitarian purposes. Hence, the introduction and adoption of mobile money services in Ethiopia has opened new opportunities for delivering cash transfers for humanitarian action.

Accordingly, by using HelloCash, the Cooperative Bank of Oromia (CBO) was also able to provide social cash transfer services to development agencies such as Mercy

[254] Source: Ethiopidaily Posts. Aug 18, 2017. Electronic payment facilitating Humanitarian response in ethiopia. [online] http://ethiodailypost.com/2017/08/18/electronic-payment-facilitating-humanitarian-response-in-ethiopia/ [Accessed 15 June,2018

Corps with improved speed to reach beneficiaries and reduced costs of getting cash to people in emergencies. In addition, donors were pleased to see that all transaction are digitally recorded, traceable and with accurate reporting on the utilization of the funds.

HelloCash is an electronic payment service that allows customers to access financial services using their mobile phones to send and receive money, buy airtime, pay bills and pay for goods and services.

1.8.2 Belcash Technology Solutions PLC

Belcash Technology Solutions PLC is a Netherlands-based company which provides its digital business technology platforms to businesses. Its core business is in the designing of automated solutions to mobile and agent banking service providers and is mainly offered to financial institutions. In 2011, Belcash established its local operations in Ethiopia as a registered value-added service provider to arrange its digital mobile technology to allow end users use their mobile devices to access essential services like finance, health, employment and the online commerce industry. BCTS service has allowed the Ethiopian population to access the following services using their mobile phones: banking service with (HelloCash), health advice (HelloDoctor), market access (HelloMarket/HelloGebeya), labor market access (HelloJobs / HelloSera), legal advice (HelloLawyer/HelloTebeka), and the mobile trade service (HelloBroker/HelloDelela).

1.8.3 Conclusion

E-commerce can be a driver of inclusive growth and sustainable development. More capacity building to reduce gaps and enhance Ethiopia's e-commerce readiness is required. Ethiopia has to work on indicators for e-commerce development, as the country has a huge opportunity for improvement. It should also implement e-commerce to derive opportunities mainly to lower transaction costs, improve market access (domestically and internationally), lower service delivery costs (digitally provided), to create opportunities for entrepreneurship and innovation and enhance greater consumer choice. More specifically, producers can benefit from e-commerce through access to new markets (domestic and foreign), overcome distance, interact with governments, participate in value chains (B2B), and offshoring of services. Similarly, will benefit from e-commerce transactions through access to goods and services at lower prices (consumers), more competition, access to knowledge and technology and most importantly users will have an opportunity to experience how e-government works in the country.

1.9 MEXICO'S BEST PRACTICES AND BUSINESS MODELS

The Mexican Internet Association (AMIPCI) created a trust seal to endorse online stores with their brands to create an environment of trust between consumers and companies, in this way certifying appropriate behaviors of the stores in terms of quality of products, services and payments. The seal is shown in Figure 10.

FIGURE 10. Trust seal

Source: AMVO

The last report of AMVO (2017) indicated that 84% of the businesses surveyed knew the seal, in the previous year this percentage was 76%.

1.10 UK'S BEST PRACTICES AND BUSINESS MODELS

Model 1. Adoption of E-Commerce by SMEs in the UK: Towards a Stage Model.

By classifying the process of adoption of B2B e-commerce of SMEs in the UK into four groups, there has been a surge of interest in the B2B model. The four-stages are as follows:

Stage 1. Developers: These companies have the lowest level of e-commerce services in operation compared with the other following stages. The most common development areas in this stage include developing email communication with customers and suppliers, providing information about the company's history, products, and services.

Stage 2. Communicators: The companies make extensive use of emails to communicate with customers and suppliers (and use the web to find business information. The most common activities in this stage are website build-up and promotion of products and services.

Stage 3. Web Presence: Companies undertake promotion activities including email communication with customers and suppliers, using the web to find external information, email exchange between employees and electronic exchange of documents and design.

Stage 4. Transactor: Apart from all previous development activities, companies were additionally offering online orders, providing after-sale service or contact and conducting online recruitment. New development activities in this stage included receiving payment online, performing online purchases and delivery of digital products.

In summary, Daniel et al. (2002) found that the companies with higher e-commerce adoption level were more likely to engage in exports than those at the lower adoption level. SMEs which had experience in EDI or BACS payment system were more likely to adopt e-commerce.

Model 2. Usage, barriers and measurement of social media marketing: an exploratory investigation of small and medium B2B brands.

By using mail survey data, Michaelidou et al. (2011) investigated the usage of social networks of SMEs in the UK. The findings include almost 50% of the SMEs used social network sites to attract new customers. SMEs that didn't use social network sites were not interested due to lack of perceived relevance for particular sectors.

2. BRICS PLUS E-COMMERCE CAPACITY RANKING

2.1 E-COMMERCE CAPACITY INDEXES AND WEIGHT

According to the index list provided by UNIDO, the BRICS e-commerce indexes include 4 subindex groups:

1. Internet connectivity subindex (25% weight) consists of four indexes: mobile subscribers, secure Internet servers, Internet users and prepaid mobile cellular tariffs.

2. E-commerce market subindex (35% weight) consists of three indexes: revenue from e-commerce/GDP, ICT use for B2B transactions and B2C Internet use.

3. The e-commerce ecosystem subindex (15% Weight) consists of two indexes: credit card usage and postal reliability score.

4. Regulatory capacity subindex. (25% Weight) consists of two indexes: laws relating to ICTs and intellectual property protection.

TABLE 1. The e-commerce capacity indexes used in this report

Indicator	Unit	Source [1]	Weight
1. Internet connectivity subindex			25%
Mobile subscribers(2016)	users per 100	WEF/EIU Country Data	
Secure Internet servers (2016)	per 1m people	World Bank/ UNCTAD	Equally weighted sum of indicator scores
Internet users (2016)	users per 100	UNCTAD/EIU Country Data	
Prepaid mobile cellular tariffs (2016)	Per minute cost PPP$	WEF	
2. E-commerce market subindex			35%
Revenue from e-commerce/ GDP(2018)	%	ITC	
ICT use for B2B transactions(2016)	0-7, 7=highest	WEF	Revenue from e-commerce weights 60%, other two indexes weigh 40% totally
B2C internet use(2016)	0-7, 7=highest	WEF	
3. E-commerce ecosystem subindex			15%
Credit card usage(2014)	% age 15+	UNCTAD	Equally weighted sum of indicator scores
Postal reliability score(2016)	1-100, 100=most ready	UNCTAD	
4. Regulatory capacity subindex			25%
Laws relating to ICTs(2016)		WEF	Equally weighted sum of indicator scores
Intellectual property protection(2016)		WEF	

2.2 COMPUTATION METHOD

Normalization:

Before the overall score computation of each country/region, each index value is normalized to the range [0,1] as follows:

For each index, denoted by *i*:

1. Find the minimum value among all the countries and denoted by *$x_{(i,min)}$*

2. Find the maximum value among all the countries and denoted by *$x_{(i,max)}$*

3. For each country, denoted by , the equation below is used to normalize its value of index *i* :

$$x_{i,c}^{normalized} = \frac{x_{i,c}^{original} - x_{i,min}}{x_{i,max} - x_{i,min}}$$

$$x_{i,c}^{normalized} = \frac{53.20 - 0.27}{2903.65 - 0.27} \approx 0.018$$

$x_{i,c}^{original}$ is country 's original value of index i and $x_{i,c}^{normalized}$ denotes the normalized score that is between 0 and 1.

Let us take the normalization procedure of the index, Secure Internet Servers (per 1 million people) for Albania as an example. Firstly, we find the minimum value of this index (i.e. $x_{i,min}$) among all the countries is 0.27. Secondly, we can also see that the maximum (i.e. $x_{i,max}$) is 2903.65. Finally, the normalized score (i.e. $x_{i,c}^{normalized}$) is:

Here i is the Secure Internet Servers index, c is the country, Albania and 53.20 is the original index value of this country (i.e. $x_{i,c}^{original}$). We repeat the last step for all the other countries to normalize their index values.

2.3 TOTAL RANKING LIST

Based on the computation result, we have the final ranking list:

TABLE 2. Total ranking list

Ranking	Country	Internet Connectivity Subindex	E-Commerce Market Subindex	E-Commerce Ecosystem Subindex	Regulatory Capacity Subindex	Sum
1	United Kingdom	0.154891	0.273628	0.131705	0.225422	0.785648
2	Japan	0.139341	0.21407	0.137632	0.202318	0.693362
3	United States	0.127667	0.227422	0.121949	0.206517	0.683555
4	Luxembourg	0.170001	0.123827	0.138437	0.247781	0.680046
5	Netherlands	0.175822	0.18622	0.104361	0.212175	0.678579
6	Finland	0.133256	0.181187	0.12893	0.227324	0.670697
7	New Zealand	0.133421	0.187022	0.131438	0.212401	0.664283
8	Sweden	0.132197	0.198687	0.114143	0.199417	0.644443
9	Canada	0.116445	0.158577	0.141758	0.2048	0.621581
10	France	0.132866	0.173313	0.112134	0.20116	0.619473
11	Singapore	0.120545	0.152821	0.107752	0.237786	0.618903
12	Germany	0.128572	0.188029	0.11376	0.187665	0.618026
13	Austria	0.129731	0.181252	0.105787	0.196769	0.61354
14	Estonia	0.147126	0.159714	0.094708	0.209395	0.610943
15	Denmark	0.1323	0.175159	0.094776	0.19508	0.597315
16	Ireland	0.13633	0.133548	0.118869	0.203108	0.591855
17	Australia	0.124902	0.124942	0.124533	0.189236	0.563612
18	Belgium	0.12805	0.142554	0.100334	0.179791	0.550729
19	Israel	0.107417	0.134522	0.133454	0.160068	0.535461
20	China	0.051534	0.293035	0.05569	0.105495	0.505755
21	Malaysia	0.101006	0.11787	0.080511	0.198961	0.498347
22	Lithuania	0.108111	0.158827	0.07725	0.134352	0.47854
23	Latvia	0.099266	0.136145	0.096277	0.123409	0.455098
24	Portugal	0.085726	0.153456	0.051597	0.159275	0.450054
25	Saudi Arabia	0.118933	0.100348	0.066331	0.158598	0.44421
26	Slovenia	0.111553	0.094724	0.101751	0.135269	0.443297

27	Spain	0.093838	0.128408	0.097389	0.118591	0.438226
28	Hungary	0.106115	0.122504	0.076514	0.094727	0.399861
29	Chile	0.100292	0.096116	0.069289	0.122819	0.388516
30	Romania	0.107453	0.100545	0.077106	0.095852	0.380956
31	South Africa	0.087378	0.101461	0.027834	0.161867	0.37854
32	Bulgaria	0.135549	0.102029	0.064513	0.070924	0.373015
33	Azerbaijan	0.101242	0.092836	0.063652	0.114347	0.372077
34	Uruguay	0.114125	0.057271	0.079061	0.116706	0.367162
35	Italy	0.102606	0.077022	0.085456	0.097692	0.362775
36	Kazakhstan	0.10162	0.074853	0.069585	0.113584	0.359643
37	Croatia	0.095017	0.077418	0.10366	0.082055	0.35815
38	Greece	0.134494	0.051996	0.077915	0.081453	0.345858
39	Brazil	0.094701	0.096775	0.072324	0.077445	0.341246
40	Jordan	0.077612	0.080714	0.04745	0.130663	0.33644
41	Russian Federation	0.092398	0.116659	0.070617	0.056183	0.335857
42	Turkey	0.061236	0.093195	0.083794	0.09566	0.333884
43	Costa Rica	0.083201	0.084262	0.051088	0.112584	0.331136
44	Panama	0.090556	0.089044	0.009392	0.131239	0.320231
45	Kuwait	0.135012	0.07261	0.039455	0.058298	0.305374
46	Indonesia	0.053732	0.107821	0.026982	0.111858	0.300393
47	Thailand	0.067454	0.099204	0.075479	0.054957	0.297094
48	Ukraine	0.07924	0.076031	0.077778	0.06018	0.293228
49	Sri Lanka	0.038375	0.087684	0.03403	0.119406	0.279495
50	Jamaica	0.062988	0.058733	0.070177	0.085504	0.277403
51	Albania	0.121348	0.043203	0.070506	0.038195	0.273252
52	Serbia	0.087615	0.062926	0.075723	0.045664	0.271928
53	Honduras	0.054708	0.080278	0.035472	0.095827	0.266285
54	Philippines	0.088077	0.0725	0.019479	0.08444	0.264495
55	Georgia	0.063801	0.054311	0.073224	0.065927	0.257262
56	Mexico	0.058949	0.080522	0.019728	0.089058	0.248257
57	India	0.027017	0.06378	0.043507	0.112132	0.246437
58	Ecuador	0.081961	0.056158	0.005388	0.0912	0.234707
59	Kenya	0.028018	0.08504	0.02829	0.087637	0.228985
60	Peru	0.071621	0.058462	0.031843	0.053099	0.215026
61	Lebanon	0.103697	0.027309	0.061409	0.007558	0.199973
62	Tunisia	0.062347	0.023785	0.05351	0.059722	0.199364
63	Ghana	0.049635	0.04742	0.017256	0.07075	0.185061
64	Nigeria	0.031967	0.050244	0.066028	0.026256	0.174495
65	Cambodia	0.058421	0.052356	0.020822	0.026286	0.157885
66	Algeria	0.062427	0.010428	0.020633	0.031205	0.124693
67	Nepal	0.024493	0.023566	0.036551	0.019604	0.104213
68	Pakistan	0.01681	0.025353	0.025549	0.033232	0.100944
69	Ethiopia	0.006602	0.011593	0.012606	0.039553	0.070354

2.4 BRICS PLUS RANKING LIST

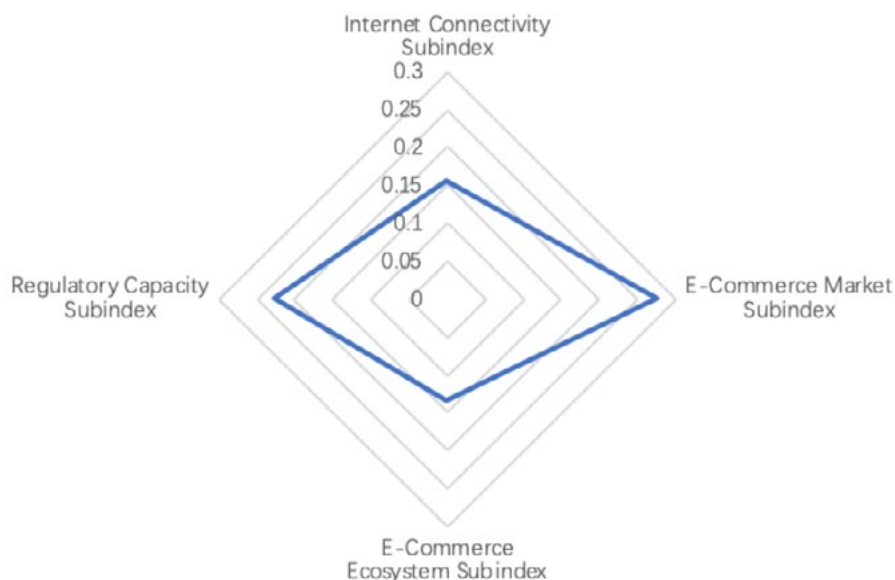Table 3 presents the 12 BRICS Plus countries ranking.

TABLE 3. BRICS Plus ranking list

Ranking	Country	Internet connectivity subindex	E-commerce market subindex	E-commerce ecosystem subindex	Regulatory capacity subindex	Sum
1	United Kingdom	0.154891	0.273628	0.131705	0.225422	0.785648
13	Austria	0.129731	0.181252	0.105787	0.196769	0.61354
20	China	0.051534	0.293035	0.05569	0.105495	0.505755
31	South Africa	0.087378	0.101461	0.027834	0.161867	0.37854
39	Brazil	0.094701	0.096775	0.072324	0.077445	0.341246
41	Russian Federation	0.092398	0.116659	0.070617	0.056183	0.335857
56	Mexico	0.058949	0.080522	0.019728	0.089058	0.248257
57	India	0.027017	0.06378	0.043507	0.112132	0.246437
65	Cambodia	0.058421	0.052356	0.020822	0.026286	0.157885
69	Ethiopia	0.006602	0.011593	0.012606	0.039553	0.070354

2.5 BRICS PLUS COUNTRY E-COMMERCE INDEX ANALYSIS

The following graphs were made to show the specific country and its performance in the specific subindex area.
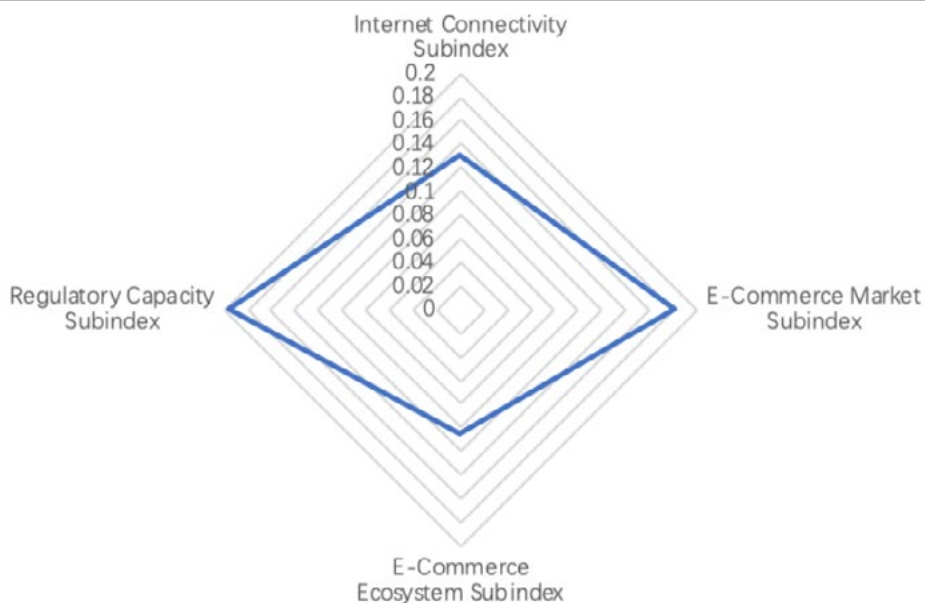
FIGURE 1. United Kingdom Internet connectivity subindex

The United Kingdom ranks no.1 in both 69 and 12 countries lists. As for the subindexes, its Internet connectivity subindex ranks no.3 in all 69 countries (after the Netherlands and Luxembourg) , ranks no. 1 in the 12 BRICS Plus countries; e-commerce market subindex ranks no. 2 in both ranking lists, lagging behind China; its e-commerce ecosystem subindex ranks no. 5 after Canada, Luxembourg, Japan and Israel in the 69 countries list, ranks no. 1 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 4 after Luxembourg, Singapore and Finland in the 69 countries list, ranks no. 1 in the 12 BRICS Plus ranking list. The United Kingdom is well developed in all respects of e-commerce.

FIGURE 2. Austria Internet connectivity subindex

Austria ranks no.13 in the all 69 countries list and no.2 in the 12 BRICS Plus countries list after the UK. As for the subindexes, its Internet connectivity subindex ranks no.15 in all 69 countries list, ranks no. 2 after UK in the 12 BRICS Plus countries list; e-commerce market subindex ranks no.9 in the 69 countries list, ranks no. 3 after China and UK in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 15 in the 69 countries list, ranks no. 2 in the 12 BRICS Plus ranking list, lagging behind the United Kingdom; its regulatory capacity subindex ranks no. 15 in the 69 countries list, ranks no.2 (after UK) in the 12 BRICS Plus ranking list. Austria is well developed in the e-commerce market area and needs to strengthen the other 3 respects.
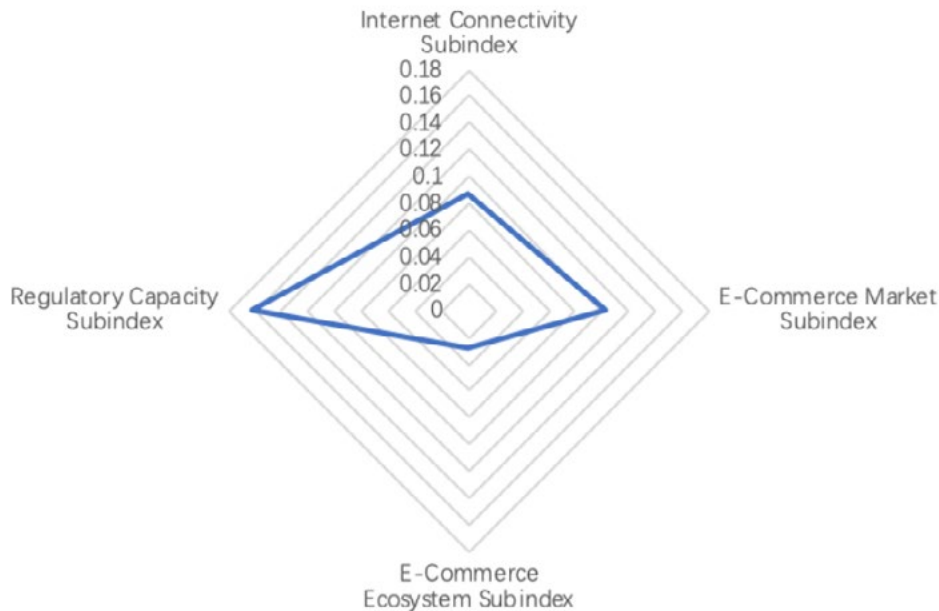
FIGURE 3. China Internet connectivity subindex
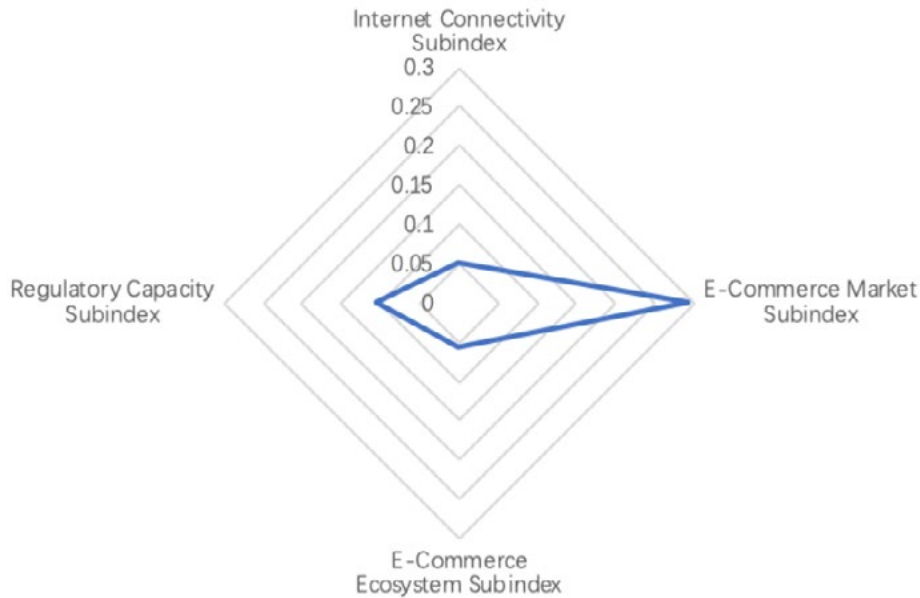
China ranks no.20 in the all 69 countries list and no.3 in the 12 BRICS Plus countries list after the UK and Austria. As for the subindexes, its Internet connectivity subindex ranks no.61 in the 69 countries list, ranks no. 9 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no.1 in both lists; its e-commerce ecosystem subindex ranks no. 47 in the 69 countries list, ranks no. 6 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 38 in the 69 countries list, ranks no.5 (after UK, Austria, South Africa and India) in the 12 BRICS Plus ranking list. China is the best in the e-commerce market area but does not perform so well in the other 3 subindex areas, especially in the Internet connectivity respect.
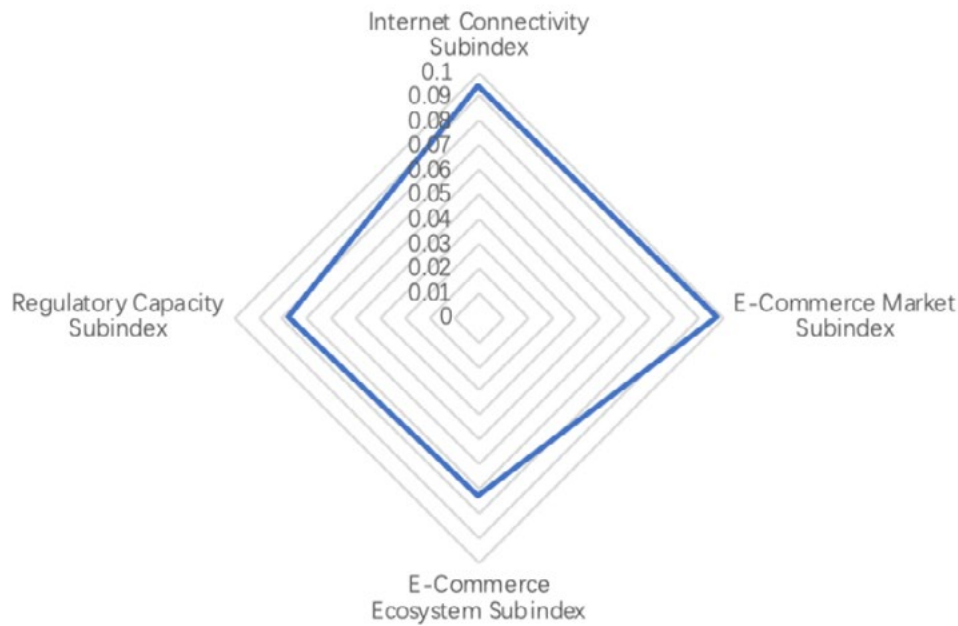
FIGURE 4. South Africa Internet connectivity subindex

South Africa ranks no.31 in the all 69 countries list and no.4 in the 12 BRICS Plus countries list after the UK, Austria and China. As for the subindexes, its Internet connectivity subindex ranks no.44 in all 69 countries list, ranks no. 5 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no.30 in the 69 countries list, ranks no.5 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 59 in the 69 countries list, ranks no. 9 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 20 in the 69 countries list, ranks no.3 (after the UK and Austria) in the 12 BRICS Plus ranking list. Clearly, the best performance area of South Africa is the regulatory capacity, the worst performance area is its e-commerce ecosystem.
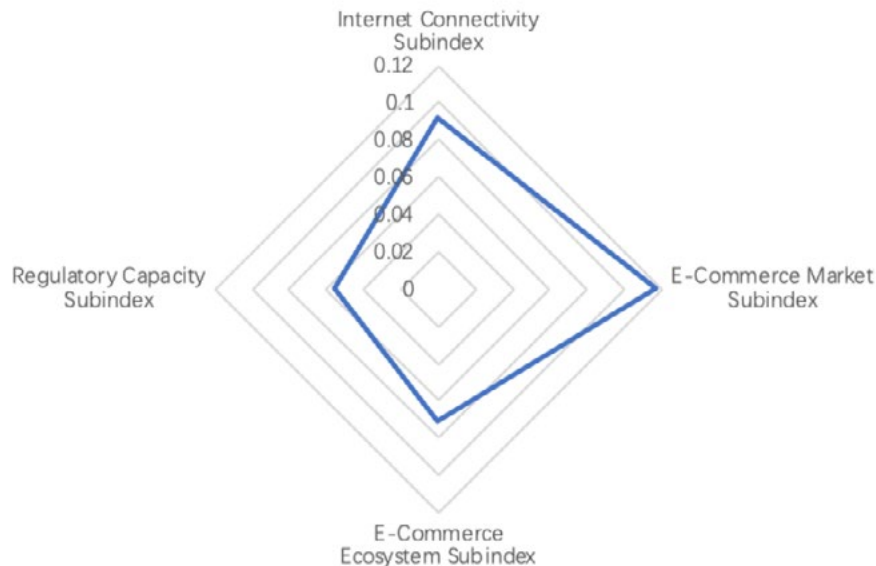
FIGURE 5. Brazil Internet connectivity subindex

Brazil ranks no.39 in the all 69 countries list and no.5 in the 12 BRICS Plus countries list after UK, Austria, China and South Africa. As for the subindexes, its Internet connectivity subindex ranks no.38 in all 69 countries list, ranks no. 3 (after the UK and Austria) in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no.34 in the 69 countries list, ranks no.7 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 36 in the 69 countries list, ranks no.

4 (after the UK, Austria and Thailand) in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 51 in the 69 countries list, ranks no.8 in the 12 BRICS Plus ranking list. Clearly, the best performance area of Brazil is the e-commerce market, the worst performance area is its regulatory capacity. The 3 out of 4 subindexes ranking is higher than the overall ranking of Brazil, and the main negative factor is its regulatory capacity.
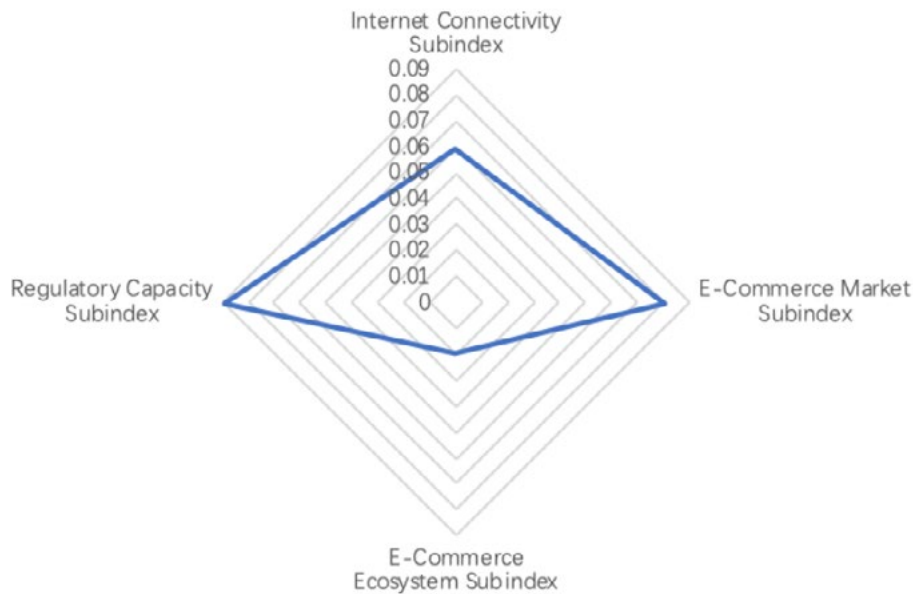
FIGURE 6. Russia Internet connectivity subindex

Russia ranks no.41 in the all 69 countries list and no.6 in the 12 BRICS Plus countries list. As for the subindexes, its Internet connectivity subindex ranks no. 40 in the 69 countries list, ranks no. 4 (after the UK, Austria and Brazil) in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no. 27 in the 69 countries list, ranks no. 4 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 37 in the 69 countries list, ranks no. 5 (after the UK, Austria,

Thailand and Brazil) in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 58 in the 69 countries list, ranks no. 9 in the 12 BRICS Plus ranking list. Just like Brazil, the best performance area of Russia is the e-commerce market, the worst performance area is its regulatory capacity. The 3 out of 4 subindexes ranking is higher than the overall ranking of Russia, and the main negative factor, as previously mentioned, is its regulatory capacity.
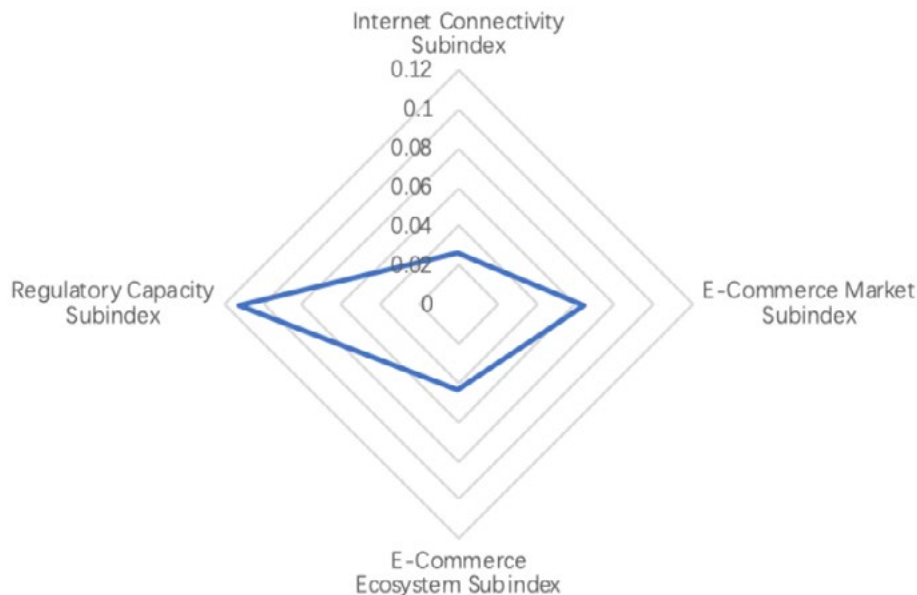
FIGURE 7. Mexico Internet connectivity subindex

Mexico ranks no. 56 in the all 69 countries list and no. 8 in the 12 BRICS Plus countries list. As for the subindexes, its Internet connectivity subindex ranks no. 57 in the 69 countries list, ranks no. 7 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no. 44 in the 69 countries list, ranks no. 9 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 64 in the 69 countries list, ranks no. 11 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 45 in the 69 countries list, ranks no. 6 in the 12 BRICS Plus ranking list. The best performance area of Mexico is the e-commerce market, and the worst performance area is its e-commerce ecosystem.
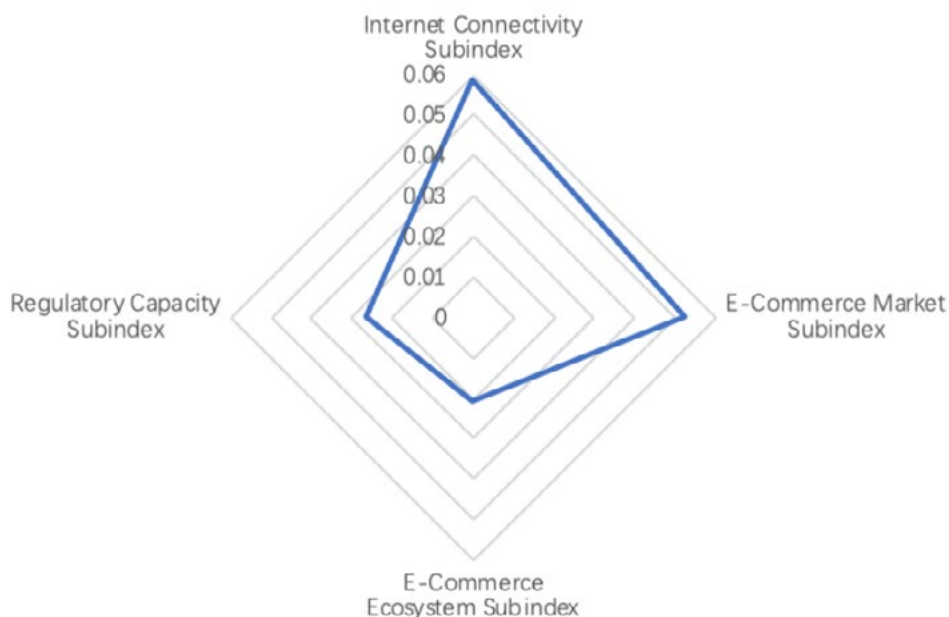
FIGURE 8. India Internet connectivity subindex

India ranks no. 57 in the all 69 countries list and no. 9 in the 12 BRICS Plus countries list. As for the subindexes, its Internet connectivity subindex ranks no. 66 in the 69 countries list, ranks no. 11 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no. 52 in the 69 countries list, ranks no. 10 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 52 in the 69 countries list, ranks no. 7 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 36 in the 69 countries list, ranks no. 4 in the 12 BRICS Plus ranking list. The best performance area of India is its regulatory capacity, and the worst performance area is Internet connectivity.
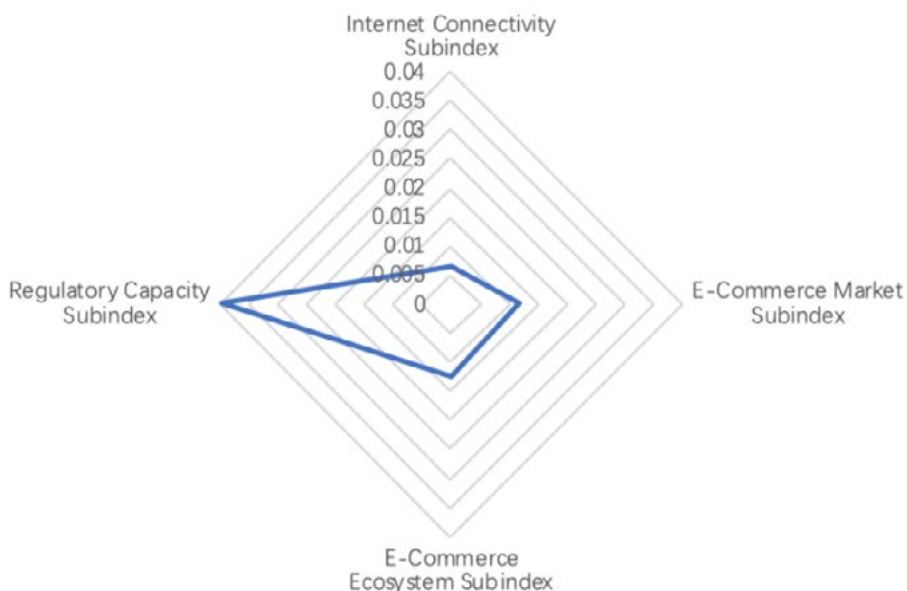
FIGURE 9. Cambodia Internet connectivity subindex

Cambodia ranks no. 65 in the all 69 countries list and no. 11in the 12 BRICS Plus countries list. As for the subindexes, its Internet connectivity subindex ranks no. 58 in the 69 countries list, ranks no. 8 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no. 59 in the 69 countries list, ranks no. 11 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 62 in the 69 countries list, ranks no. 10 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 66 in the 69 countries list, ranks no. 12 in the 12 BRICS Plus ranking list. The best performance area of Cambodia is its Internet connectivity, and the worst performance area is regulatory capacity.

FIGURE 10. Ethiopia Internet connectivity subindex

Ethiopia ranks no. 69 in the all 69 countries list and no. 12 in the 12 BRICS Plus countries list. As for the subindexes, its Internet connectivity subindex ranks no. 69 in the 69 countries list, ranks no. 8 in the 12 BRICS Plus countries list; the e-commerce market subindex ranks no. 68 in the 69 countries list, ranks no. 11 in the 12 BRICS Plus countries list; its e-commerce ecosystem subindex ranks no. 67 in the 69 countries list, ranks no. 10 in the 12 BRICS Plus ranking list; its regulatory capacity subindex ranks no. 62 in the 69 countries list, ranks no. 12 in the 12 BRICS Plus ranking list. The best performance area of Ethiopia is its Internet connectivity regulatory capacity, and the worst performance area is Internet connectivity.

2.6 CONCLUSION

From the ranking list above, we can reach the following conclusions:

1. Of the 12 BRICS Plus countries, only 4 countries (the UK, Austria, China and South Africa) stay in the upper half of the total 69 countries, the other 8 countries lie in the second half, with Ethiopia as the last. Clearly, the BRICS Plus countries' e-commerce is not well developed.

2. As the developed countries, the UK and Austria perform greatly in all four aspects, reflecting a well-balanced societal structure, especially the UK that ranks no.1 from all the 69 countries.

3. China's e-commerce market index ranks no. 1 in all the 69 countries, but performs badly in the other 3 subindex areas, especially in t Internet connectivity, which has dragged down its overall rankings.

4. The development level of e-commerce is roughly comparable to the level of development of the country.The level of e-commerce in developed countries is higher, and the developing countries are lagging behind with China as an exception.

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