



STATUS, OPPORTUNITIES AND CHALLENGES OF BRICS E-COMMERCE



A report prepared by UNIDO and ITC

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¹ Mr. Zhen Wang, Chief of Asia and the Pacific Division, UNIDO, is a team leader of this joint initiative.

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Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars.

ASSOCHAM	The Associated Chambers of Commerce & Industry of India
B2B	Business to Business
B2C	Business to Consumer
B2G	Business to Government
BHIM	Bharat Interface for Money (App)
BRICS	Association of five economies: Brazil, Russia, India, China and South Africa
CDC	Consumer Defense Code (Brazil)
CMS	Content Management System
CNNIC	China Internet Network Information Center
COD	Cash on Delivery
CPA	Consumer Protection Act (India)
C2C	Consumer to Consumer
C2M	Consumer to Manufacturing
DTI	Department of Trade and Industry (South Africa)
ECT	Electronic Transaction Act., (South Africa)
FNB	First National Bank (South Africa)
ETP	Electronic Trading Platform
GDP	Gross Domestic Product
GST	Goods and Service Tax (India)
G7	Group of Seven (Canada, France, Germany, Italy, Japan, the UK and US)
G20	Group of Twenty (Includes 20 major economies)
IAMAI	Internet and Mobile Association of India
IBGE	Brazilian Institute for Geography and Statistics
ICASA	Independent Communications Authority of South Africa
IMRB	Internet Market Research Bureau (India)
ICT	Information Communication Technology
IT	Information Technology
ITC	International Trade Centre
ITU	International Telecommunication Union
MIKTA	Mexico, Indonesia, Republic of Korea, Turkey and Australia partnership
OECD	Organization for Economic Co-operation and Development
R & D	Research and Development
SARB	South African Reserve Bank
SARS	South African Reserve Service
SC2B	Supply Chain to Business
SME	Small and Medium-Sized Enterprises
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United nations Industrial Development Organization
WITS	World Integrated Trade Solution
WTO	World Trade Organization

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Executive Summary

During the last decade, along with the rapid development of information technology (IT), e-commerce² has maintained swift growth and has become one of the world's most dynamic economic activities. Latest estimates from UNCTAD show that global e-commerce reached US\$ 25.3 trillion in 2015, of which US\$ 22.4 trillion was B2B e-commerce and US\$ 2.9 trillion B2C e-commerce³. E-commerce is playing an increasingly important role in promoting domestic and cross-border trade, industry transformation and job creation thereby providing overall strategic opportunities for the economic and social development for all countries. In this context, this report analyses the status of e-commerce in BRICS in the backdrop of global e-commerce trends. Due to the limited availability of reliable B2B and B2G e-commerce data in BRICS countries, the report relies mostly on B2C e-commerce data for cross comparative study and trend analysis in BRICS e-commerce.

Chapter 1 of the report examines the global trends in e-commerce, the impact of e-commerce on the global economy in the context of digital economy and the factors affecting e-commerce. The report finds that e-commerce as a share of overall global GDP is rising. China, the UK and South Africa have the highest proportion of eGDP in their overall GDP. Spurred by the increasing internet penetration in the past decade, the percentage of online shoppers has increased over time, which has in turn given a boost to the e-commerce industry across all sectors, including B2C, B2B and B2G. Cross-border e-commerce trade is also growing alongside the number of online shoppers. Though there is overall growth in e-commerce, market size and distribution varies across regions and countries. In 2015, the United States, Japan and China were the top performers in B2B sales. In the same year, the United States, China and the UK were the top performers in B2C sales. The top ten countries contributing to global e-commerce account for 64 per cent of B2B e-commerce. In 2015, the Asia-Pacific region recorded the largest e-commerce turnover, which can be attributed to the large markets in China and India. Internet penetration has a strong correlation with e-commerce development. In 2016, around 53 per cent of the global population did not have access to the Internet, with the majority of the offline population concentrated in Africa and LDCs. Improving Internet connectivity in these regions would boost e-commerce development. In addition to Internet access, the availability of diverse payment options also impacts e-commerce. E-wallets, credit cards and debit cards are the three most popular modes of electronic payments but in terms of growth, eWallets and PrePay are expected to have the highest growth in the coming years. Strengthening the infrastructure for easy use and secure payment methods can boost e-commerce.

Chapter 2 provides a cross comparison of the current status of e-commerce in BRICS countries covering B2B, B2C and, wherever possible, the B2G components of domestic and cross-border e-commerce trade. It also highlights the strengths, weaknesses and opportunities of the BRICS e-commerce ecosystems. Section 2.3 elaborates on the country specific e-commerce details within BRICS and sheds light on various aspects of e-commerce including the business models adopted, major e-commerce platforms available and the best practices adopted by successful players. It further explores the challenges faced by e-commerce enterprises within BRICS, as well as the public and private initiatives undertaken to address these challenges. The study finds that the volume of e-commerce sales varies significantly within BRICS. In Brazil, despite a difficult economic landscape, e-commerce maintained growth though the average spending per shopper is still low. Russia has a strong B2G sector but cross-border sales, though on the

² OECD definition of E-commerce has been adopted for the purpose of this study

³ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1466>

rise, are relatively small. Retail e-commerce sales in India grew at an annual rate of 24.5 per cent to reach US\$ 16 billion in 2016 and are expected to reach US\$ 45.17bn in 2021. E-commerce in India has expanded over the last decade due to the rapid adoption of new technologies, a large increase in the number of internet users, innovative business models, and alternative payment methods offered by e-commerce companies. The Chinese e-commerce landscape is dominated by several giant platforms such as Alibaba and JD.com. China leads the Asia-Pacific region due to its large market size, growing middle-class, lower costs, high Internet penetration, and a large manufacturing base. In South Africa, e-commerce is still at the nascent stage though the country is one of the continent's leaders in e-commerce development, owing to its relatively better Internet and smartphone access and payment card penetration.

The analysis of the BRICS e-commerce ecosystem indicates that certain challenges are common to all BRICS countries. This includes bureaucratic procedures, unfavorable tax regimes, underdeveloped delivery infrastructure, a lack of e-commerce skills in SMEs, hindering their ability to compete with larger companies, and adequate mechanisms for ensuring privacy and security of data. At the same time, each BRICS country has its unique challenges. Brazil is facing a challenging economic situation. In Russia, language barriers and slow delivery are obstacles to the growth of cross-border trade. In India, there is a lack of trust among Indian buyers when it comes to online transactions and ePayments. For China, the lack of unified cross-border standards for inspection of parcels and lack of unified regulations to handle disputes emanating from cross-border transactions are major factors impacting cross-border trade. In South Africa, costs of data are some of the highest in the world and SMEs lack access to finance. These are the serious drawbacks of South Africa's e-commerce environment.

Chapter 3 provides information about the major regulations and standards adopted by BRICS for regulating e-commerce business processes. The study finds that all BRICS countries have adopted legislations for e-transactions and cybercrime. Brazil, China and South Africa have also adopted legislation for consumer protection, while Russia and India do not have dedicated e-commerce consumer protection laws. In terms of privacy and data protection, China, India, Russia and South Africa have adopted legislation while Brazil has drafted but not yet adopted relevant legislation.

Recognizing the need for a forward-looking approach to capture e-commerce dynamism, Chapter 4 identifies the challenges in e-commerce measurement as well as the major factors that will shape BRICS' e-commerce in the coming years along with economic variables that will be impacted by e-commerce. This will help the formulation of strategies and policies for e-commerce growth, and could also serve as a guideline for impact assessment. According to the study's findings, the major challenges facing e-commerce measurement in BRICS include inadequate availability of reliable statistics, especially in the B2B sector, cross-border e-commerce and transactions of informal nature that happen through social media channels. There is also a lack of skills to analyze large volumes of data and their correlation with macro-economic indicators. Some indices, such as UNCTAD's 2016 B2C e-commerce index, which is based on internet use, postal reliability and credit card ownership, try to measure a country's readiness for e-commerce. However, these indices are not able to capture transaction volumes and cannot measure the dynamism in e-commerce due to increased adoption of e-payments and credit card penetration, as well as the emergence of new business models such as C2M (consumer to manufacturing). The study highlights the importance of further cooperation among international agencies, national statistical authorities and major e-commerce platforms to improve the measurement of e-commerce dynamics.

In Chapter 5, the report provides few preliminary recommendations on further strengthening cooperation within BRICS and with other international players for promotion of e-commerce trade through capacity

building, infrastructure development, technology upgrade, and policy development. The study recommends further cooperation with international financial institutions such as the World Bank and the New Development Bank for development of e-commerce within BRICS. The study also suggests strengthening cooperation among international organizations, including UNIDO, WTO, UNCTAD and ITC, in terms of analyzing data, studying trends, discussing policy options, and delivering technical assistance.

Chapter 1

1.1. Global Trends in E-commerce

Global e-commerce is estimated at around US\$ 25.3 trillion in 2015, including both business-to-business (B2B) and business-to-consumer (B2C) transactions. B2B e-commerce, valued at around US\$ 22.4 trillion, account for the majority (88.5 per cent) of the global e-commerce activities and B2C is at around US\$ 2.9 trillion (11.5 per cent). In the B2B e-commerce sector, the United States had the largest sales at US\$ 6.4 trillion while in the B2C E-commerce sector China was slightly ahead of the United States with US\$ 617 billion sales volume.⁴ E-commerce is mostly domestic, but is becoming more and more international, with an estimated 12 per cent of the global goods trade conducted via international e-commerce in 2016.⁵ Retail e-commerce and cross-border e-commerce are the two fastest growing segments of global e-commerce. Cross-border online retail is predicted to grow at twice the rate of domestic e-commerce (CAGR: 25 per cent) until 2020.⁶

Global Retail E-commerce Sales:

Retail e-commerce sales are sales of goods and services that take place over the Internet, an extra-net, Electronic Data Interchange (EDI) network, or other online systems. Payment may or may not be made online.⁷ E-commerce retail sales have become an essential retail channel around the world in recent years and are expected to have sustainable growth in the near future.⁸ The volume of global retail sales has continuously increased since 2015. With a value of US\$ 1.55 trillion in 2015 it is expected to triple to US\$ 4.06 trillion by 2020. Annual growth rates, though always positive, will show a steady decline from 25.5 per cent in 2015 to 18.7 per cent in 2020. Despite this declining annual growth rates, the volume of e-commerce retail sales in absolute terms, as well as the value of e-commerce retail sales expressed as a percentage of total retail sales, are expected to rise continuously from 2015 to 2020, from 7.4 per cent in 2015 to 14.6 per cent in 2020. This indicates a huge transformation in buying behavior as more and more buyers shift to online retail channels.

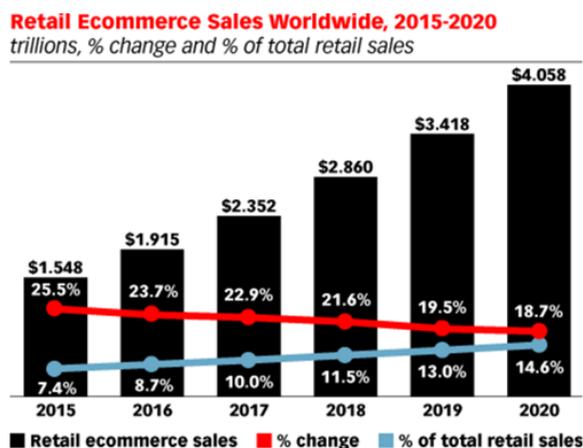


Figure 1: Retail E-commerce Sales Worldwide (Source: eMarketer)

⁴ UNCTAD estimate, <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1466>

⁵ McKinsey (2016) Digital Globalization: The New Era of Global Flows

⁶ DHL Press release:

http://www.dhl.com/en/press/releases/releases_2017/all/express/cross_border_e-commerce_is_one_of_the_fastest_growth_opportunities_in_retail_according_to_dhl_report.html

⁷ <http://www.mypivots.com/dictionary/definition/431/retail-E-commerce-sales>

⁸ eMarketer

Cross Border E-commerce:

Cross-border e-commerce is transforming the landscape of international trade. Cross-border e-commerce comes in different forms and shapes, involving different types of players, deals and procedures. Transactions may involve only enterprises (B2B), a business and a consumer (B2C), two individual consumers (C2C) or a business and a government (B2G). Data in e-commerce, especially the value of domestic and cross-border transactions at country level, is still limited and fragmented. However, some estimates on B2C or B2B e-commerce transactions as well as indicators related to the e-commerce environment (e.g. ICT infrastructure and skills, payment, logistics, legal framework) are available to shed light on the trend of e-commerce.

As of 2016, approximately 12 per cent of the global goods trade is conducted via international e-commerce. As shown in Figure 2,⁹ the volume of cross-border B2C e-commerce is expected to grow at an average rate of 27 per cent per annum to reach US\$ 1.0 trillion by 2020. The share of global B2C e-commerce transaction volume is expected to increase at a steady rate from a value of 15 per cent in 2015 to a value of 29 per cent by 2020. This can be attributed to the growing percentage of online shoppers who are willing to engage in cross border transactions. The number of online shoppers engaging in cross border e-commerce is expected to triple from 0.3 billion in 2014 to 0.9 billion in 2020, growing at an annual average rate of 21 per cent. By 2020, around 940 million online shoppers are expected to spend almost US\$ 1 trillion on cross border e-commerce transactions. As a comparison, the number of domestic B2C e-commerce shoppers is expected to remain more or less constant at 1.2 billion from 2016 to 2020.

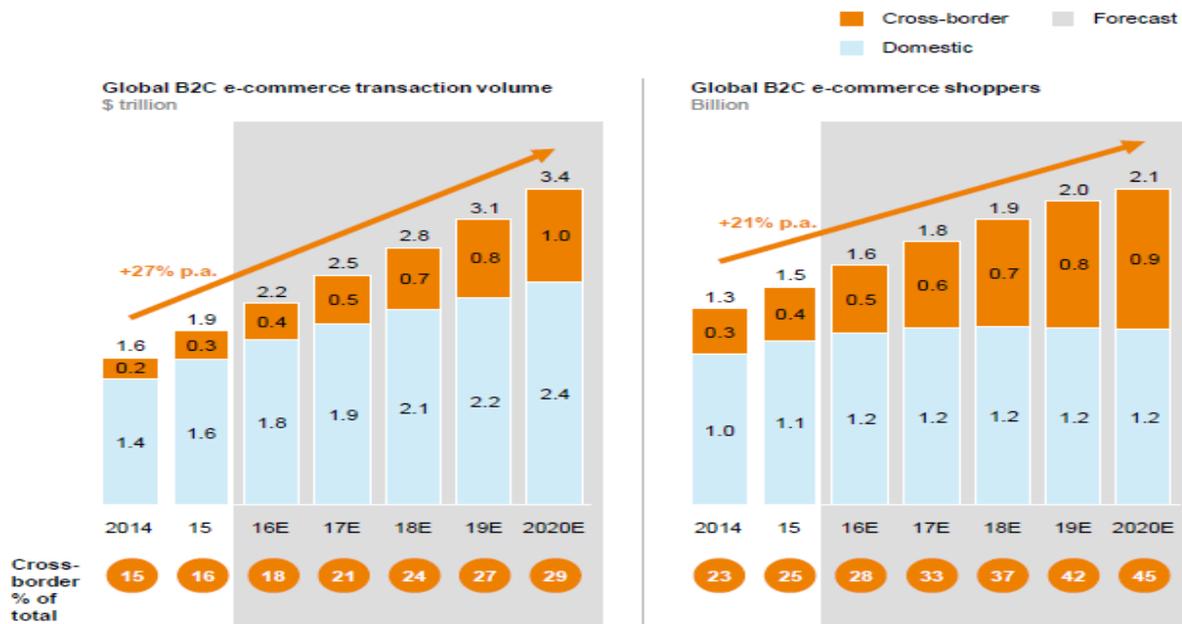


Figure 2 : Global B2C E-commerce transaction volumes and shoppers (Source: McKinsey (2016))

⁹ McKinsey (2016) Digital Globalization: the New Era of Global Flows

Geographic distribution of B2B E-commerce sales

As shown in Figure 3, the United States, Japan and China¹⁰ are the top three countries for B2B sales amounting to US\$ 6.4, US\$ 2.3 and US\$ 1.4 billion respectively, according to the latest estimates from UNCTAD. The top ten countries contributing to global e-commerce account for 64 per cent of B2B E-commerce.¹¹

Major economies by total, B2B and B2C e-commerce, 2015, \$billion

Economy	Total		B2B		B2C
	\$ billion	% of GDP	\$ billion	% of all e-commerce	\$ billion
1 United States	7,055	39%	6,443	91%	612
2 Japan	2,495	60%	2,382	96%	114
3 China	1,991	18%	1,374	69%	617
4 Korea (Rep.)	1,161	84%	1,113	96%	48
5 Germany (2014)	1,037	27%	944	91%	93
6 United Kingdom	845	30%	645	76%	200
7 France (2014)	661	23%	588	89%	73
8 Canada (2014)	470	26%	422	90%	48
9 Spain	242	20%	217	90%	25
10 Australia	216	16%	188	87%	28
10 above	16,174	34%	14,317	89%	1,857
World	25,293		22,389		2,904

Figure 3: Major Economies by total, B2B and B2C E-commerce, 2015, \$ billion
(Source: UNCTAD, April 2017)

Geographic Distribution of B2C E-commerce Sales:

In 2015, the Asia-Pacific region recorded the largest e-commerce turnover of US\$ 1,056.8 billion. This can be attributed to the large market size of countries such as China and India. This was followed by North America with US\$ 644 billion e-commerce sales in 2015. European countries together accounted for US\$ 505.1 billion e-commerce sales in 2015. The lowest e-commerce sales were recorded in sub-Saharan countries in Africa and northern parts of Russia, which together accounted for US\$ 8 billion e-commerce sales. The low value of sales can possibly be attributed to small market size and infrastructure bottlenecks.

As indicated in Figure 4, China leads in Asia-Pacific region due to its large market size, growing middle-class spending, lower costs, high internet penetration, and a large manufacturing base. In Northern America, the United States leads because of higher internet penetration, better infrastructure and a large marketplace. Similarly, the UK leads in Europe. Brazil is the largest online retail market in Latin America, accounting for 42 per cent of the region's US\$ 47.4 billion e-commerce sales in 2016.¹²

¹⁰ (According to the China e-commerce report of 2016 from MOFCOM, the total volume of e-commerce in China was 26.1 trillion CNY (US\$ 3.8 trillion approximately) in 2016.

¹¹ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1466>

¹² Brazil is the largest online retail market in Latin America, accounting for 42 per cent of the region's \$47.4 billion in E-commerce sales.

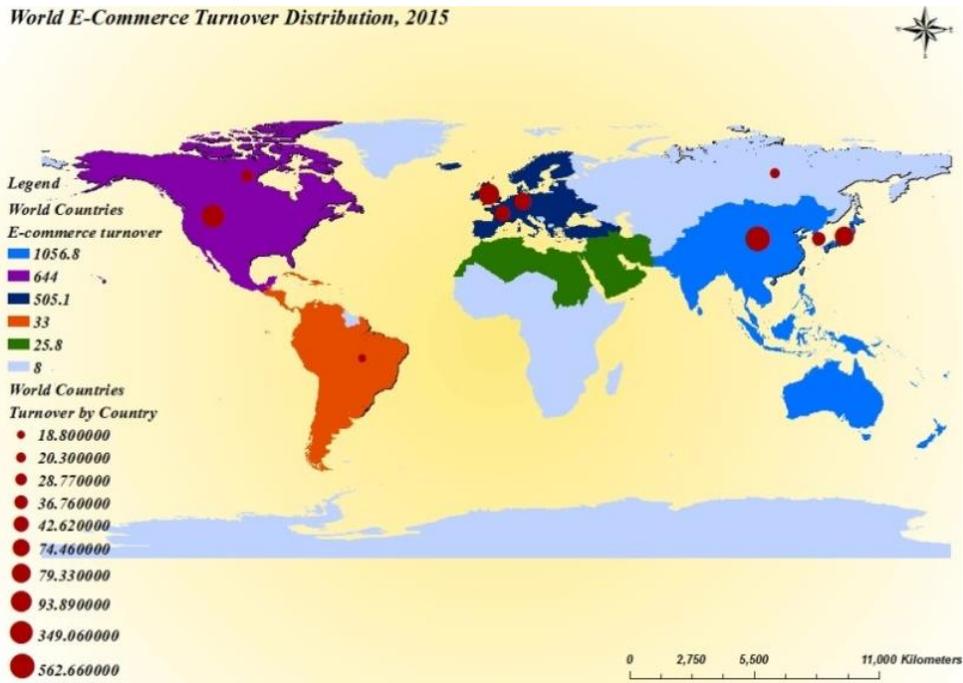
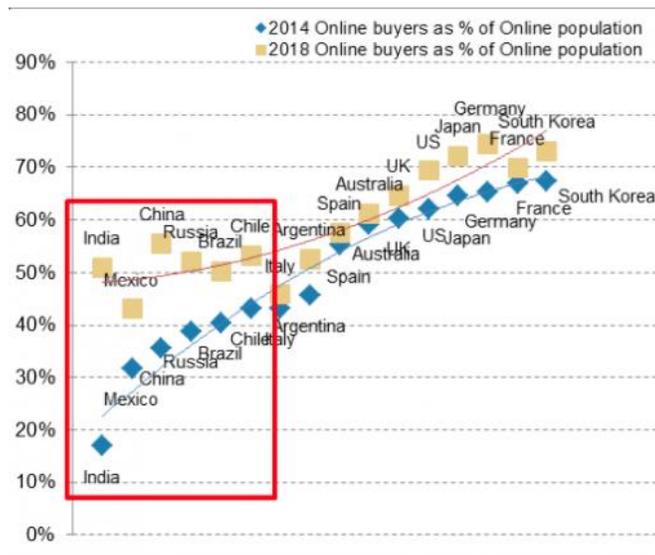


Figure 4: E-commerce Market Size and Distribution (Sales in \$ Billions),
Source: Eurostat, World Bank, IMF and Ecommerce Foundation, 2016

Although BRICS countries have a relatively lower percentage of online buyers among their entire internet population, with the improved internet infrastructure, payment and logistics services, BRIC countries are expected to close the gap with the developed countries in the coming years, as per projections in Figure 5.



Source: Morgan Stanley Research estimates, ComScore, Euromonitor, iResearch, Forrester, CEIC, NAB, Quantum, US Census Bureau, and national statistics from the governments and various industrial bodies of the countries listed

Figure 5: Closing the gap in percentage of online buyers
(Source: Morgan Stanley Research Estimates)

Retail E-commerce as a Percentage of GDP:

The share of B2C e-commerce in global GDP is expected to increase steadily in the coming years. The share of B2C e-commerce sales has experienced a significant increase from 0.54 per cent relative to global GDP in 2009 to 0.92 per cent in 2013. According to Statistica, this trend is expected to continue and retail e-commerce will continue to increase at an average growth rate of 10 per cent in the coming years leading to a projected 1.61 per cent of global GDP in 2018.

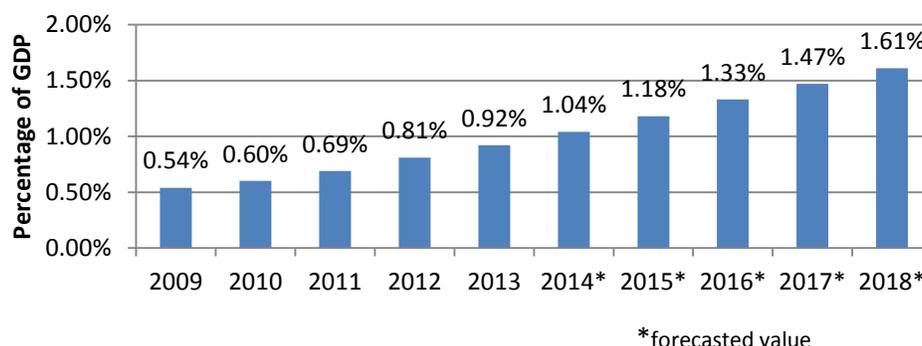


Figure 6: B2C E-commerce as Percentage of Global GDP (Source: Statistica, UK)

Top performers in Terms of Share of E-commerce in GDP:

Table 1 shows that, in 2015, China, the UK and South Korea were the top three countries in terms of percentage of overall e-commerce (B2B plus B2C) relative to their respective GDPs. The share of e-commerce in global GDP was 3.11 per cent, compared to 7.05 per cent for China, 6.12 per cent for the UK, 4.70 per cent for South Korea and 3.32 per cent for the USA. The remaining countries were below the global percentage value of 3.11 per cent.

	GDP at market prices	GDP per capita at market prices	Share of E-commerce in GDP
Global	\$73,106bn	\$20,776	3.11%
China	\$10,866bn	\$7,925	7.05%
United Kingdom	\$2,849bn	\$43,714	6.12%
South Korea	\$1,378bn	\$27,222	4.70%
USA	\$17,947bn	\$55,904	3.32%
France	\$2,423bn	\$36,503	2.97%
Japan	\$4,123bn	\$32,477	2.77%
Canada	\$1,551bn	\$43,249	2.30%
Germany	\$3,357bn	\$41,162	1.97%
Australia	\$1,236bn	\$56,328	1.80%
Spain	\$1,200bn	\$25,581	1.68%

Table 1: Top Ten Countries in Terms of per cent Share of E-commerce (B2B + B2C) to GDP (2015) (Source: Eurostat, Ecommerce Foundation, IMF and World Bank, 2016)

1.2. Potential Impact of E-commerce in the Context of the Digital Economy and Factors Affecting E-commerce

Digital technologies are transforming the way goods and services are produced, consumed, delivered or traded. In the era of the digital economy, to stay competitive in domestic and international markets, governments and enterprises are redefining their strategies, business models and policies. E-commerce is one such transformation that leverages the advancements in digital technologies, such as high-speed Internet, smart phones, Artificial Intelligence, 3D printing, Big Data Analytics, Augmented Reality, Virtual Reality and diverse and secure digital payment methods among others.

While some argue that e-commerce may have an impact on the traditional brick and mortar businesses, statistics show that e-commerce creates a large number of new job opportunities. For example, e-tailing (e-commerce sale of goods via the Internet) in India has the potential to provide employment for 1.45 million people by 2021.¹³ According to the Boston Consulting Group, in 2016, Alibaba, the Chinese e-commerce giant, generated 31 million jobs. Also, at least 122 million jobs out of a total 415 million, or nearly 30 per cent of jobs available in China's digital economy in 2035, will be created by Alibaba.¹⁴ This shows the tremendous potential of e-commerce in employment generation.

The benefits of e-commerce cut across various sectors from agriculture to services, especially in the e-commerce related value chain covering logistics, warehousing, transportation and IT support services among others. IT professionals such as web developers, network and computer systems administrators, computer-systems analysts, software developers are among the job categories with the largest gap between job openings and hires.¹⁵ E-commerce can help to bridge the gap by providing cost-efficient channels for learning and incentivizing low-income groups to acquire ICT skills. Online education is becoming a major channel for knowledge acquisition. The worldwide market for self-paced e-learning reached \$35.6 billion in 2011¹⁶ and there are approximately 13 million cross-border online students.¹⁷ E-commerce provides a new avenue for delivering learning and allows learners who are dispersed geographically to have 24/7 access to education or training.

There is a need to build specialized skills in areas of Data Analytics, Augmented Reality, Virtual Reality, Artificial Intelligence and Mobile technologies to take e-commerce to the next stage of development. These skills will not just enrich the experience of the buyers and sellers engaging in online transactions but will also allow users to make informed choices, on the one hand and on the other hand, help sellers in targeting buyers based on their individual needs and preferences.

Increasing the number of Internet users enables future e-commerce growth:

The Internet has enabled data flows which include communications, transactions, online content, cloud computing and advertising, among others. Cisco estimates that global devices and connections will reach 25 billion by 2019, of which 43 per cent represents machine-to-machine connections and 19 per cent represents smartphones.¹⁸

¹³ http://www.technopak.com/files/E-tailing_in_India.pdf

¹⁴ <http://en.yibada.com/articles/199145/20170329/alibaba-create-122-million-jobs-chinas-digital-economy-2035-report.htm>

¹⁵ WEF (2015). The 19 most demanded jobs for 2016

¹⁶ Docebo (2014). E-learning market trends & forecast 2014-2016 report

¹⁷ McKinsey Global Institute (2016). Digital globalization: the new era of global flows

¹⁸ McKinsey (2016). Digital globalization : the new era of global flows

The rise of e-commerce is underpinned by the increasing number of the internet users, which has more than tripled from 1 billion in 2005 to approximately 3.2 billion by the end of 2015.¹⁹ Asia is leading on the growth of the internet population in recent years. From 2009 to 2016, the number of internet users has increased fastest in Asia compared with other regions. The large number of Internet users in Asia is one of the most important reasons for the high volume of online e-commerce sales in this region.

Better Internet connectivity and increasing convenience provided by e-commerce sites have enabled more people to make purchases online. According to UNCTAD, an estimated 1.1 billion people made at least one online purchase in 2013, accounting for 41 per cent of all Internet users.²⁰

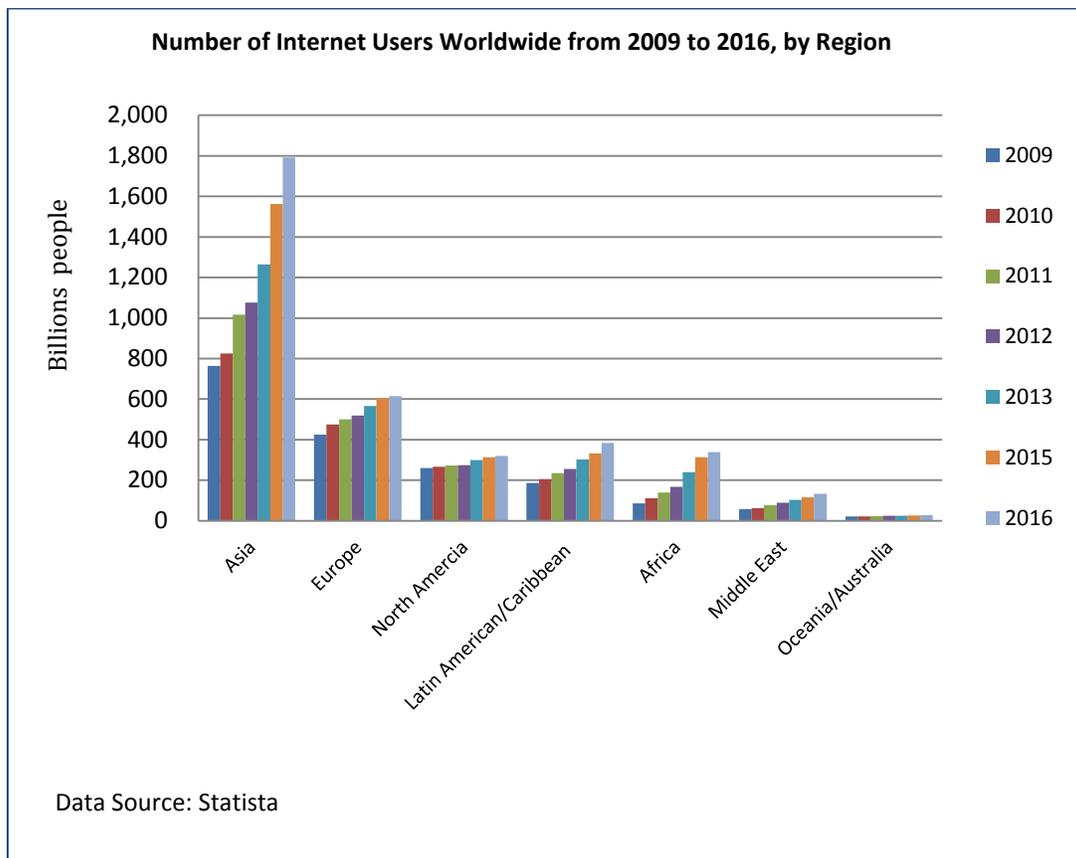


Figure 7: Number of internet users worldwide

According to the ITU estimates, by the end of 2016, 3.9 billion people (53 per cent of the world's population) are not yet on the internet; in the Asia and Pacific 58.1 per cent of population still does not have access to the internet. The majority of offline population is concentrated in Africa and LDCs. The figures indicate a huge scope for improving and encouraging internet usage across the globe.²¹ This would in turn help in e-commerce development.

¹⁹ World Bank (2016). Digital Dividends

²⁰ UNCTAD (2015) Information Economy Report 2015

²¹ <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf>

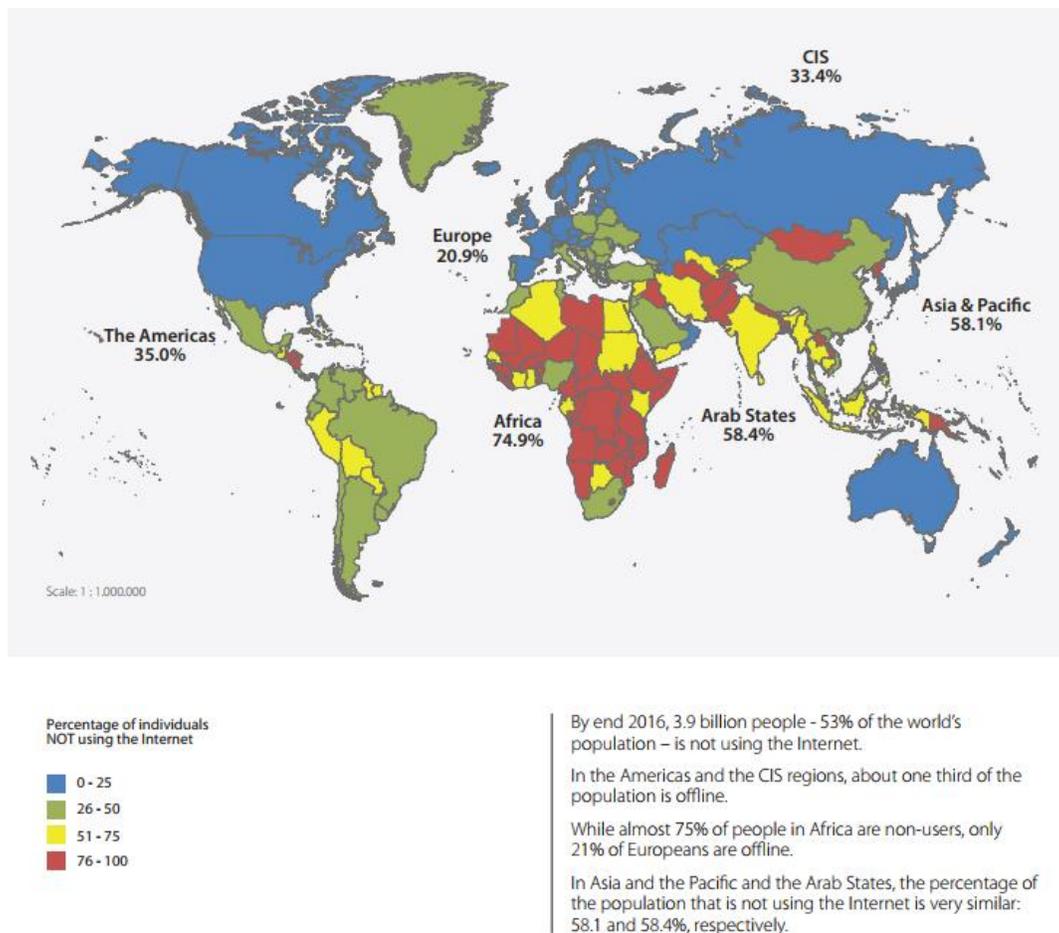


Figure 8: Percentage of individuals not using internet in different regions (Source: ITU-2016)
<http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf>

Impact of Electronic Payments on Economic Growth:

Electronic payment plays a crucial role in promoting e-commerce. After studying the macroeconomic data of 70 countries between 2011 and 2015, Moody's Analytics²² estimated that higher debit/credit card usage led to a 0.1 per cent cumulative increase in global GDP (US\$ 296 billion). The study also concluded that countries with largest increases in card usage experienced biggest contribution to growth. Additionally, increased card usage added almost 2.6 million jobs per year across the counties sample between 2011 and 2015.²³ E-commerce is tightly linked to card usage. Though the Moody's analytics did not specifically analyze online transactions, it serves a fair indicator of the potential of e-commerce in promoting economy and generating employment. In this context, there is an increased need for skill development and capacity building in e-commerce sector, so that youth are proficient enough to take up these employment opportunities. The usage of e-payment in B2B transactions is equally important as that in B2C. According to a survey conducted in the U.S., nearly 60 per cent of all B2B payments are conducted electronically.²⁴

²² "Moody's Analytics Study: The Global Impact of Electronic Payments."

²³ Ibid.

²⁴ Ardent Partners (2014). ePayments rising: the 2014 market report

Electronic Payment does not only provide easy ways for payment; more importantly, it generates data that could be used for analyzing consumer preferences and consumption trends. Increased use of Data Analytics, Augmented Reality, Virtual Reality, Artificial Intelligence and Mobile technologies take e-commerce to the next stage of development. These skills will not just enrich the experience of the buyers and sellers engaging in online transactions but will also allow users to make informed choices, on the one hand and on the other hand, help sellers in targeting buyers based on their individual needs and preferences.

E-wallets, credit cards and debit cards are the three most popular modes of electronic payments but in terms of growth, eWallets and PrePay are expected to have the highest growth from 2014 to 2019. Strengthening the infrastructure for easy to use and secure payment methods can give a boost to e-commerce which in turn can lead to economic growth.

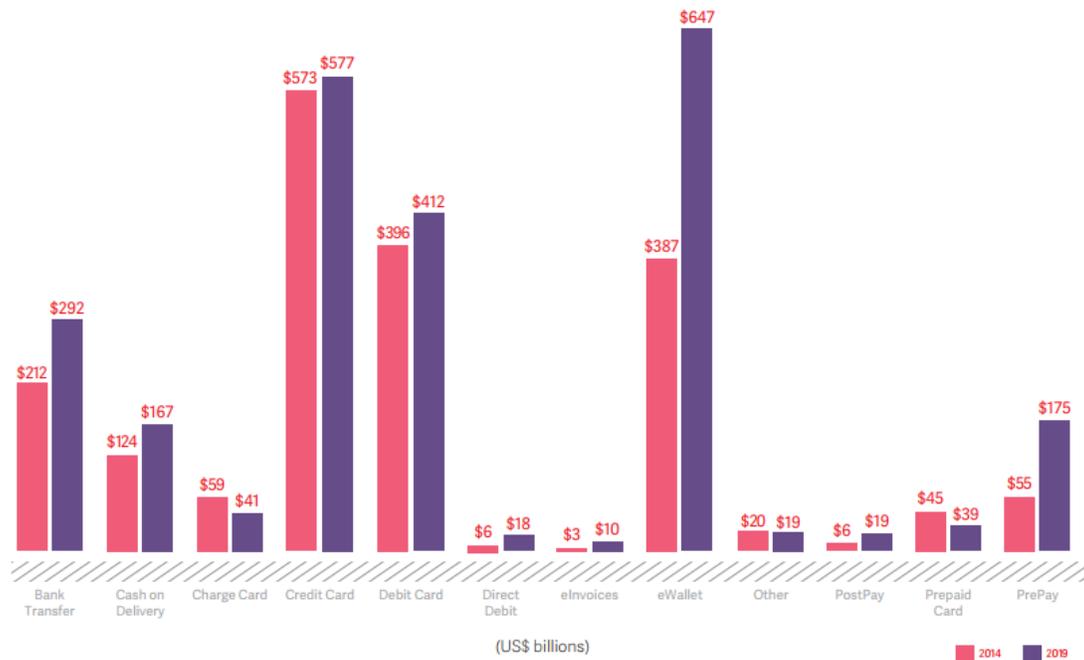


Figure 9:(Global payments report -2015))²⁵

Apart from internet penetration and e-payment, there are other factors influencing B2C, B2B and B2G e-commerce. Internet infrastructure, ICT skills, trust issue, logistics infrastructure, taxation and customs procedures, and data regulations, for example, affect all types. Data regulations affect e-transactions in services sector more than goods sector e.g. purchase of services and software. The degree of digitization in the government specifically affects B2G sector. The growth drivers and barriers vary across countries and help determine their e-commerce readiness.

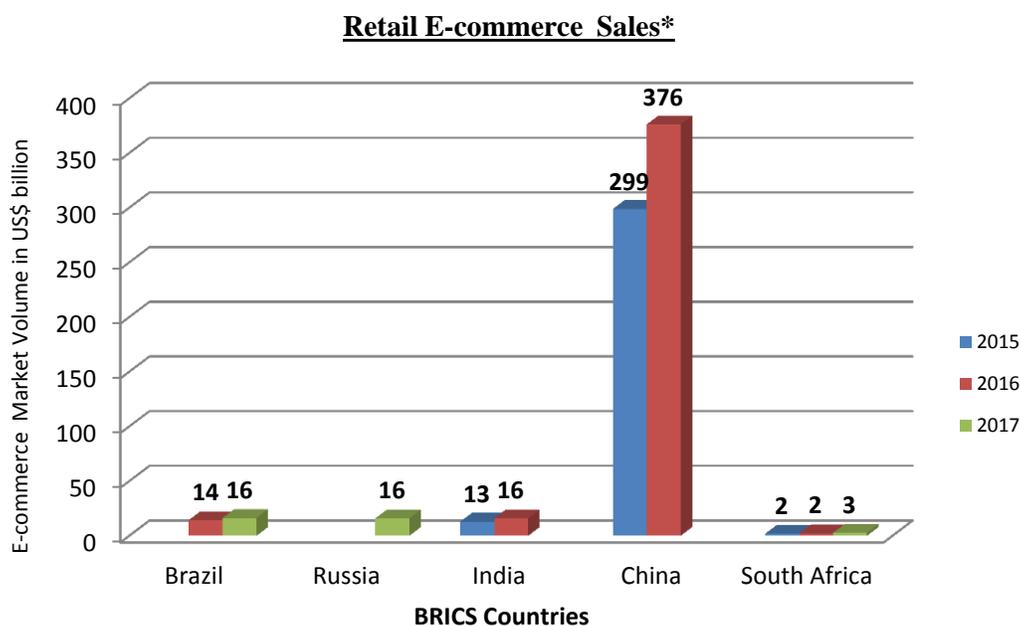
²⁵ <http://offers.worldpayglobal.com/rs/850-JOA-856/images/GlobalPaymentsReportNov2015.pdf>

Chapter 2

2.1. Cross Comparison of E-commerce in the BRICS

At present, the BRICS countries represent over three billion people and account for about 43 per cent of the world population.²⁶ Their economies have a combined nominal GDP of US\$ 16 trillion, which is equivalent to about 23 per cent of the gross world product, with an estimated US\$ 4 trillion in combined foreign reserves.²⁷ It is widely expected that the BRICS economies are well placed to become the most dominant economies in the world by 2050.²⁸

The volume of e-commerce sales varies significantly within the BRICS. In year 2016, the retail e-commerce sales were largest for China at US\$ 376 billion²⁹ followed by India and Russia at approximately at US\$ 16 billion each, Brazil at US\$ 14 billion and South Africa at US\$ 2 billion. Though all the BRICS countries have shown growth in retail e-commerce sales in the recent years, China's e-commerce sales far exceed those of other BRICS countries. Although this is primarily because of large market size, low cost of goods, better e-commerce infrastructure and big players like Alibaba.com, there is scope to enhance cooperation between China and other BRICS for further development of e-commerce in other BRICS countries.



**Figures are used for comparison purpose from a common source and official figures may differ (Year 2017- values are estimated)*

Figure 10: BRICS E-commerce sales (Source: Statistica, 2017)

The growth in internet penetration over the past decade has been rapid in all the BRICS countries, contributing to e-commerce growth. Russia has the highest internet penetration in BRICS, reaching 70 per

²⁶ Transforming the business potential of BRICS; https://in.rbth.com/world/2016/10/05/transforming-the-business-potential-of-brics_635741

²⁷ Ibid.

²⁸ Ibid.

²⁹ According to the China E-commerce Report of 2016 from MOFCOM, it was 5.16 trillion CNY (Approximately US\$ 758.7 billion).

cent in 2015. India and China, even with their relatively lower penetration of 26 per cent and 50 per cent respectively, have the largest number of internet users due to the size of population. While internet penetration in the BRICS is lower than that in MIKTA³⁰ and the G7, the growth of internet penetration in the BRICS between 2006 and 2015 is on average higher compared to the other two groups. This reflects the vastly growing recognition and efforts by governments and business stakeholders to strengthen and expand access to technological infrastructure that is imperative in today's world.

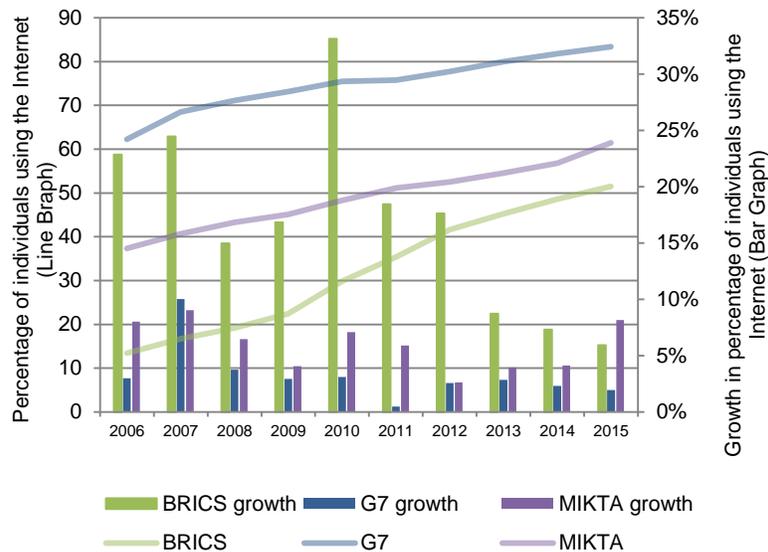


Figure 11: Internet penetration in BRICS, G7 and MIKTA (Source: Based on ITU Data)

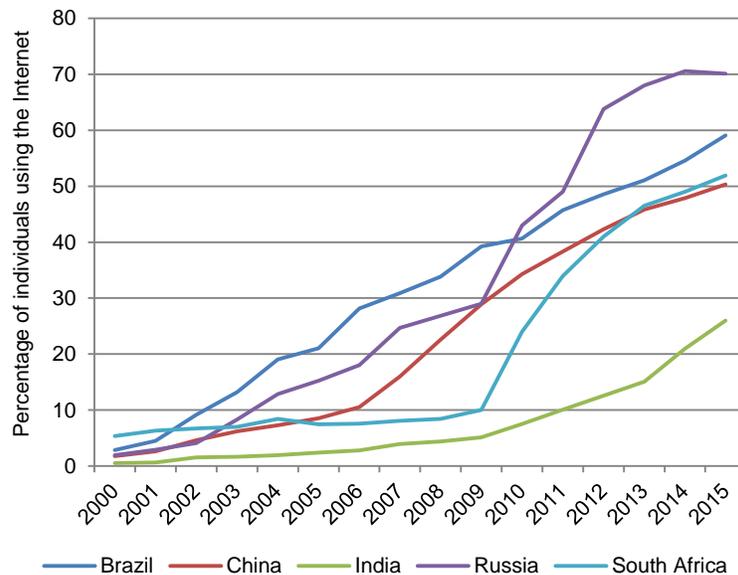


Figure 12: Internet Penetration in BRICS countries (Source: Based on ITU Data)

³⁰ MIKTA – Mexico, Indonesia, the Republic of Korea, Turkey, Australia

Brazil, one of the largest broadband markets in Latin America, had the highest rate of active mobile broadband subscriptions in the BRICS in 2015, followed by Russia and China. Russia had the highest fixed broadband subscriptions rate in the BRICS in 2015. It is one of the top countries that has succeeded in providing affordable fixed broadband, with subscriber costs meeting the affordability criteria of the UN International Telecommunication Union for more than 90 per cent of Russian households.³¹ India scores relatively lower in email usage, B2B and B2C ICT use, which is linked to underdeveloped ICT infrastructure. However, in terms of services trade, India stands out among the BRICS thanks to its advancement in IT-enabled outsourcing activities. India is also one of the fastest growing economies in the G20, with 7.9 per cent growth rate in 2015-16³² and an expected growth rate of 7.5 per cent in 2016-17.³³

With regard to the share of population that pays bills or make purchases online, China and Russia are above the world average of approximately 17 per cent; China records 19.2 per cent of population followed by Russia at 17.5 per cent. Brazil, South Africa and India have only 8.8 per cent, 7.6 per cent and 1.2 per cent of populations that make online purchases or pay bills online.³⁴ These values are far less than the high-income economies that have close to 50 per cent of population that make online purchases or pay bills online.

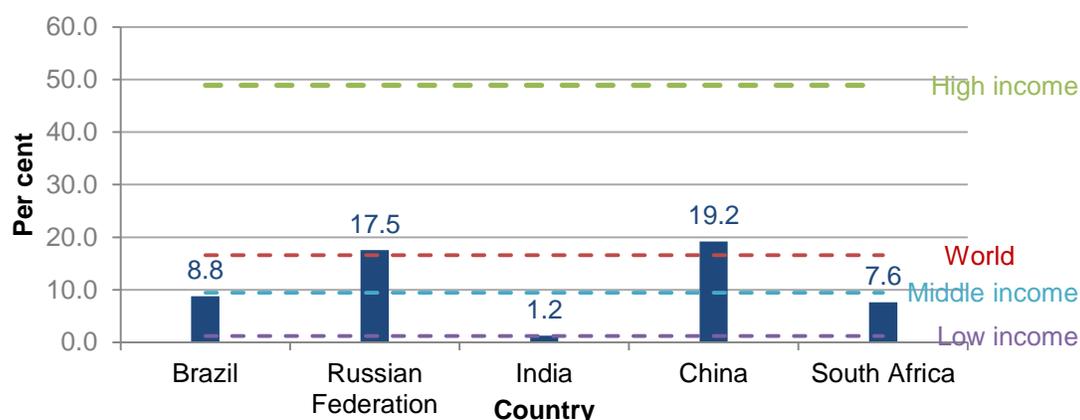


Figure 13: Share of the population that pays bills or buys things on the internet
(Source: Author's calculation based on Global Findex Data-2014)

Businesses based in urban areas have higher connectivity in comparison to those based in rural areas. Connectivity divide between urban and rural areas in 2015 is the highest in Brazil (81:19), followed by China (72:28), India (63:37) and Russia (60:40). In terms of demographics, the female internet user population in India is the lowest (39 per cent) compared with the other BRIC countries: 52 per cent in Russia, 49 per cent in Brazil and 45 per cent in China. The majority of women shoppers recommend their online purchase to other women.³⁵

Figure 14 provides a list of indicators along the e-commerce process chain that encompasses establishing business online, international e-payment and cross-border delivery. These indicators provide an overview of the status as well as cross-country comparison among the BRICS on the key determinants for SME

³¹ The World Bank (2016). Russia's Ambitious Broadband Goal: Is the Progress Sustainable?

³² <http://www.livemint.com/Industry/fOtMe4T3PN8CtLaeoO3E8M/Indias-GDP-growth-rate-for-201516-revised-to-79-from-76.html>

³³ OECD (2017). Economic surveys: India

³⁴ <http://datatopics.worldbank.org/financialinclusion/country/russian-federation>

³⁵ EY (2015). India vs BRICS: a comparison of the E-commerce ecosystem

competitiveness in e-commerce, including the number of internet users, use of emails and websites, use of debit/credit cards, and postal reliability.

	Establishing online business						International e-payment			Cross-border delivery		
	ICT infrastructure			Skills development			Payments			Trade logistics		
	Internet users	Fixed broadband subscriptions	Active mobile broadband subscriptions	Percentage of firms using e-mail to interact with clients	B2B ICT Use	B2C ICT Use	Debit card used in the past year	Credit card used in the past year	Used an account to make a transaction through a mobile phone	LPI international shipments score	Postal reliability index	Burden of customs procedure
Brazil	59.1	12.2	88.6	83.6	4.6	5	41.7	28.3	3.3	2.9	68	2.9
Russia	73.4	18.8	71.3	95.1	4.8	5.1	35	16.6	13.9	2.5	69.5	3.6
India	26	1.3	9.4	78	4.1	4.2	10.7	3.4	3.1	3.4	68.1	4.3
China	50.3	18.6	56	85	4.9	5.3	17.3	13.8	14.3	3.7	83.4	4.2
South Africa	51.9	5.3	59.5	70.5	5.3	4.6	40.8	10.8	17.6	3.6	87.2	4
Year	2015	2015	2015	2013-14	2015	2015	2014	2014	2014	2016	2013	2015
Scoring	0-100	0-100	0-100	0-100	1-7	1-7	0-100	0-100	0-100	1-5	0-100	1-7

Figure 14: Indicators along the E-commerce process chain proposed by ITC's Bringing SMEs onto the E-commerce Highway Report, 2016³⁶

Among the BRICS countries, Brazil holds the highest share of the population with a credit/ debit card. The most common method of e-payment in Brazil is credit card and Boletó Bancário, which account for 69 per cent and 24 per cent of all online purchases respectively.³⁷ South Africa has the highest share of population making a transaction through a mobile phone.

Policymakers are also increasingly seeing e-commerce as a key area of cooperation in the context of the BRICS. The 2015 Framework for BRICS E-commerce Cooperation, for example, aims to better integrate BRICS e-commerce markets. In 2016, the BRICS Trade Ministers' Communiqué reiterated the importance of strengthening intra-BRICS cooperation on e-commerce and appreciated the progress achieved since the adoption of the Framework for BRICS E-commerce Cooperation in 2015. The ministers emphasized the need for cooperation to boost e-commerce development in the BRICS countries, enhance capacity building and promote cooperation on infrastructure. The ministers emphasized that the development potential of e-commerce is not fully realized and in this regard, they directed the BRICS Contact Group on Economic and Trade Issues (CGETI) to implement all areas of the Framework and explore cooperation in areas of common interests. The ministers took note of the proposal to conduct a joint study to promote areas of common interest in e-commerce and stressed the importance of enhancing the BRICS countries understanding on e-commerce. In the 8th BRICS Summit at Goa (India) in 2016, the BRICS leaders further committed to strengthen such cooperation. They reaffirmed their support for efforts aimed at capacity building for effective participation in E-commerce trade to ensure shared benefits. Further, the 16th Meeting of the BRICS Trade Ministers in 2017 endorsed a statement that will contribute to the declaration of the BRICS Summit. The statement reflects the consensus reached on the importance of further enhancing intra-BRICS trade and investment, which is currently not reaching its potential.

³⁶ based on data from e-Trade for all portal (etradeforall.org) and WITS database

³⁷ https://www.emergentpayments.net/blog_brazilian-ecommerce-and-importance-of-boleto.php

2.2. Strengths, Weakness and Opportunities in BRICS E-commerce

The table below lists strength and weakness analysis for each of the BRICS countries in terms of e-commerce development. Data is extracted from reports of various sources to compile a preliminary table that enables an at-a-glance comparison.

Table 2: Strengths and Weaknesses of BRICS E-commerce

STRENGTHS	WEAKNESSES
BRAZIL (Based on Ecommerce Foundation Report 2016-unless otherwise indicated) ³⁸	
<ul style="list-style-type: none"> • The number of internet users is growing rapidly. As in 2016, 63.7 per cent of population uses internet and 62 per cent uses smartphones. • Mobile penetration rate exceeds 100 per cent in Brazil with 141 mobile phones per 100 people.³⁹ • Brazilians are internet savvy and like to seek out new brands and products online. • Average spending per shopper, though low, is constantly rising from US\$ 297 in 2013 to US\$ 416 in 2015. This is a positive trend. 	<ul style="list-style-type: none"> • Brazil's GDP is decreasing and unemployment rate is growing, which is not good for business in general • Year-on-year B2C e-commerce growth rate is decreasing since 2012 (Section 2.3.1). Overall economy needs to grow to rectify this. • Varying levels of development across regions. Foreign players need to account for this when entering Brazilian markets. • Average spending per shopper is low, offering growth potential • Small share of e-commerce in GDP (0.89 per cent). This offers opportunity for growth. • Only 38 per cent of people shop online despite higher percentage having internet access. This again offers potential for growth. • Brazil does not have a comprehensive and specific data protection framework. This reduces trust among online buyers. • Share of the populations that pay bills or buy things on the internet is marginally lower than world average and Russia (Section 2.1).
RUSSIA (Based on E-commerce in Russia (EastWest Digital News)–Feb 2017-unless otherwise indicated) ⁴⁰	
<ul style="list-style-type: none"> • Strong B2G sector at US\$ 700 billion in 2015 due to government led initiatives.⁴¹ • Domestic e-commerce market is growing in spite of the economic crisis. Russian online retail market which currently accounts for just 2 per cent of total retail has considerable growth potential for both domestic and foreign players. 	<ul style="list-style-type: none"> • Certain segments are still affected by the crisis, for example, electronics. • Some e-commerce companies saw their sales volume stagnate or decrease since 2014. Some faced financial difficulties. • Year-on-year B2C e-commerce sales growth in Russia are expected to decrease from 17.1 per

³⁸ Ecommerce Foundation Report 2016,

(https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/4/42/Brazil_B2C_E-commerce_Report.pdf)

³⁹ <http://www.pwc.com/il/he/bankim/assets/pwc-emerging-markets.pdf>

⁴⁰ E-commerce in Russia (EastWest Digital News)–Feb 2017(<https://www.slideshare.net/AdrienHenni/ecommerce-in-russia-53785544>)

⁴¹ <http://www.ewdn.com/2016/03/30/b2b-center-ru-ceo-alexey-degtyarev-in-2015-russian-online-b2b-trade-volume-reached-700-billion/>

<ul style="list-style-type: none"> • E-signature and online payments are becoming more popular. • Fulfillment infrastructure is reaching maturity. With reduced delivery costs the scope of e-commerce will extend to cheaper product categories and remote areas. • Russia has the highest internet penetration in the BRICS, reaching 70 per cent in 2015. However regional differences exist. Thanks to mobile accessibility, these regions are catching up with big cities like Moscow (www.ecommerce-europe.eu). • 61 per cent of the population uses smartphones (www.ecommerce-europe.eu). • Share of the populations that pay bills or buy things on the internet is higher than world average(Section 2.1). • Very large and relatively young population with enough room for growth of e-shoppers.⁴² • E-procurement is becoming streamlined and popular especially in B2G sector due to Federal law reforms. 	<p>cent in 2016 to an estimated value of 7.2 per cent in 2021.⁴³</p> <ul style="list-style-type: none"> • Since 2014, venture investment activity has decreased considerably. • Miniscule B2C sector at US\$ 11 billion in 2017. There is scope for development. • Russians from places with less population are less practiced internet users. • Cash on Delivery is the rule for physical goods though use of electronic payments is increasing slowly. • Lack of dedicated e-commerce laws for consumer protection (source: UNCTAD). • Lack of qualified human resources is an impediment. • In certain segments, there is no major player due to lack of investment (e.g. construction materials, furniture, plumbing and small niche industries) . • There is perception of fraud payments and refusals among foreign operators, though data suggests that Russian market is no different than other markets in this respect. • Domestic Russian companies are facing tough competition from large foreign players like AliExpress that offers cheap products and on-day delivery.⁴⁴
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INDIA
(Based on Goldman Sachs report-2015-unless otherwise mentioned)⁴⁵

<ul style="list-style-type: none"> • Economic Survey of India, projects a growth rate between 6.75 per cent and 7.5 per cent for the fiscal year 2017—18. India would be the fastest growing G20 economy. This is favourable for e-commerce. • Share of eGDP is increasing. e-commerce market to account for 2.5 per cent of GDP by 2030 • Large potential market (population size: >1.31 billion) . • Youngest population of the world which should lead to 300 million online shoppers in next 15 years. • Hyper growth in affordable smartphones. • Government led initiatives like Digital India, Startup India favour e-commerce. • Indian has seen increase in e-commerce startups 	<ul style="list-style-type: none"> • Lack of trust in small unfamiliar online merchants. Dominated by big players. • Lack of dedicated consumer protection law for e-commerce. • Low internet penetration. Increased internet penetration provides opportunity for growth of e-commerce. • Average spending per shopper is low. • Lack of dedicated e-commerce laws for consumer protection (UNCTAD). • Underdeveloped logistics infrastructure. Regular post not a viable option and couriers have limitation in terms of reach. This provides opportunity for growth if regular post is made more efficient. • Large per cent of online shoppers still prefer Cash on Deliver Payments (60 per cent).
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⁴² <https://www.ecommerce-europe.eu/app/uploads/2016/08/Russia-Light-Country-Report-2016.pdf>

⁴³ <https://www.statista.com/statistics/261391/b2c-E-commerce-sales-growth-in-russia/>

⁴⁴ <http://www.ewdn.com/2017/05/04/with-one-day-delivery-aliexpress-competes-with-domestic-russian-E-commerce-players/>

⁴⁵ <http://www.livemint.com/Industry/dd0888FvU3vLPPy8kbo49I/Indian-ecommerce-market-to-account-for-25-of-GDP-by-2030.html>

<p>because of fund availability. However, there may be a threat of dry-up in the new startup ecosystem. Efforts should continue to attract funds.⁴⁶</p> <ul style="list-style-type: none"> • India will have the second-largest digital population in the world with 1 billion users by 2030, powered by online mobile penetration. • The payment landscape is also evolving fast with the launch of digital wallets and payment banks. Third party e-wallets are now replacing the cash on delivery method and both buyer and seller are mutually satisfied.⁴⁷ Mobile wallets can serve the large unbanked population. Government making efforts to move towards cashless economy, after the demonetization drive in 2016. • India's IT infrastructure spend to reach US\$ 2.2 billion in 2017- a 1.5 per cent increase from 2016 (Gartner). • India to spend US\$ 59 billion to build and modernize railways, airports, and roads (Union Budget 2017). This would improve e-commerce logistics which is currently a strong barrier. 	<ul style="list-style-type: none"> • Share of the populations that pay bills or buy things on the internet much lower than world average (Section 2.1). There is large potential for growth and the government is making efforts in this direction. • Lack of statistics on B2B, B2G and cross-border e-commerce. Proper statistics would help in policy formulation. • Indian customers return much of their products. Returns are expensive for the business.⁴⁸
<p>CHINA (Based on the Morgan Stanley Report: Next Decade of China's Transformation. Feb, 2017-unless otherwise mentioned)⁴⁹</p>	
<ul style="list-style-type: none"> • China will break out of the middle-income trap and join the ranks of high-income economies by 2027. • Private consumption will continue to rise. • E-commerce is likely to remain a key driver of China's consumption including rural consumption. • In 2015, China had the highest percentage of e-commerce in GDP; 7.05 per cent as against the global average of 3.11 per cent.⁵⁰ • The future Chinese consumer will be richer, older and more tech-savvy. Mobile tech innovation, electronic payments and banking, and online shopping will accelerate. • Share of the populations that pay bills or buy things on the internet is higher than world average(Section 2.1). • E-commerce has low barriers to entry. (UNIDO-BRICS E-commerce Publication -2017). 	<ul style="list-style-type: none"> • GDP growth has trended lower every year since 2010. However, the quality of growth has improved as underperforming sectors are eliminated. • Risk of industrial overcapacity. • Fear of financial shock. China's debt has risen from 147 per cent of GDP in 2007 to 279 per cent in 2016. However, China has the capacity to withstand any financial crisis because of savings, strong net asset positions, current account surplus, less inflationary pressures high foreign currency reserves. • Fierce competition among domestic and international players in e-commerce sector. So companies need to continuously innovate. • E-commerce sector is dominated by big players like Alibaba. This is a barrier for new entrants who don't want to sell through large marketplaces.

⁴⁶ <http://economictimes.indiatimes.com/markets/expert-view/innovation-funds-key-to-growth-in-E-commerce-parag-gupta-morgan-stanley/articleshow/52544797.cms>

⁴⁷ <https://www.slideshare.net/eminenture/E-commerce-industry-in-india-53724019>

⁴⁸ Ibid.

⁴⁹ <https://www.morganstanley.com/ideas/china-economic-market-transformation-bluepaper>

⁵⁰ Global E-commerce Report -2016 :

(https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/5/56/Global_B2C_Ecommerce_Report_2016.pdf)

<ul style="list-style-type: none"> • Innovative technologies like BIG Data being adopted by big market players in e-commerce space. (UNIDO-BRICS E-commerce Publication-2017). • Big market players are investing in innovative technologies like Artificial Intelligence, Augmented and Virtual Realities, Voice Recognition based searches, Big Data Analytics to remain competitive in domestic and international market. Chinese logistics companies are testing Uber-like app to manage demand swings.⁵¹ • E-commerce players are trying to provide omni-channel experience to buyers. • China's cross-border e-commerce trade is on the rise and is expected to grow at CAGR of a rate of 20.1 per cent between 2015-20; 2020 it is expected to be 37 per cent (12 trillion yuan) of its total export and import.⁵² 	<ul style="list-style-type: none"> • E-commerce regulatory system is still in exploratory stage (UNIDO-BRICS E-commerce publication-2017). • Shortage of qualified staff especially in handling cross border e-commerce. There is limited understanding of e-commerce talents. • Last mile delivery is still a challenge. Reliability and speed need to be improved while keeping the costs of delivery low. Improvements such as standardized packaging, tracking returned products, optimization across transportation modes and better route planning could lower logistics costs by 30 per cent.⁵³
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SOUTH AFRICA

(Based on World Wide Worx report: Online Retail in South Africa 2016-unless otherwise mentioned)⁵⁴

<ul style="list-style-type: none"> • Despite the GDP shrinkage, online retail continues to grow at a high rate above 20per cent since the turn of the century. In 2015 rate of growth was 26 per cent. • Forecasts by World Wide Worx indicate that online retail sales will double over from 2016 to 2020. • In 2016 the online retail was expected to reach 1 per cent of the overall retail for the first time. • Internet penetration is increasing and stands at 52 per cent in 2016.⁵⁵ • Smartphone users are expected to increase from 21.73 per cent of the population in 2015 to 37.21 per cent in 2021.⁵⁶ • Much of the E-commerce retail growth has been due to the number of experienced internet users in South Africa who are willing to transact online. • Share of the populations that pay bills or buy things on the internet is higher than world average (Section 2.1). • At 61st place in the UNCTAD B2C E-commerce Index 2016, South Africa is the front- 	<ul style="list-style-type: none"> • There is a slowdown of economic growth which may be detrimental to growth of business in general. South Africa's GDP in current prices has been declining since 2011 to US US\$ 294.13 billion in 2016. (Statista). • Only the major payers have contributed to the 1 per cent share of online retail to overall retail. A vast majority of retailers do not have e-commerce presence at all. • The models adopted by South African ecommerce have not attained the sophistication of major Western markets, where every category of product is characterized by a wide range of business models. This indicates a lot of potential for e-commerce growth through adoption of new business models for underexposed product categories. • Government institutions such as the Department of Finance (Treasury), SARB and The South African Revenue Authority (SARS) lack adequate data about the number and size of E-commerce enterprises and cross-border transactions. Identification and verification of taxable transactions is difficult (Section 2.1.5)
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⁵¹ <http://www.mckinsey.com/global-themes/china/an-uber-for-chinese-E-commerce>

⁵² <http://i.aliresearch.com/img/20160901/20160901171708.pdf>

⁵³ <http://www.mckinsey.com/industries/high-tech/our-insights/chinas-E-commerce-soft-spot-logistics>

⁵⁴ <http://www.worldwideworx.com/retail2016/>

⁵⁵ Internet Live Stats (<http://www.internetlivestats.com/internet-users/south-africa/>)

⁵⁶ <https://www.statista.com/statistics/625448/smartphone-user-penetration-in-south-africa/>

<p>runner in e-commerce readiness on the African continent.⁵⁷</p>	<ul style="list-style-type: none"> • Lack of or inaccessible fixed broad band infrastructure. For this reason, South Africa has one of the highest data costs in the world which discourages small enterprises to take up e-commerce. • According to the GEM (Global Entrepreneurship Monitor South Africa) 2014 report, lack of access to finance and poor profitability, low levels of R & D, onerous labour laws, poor infrastructure, skills shortage and inefficient bureaucracy are among the primary reasons for business failure in South Africa. The survival rate of start-ups is low. This applies to e-commerce start-ups also. • The requirement of registration by all foreign suppliers of e-commerce services in South Africa, since 2014, may not be favourable for cross-border e-commerce. • According to the UNCTAD estimates based on 2014 data, only 6 per cent of South African population above 18 years shops online. Also, only 14 per cent of internet users above 18 years are eShoppers. So, there is opportunity for growth. • Share of the populations that pay bills or buy things on the internet lower than world average (Section 2.1).
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2.3. Country Specific Details

2.3.1. Key E-commerce Trends and Figures

Brazil:

GDP growth fell to a low of 3.6 per cent in 2016 according to Brazilian Institute for Geography and Statistics (IBGE). Despite the unfavorable economic landscape, e-commerce in Brazil maintained growth, reaching a total of US\$ 14.3 billion in terms of turnover according to e-Bit. This is a nominal increase of 7.4 per cent compared to 2015. It is estimated that e-commerce will thrive even more in 2017, with an increase of 12 per cent in revenues, reaching US\$ 16.3 billion.

⁵⁷ http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d07_en.pdf

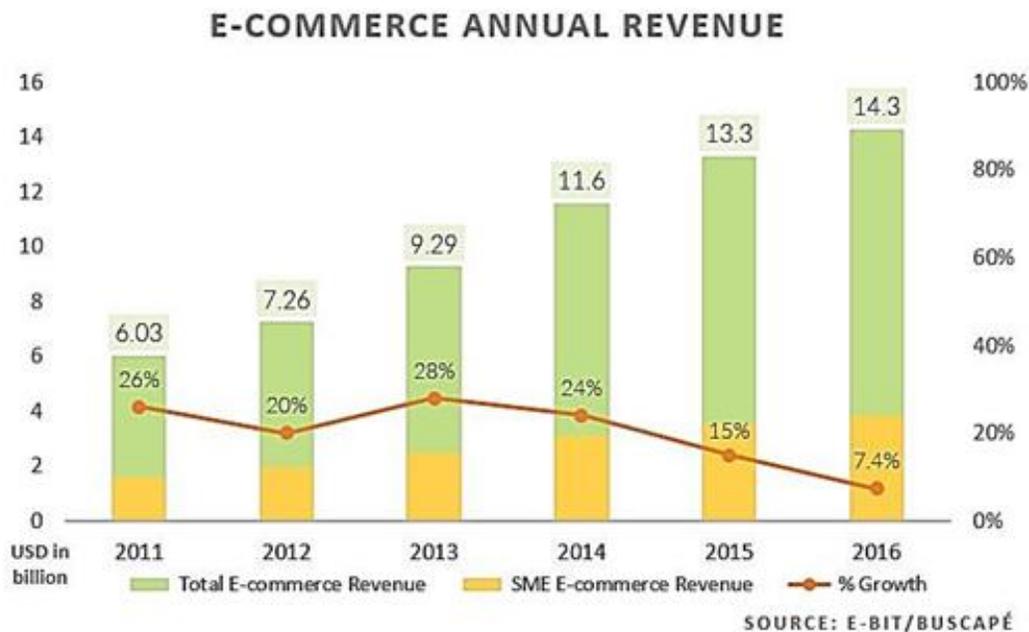


Figure 15: Total E-commerce Revenue, 2011-2016 (Source: E-BIT/BUSCAPE)

Class C⁵⁸, which has been fundamental to the growth of online sales in recent years, was more heavily affected by the high inflation rate of 10.67 per cent (IBGE, 2016) caused by the financial crisis; this negatively affected their share to online shopping. However, an increasing participation of consumers with higher purchasing power can be observed, hence accounting for the 22 per cent growth of active online consumers in 2016-59.

With the rise of smartphones in mid-2010, consumers' purchasing habits displayed a change; in 2015, mobile devices accounted for about a third (35 per cent) of the total number of online accesses to virtual stores.⁶⁰ Purchases made in 2016 by mobile devices in Brazilian online stores represented more than a 21 per cent share in the volume of electronic commerce compared to 15 per cent in 2015. To further measure the potential of growth of e-commerce in Brazil, it is essential to keep in mind that Brazil has a population of 204 million inhabitants (IBGE, 2016), with 75 million Internet users and 48 million active consumers as of 2016 (e-Bit, 2017).

As can be seen in the following figure, the mobile broadband connections have increased at a much faster pace than the fixed broadband connection, indicating the change in the behavior of the users. E-commerce companies therefore need to make their platforms conducive for mobile devices.

⁵⁸ Class C: Household Gross Monthly income below \$3000 (e-Bit)

⁵⁹ E-Bit

⁶⁰ Ibid.

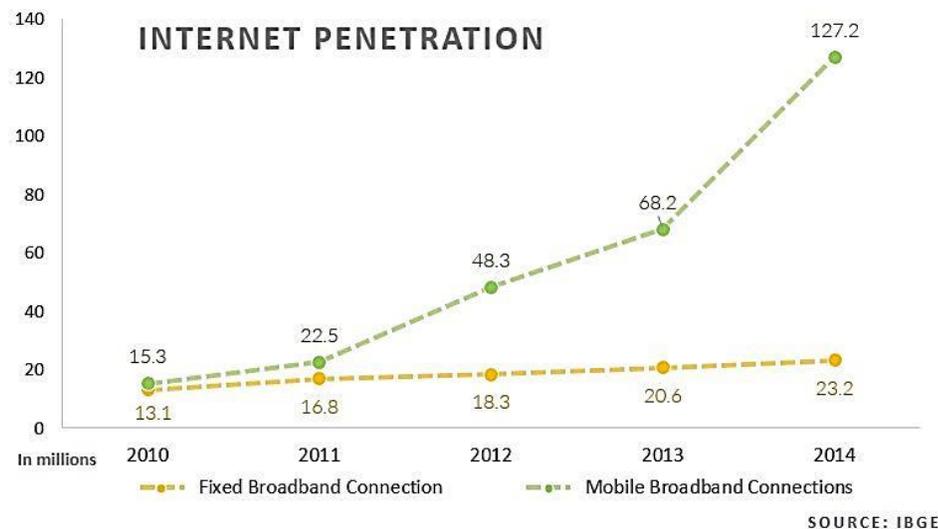


Figure 16: Penetration of fixed broadband and mobile broadband connect, 2010-2015 (Source: IBGE)

Because of the growing interest rates, scarce credit, rising dollar, unemployment and rising inflation, consumers have become more selective, delaying non-essential purchases and seeking to reduce debt. All this favors e-commerce as they find comfort, convenience, variety of supply and the ability to search and compare prices easily. This explains why, despite the crisis, the market estimates e-commerce growth at around 12 per cent in 2017 (e-Bit, 2017). This number represents a slowdown compared to previous years, but nonetheless, it is a significant growth in the current economic scenario.

There is also a rise in cross border shopping, as it is estimated that 21.2 million consumers have purchased items from international websites amounting to a US\$ 2.40 billion in revenue, a 17 per cent increase from 2015 and a 38 per cent increase from 2014 (e-Bit, 2017). Chinese sites have great influence. For example, Aliexpress.com has a 45 per cent share of Brazilian consumers using international sites. This is followed by Amazon.com with 40 per cent due to already existing operations within Brazil, and eBay with 26 per cent. The top five categories shopped are electronics, computers, fashion and accessories, mobiles, and toys and games (e-Bit, 2017).

Russia:

The current global political and economic climate and the fall in oil prices had a devastating effect on the Russian economy, causing a recession from which the country has yet to recover. According to the Uniform Federal Register, company bankruptcy increased by 22 per cent in the first half of 2015. The high rents and staff costs, combined with the decline of consumer demand, have encouraged a number of traditional retail chains to move into the e-commerce market. Therefore, it is not surprising to see a growth in online sales despite sanctions and recession. This is also favored by an increase in internet penetration rates.

Thus total Russian e-commerce consists of a small B2C sector (around US\$ 11 billion in 2015 for physical goods), B2G (US\$ 80 billion according to the zakupki.gov.ru official portal) and a large B2B

volume at around US\$ 700 billion; these figures are subject to important currency exchange variations: the ruble lost more than half of its value between 2013 and 2015.⁶¹

According to the figures provided by Data Insight, Russia's online retail market for physical goods has continuously increased. In 2016, the total online market size of physical goods was approximately US\$ 12 billion in domestic retail sector which marked a 14per cent increase from 2015 value in US\$ terms.

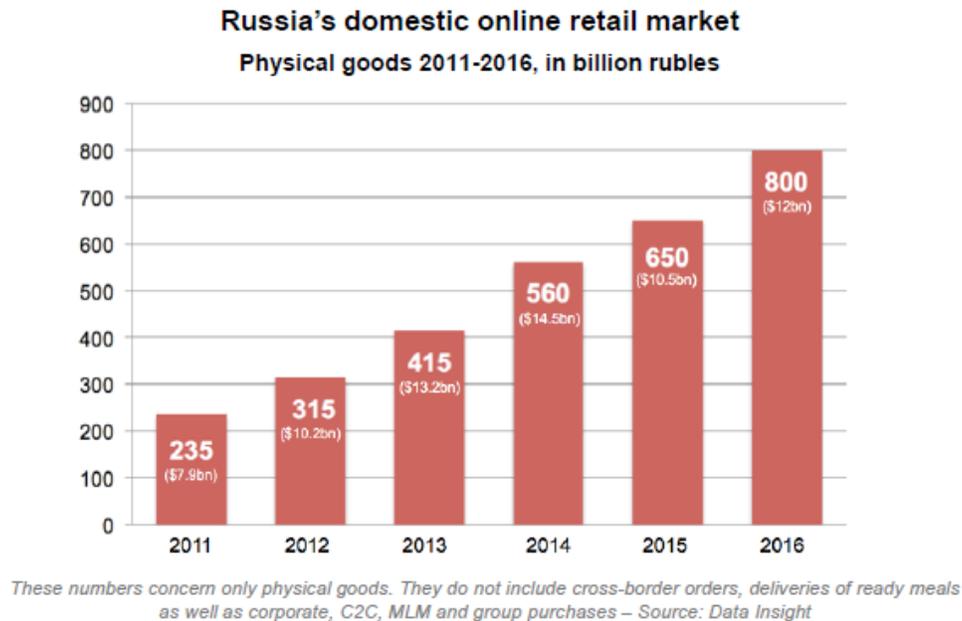


Figure 17: Russia's domestic online retail market for physical goods (Source: Data Insight)

The infrastructure in Russia is becoming more favorable for e-commerce. According to surveys by GfK and Yandex, Internet penetration in Russia reached 70 per cent in 2015 as compared to 25.4 per cent penetration rate in 2008. The number remained stable in 2016. Moreover, the mobile internet audience keeps growing especially because of smartphones as seen in the figure below. One in three Russian online consumers uses their smartphones to make purchases (Yandex, GfK).

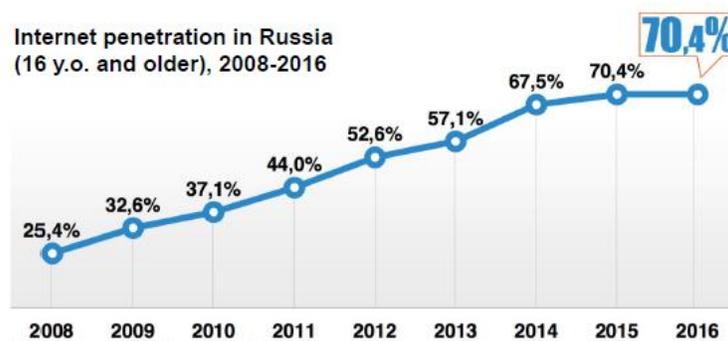


Figure 18: Internet Penetration in Russia +16 yrs. (Source: GfK Omnibus survey 2016, all Russia, 16+)

⁶¹ <http://www.ewdn.com/2016/03/30/b2b-center-ru-ceo-alexey-degtyarev-in-2015-russian-online-b2b-trade-volume-reached-700-billion/>

Mobile Internet penetration (16 y.o. and older), 2013-2016

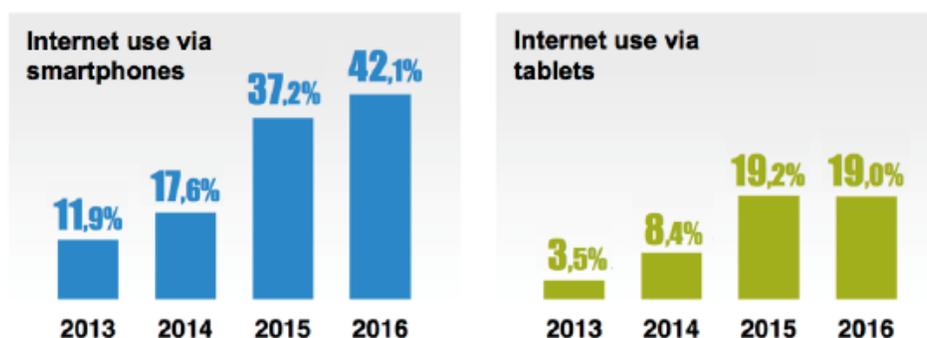


Figure 19: Mobile Internet Penetration in Russia +16 yrs. (Source: GfK Omnibus survey 2016)

However, according to East-West Digital News, regional differences in Internet penetration exist because of purchasing power and, development of broadband and wireless internet access. Internet use is, therefore, more concentrated in bigger cities and in western Russia. According to a survey by Public Opinion Foundation or FoM, in 2016, 79 per cent of inhabitants in Moscow and St. Petersburg aged above 18 years use the Internet. This is higher than the national average of 68 per cent in the same age group. Strengthening of Internet across all regions of Russia can help boost e-commerce.

Cross border sales volume of physical goods has grown steadily as indicated in Figure 20. However, in comparison to retail sales of physical goods in the domestic market in 2016, the cross-border retail market size of physical goods was relatively small at about US\$ 4.3 billion according to National Association of Mail Ordering and Distance Selling (NAMO). In 2016, when including the cross border online sales also, domestic online retail sales of physical goods accounted for four per cent of the total domestic retail market (Data Insight). One can infer that there is scope of further development of e-commerce in comparison to the traditional channels of sale.

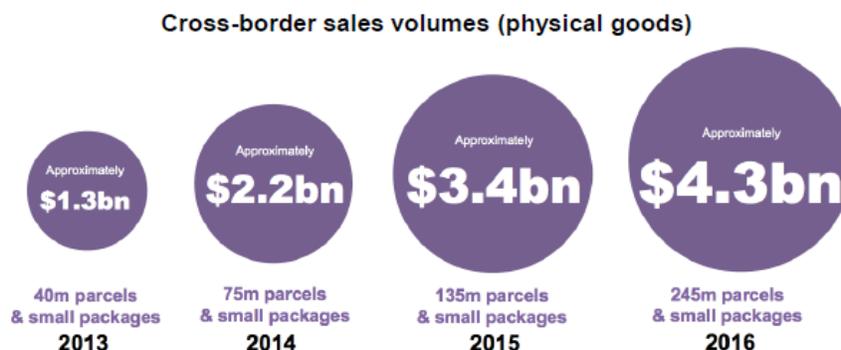


Figure 20: (Source: NAMO / East-West Digital News)

Figure 21 shows that in 2016 Russian online stores attracted a larger share of online buyers compared to foreign online stores in all types of goods. However, since mid-2014, Chinese marketplaces are

increasingly becoming popular as they are offering unbeatable prices along with fast delivery coupled with a growing trust of Chinese e-commerce sites.⁶²



Figure 21: Survey by GfK - Yandex Market

Most public procurement in Russia is carried out by six electronic trading platforms mentioned in section 2.3.2 and 2.3.4.

India:

“India's gross domestic product (GDP) grew by 7 per cent year-on-year in October-December 2016 quarter, which is the strongest among G-20 countries, as per Organization for Economic Co-operation and Development (OECD) Economic Survey of India, 2017. According to IMF World Economic Outlook Update (January 2017), Indian economy is expected to grow at 7.2 per cent during FY 2016-17 and further accelerate to 7.7 per cent during FY 2017-18”.⁶³

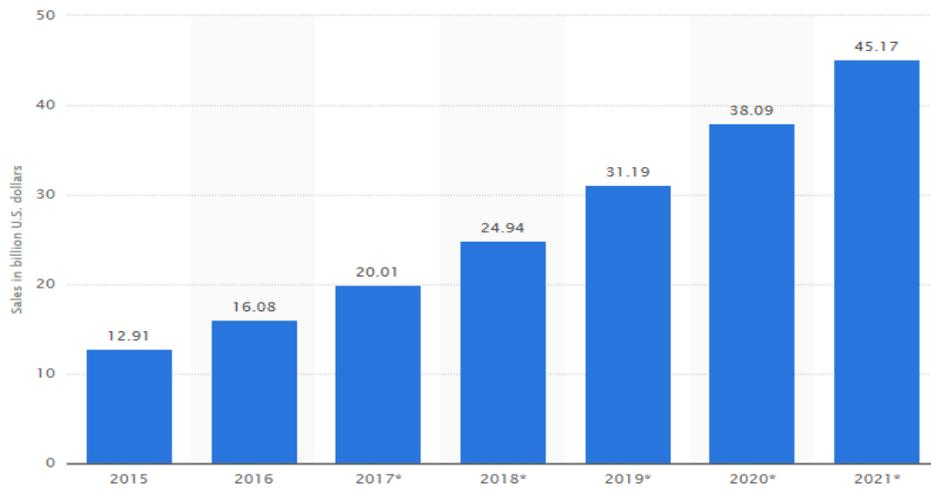
Against a backdrop of economic growth, e-commerce in India has also seen high growth over the last decade due to many contributory factors including rapid adoption of new technologies, a large increase in the number of internet users, innovative business models and alternative payment methods offered by e-commerce companies. The annual growth in the e-commerce sector was 53 per cent in 2015⁶⁴ and the M-commerce (transactions via mobile devices) was estimated to be 33 per cent in 2016.⁶⁵

⁶² East-West Digital News (<http://www.ewdn.com/files/ecom-rus-download.pdf>)

⁶³ Indian Brand Equity Foundation (IBEF, 2017), <https://www.ibef.org/economy/indian-economy-overview>

⁶⁴ Source: IAMAI - IMRB Research

Retail e-commerce sales in India, which were worth US\$ 12.91 billion in 2015, grew at an annual rate of 24.55 per cent to reach US\$ 16.08 billion in 2016. Retail online sales are expected to grow further at a CAGR of 23 per cent from 2016-2021 to reach US\$ 45.17 in 2021.⁶⁶



© Statista 2017

Additional Information
India; Statista; 2015 to 2016

Sources
Statista (Digital Market Outlook); Statista DMO

Figure 22: India's Retail E-commerce Sales in \$ billion (Source: Statistica, 2015-2016)

The share of retail online sales has been on the rise since 2014 and is expected to grow in the coming years.⁶⁷

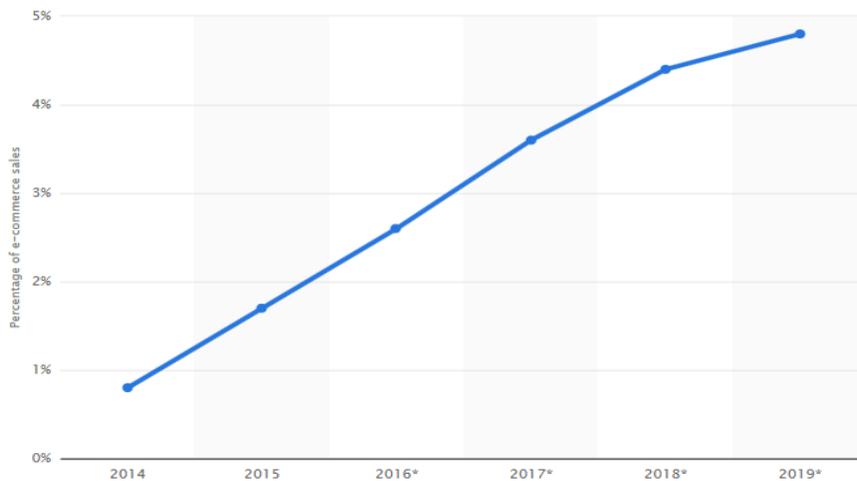


Figure 23: Share of retail E-commerce Sales to Overall Retail Sales in India (Source: Statistica, 2017)

⁶⁴ Source: Associated Chambers of Commerce and Industry of India (ASSOCHAM) and Grant Thornton, www.assochem.org/newsdetail.php?id=5135

⁶⁵ Statista (<https://www.statista.com/statistics/289770/india-retail-E-commerce-sales/>)

⁶⁷ Statista, 2017 (<https://www.statista.com/statistics/379167/E-commerce-share-of-retail-sales-in-india/>)

The number of Internet users in India has continuously increased with the annual increases of more than 20 per cent since 2011 according to Internet Live Stats and the annual growth in India's Internet users has far exceeded the population growth in the same year.⁶⁸ According to a research by Internet and Mobile Association of India (IAMAI) and Internet Market Research Bureau (IMRB), mobile internet penetration stood at 21 per cent with 266 million users in 2015. Smartphone penetration stood at 29.8 per cent of the population (2015).⁶⁹ These are some of the contributing factors for growth in e-commerce in recent years. Though Internet penetration has been on the rise, it is still low compared to the developed economies and other BRICS countries.

Year	Internet Users**	Penetration (% of Pop)	Total Population	Non-Users (Internetless)	1Y User Change	1Y User Change	Population Change
2016*	462,124,989	34.8 %	1,326,801,576	864,676,587	30.5 %	108,010,242	1.2 %
2015*	354,114,747	27 %	1,311,050,527	956,935,780	51.9 %	120,962,270	1.22 %
2014	233,152,478	18 %	1,295,291,543	1,062,139,065	20.7 %	39,948,148	1.23 %
2013	193,204,330	15.1 %	1,279,498,874	1,086,294,544	21.5 %	34,243,984	1.26 %
2012	158,960,346	12.6 %	1,263,589,639	1,104,629,293	26.5 %	33,342,533	1.29 %
2011	125,617,813	10.1 %	1,247,446,011	1,121,828,198	36.1 %	33,293,976	1.34 %

Figure 24: India's Internet Users (2016 est) Source: Internet Live Stats

B2C commerce in India leads the market in India, while B2B is limited to organizations that drive online channels to integrate with their partners and distributors.⁷⁰

According to research conducted by ASSOCHAM in 2015, the apparel segment showed the highest growth in the Indian e-commerce sector at 69.5 per cent, followed by electronics at 62 per cent.⁷¹

Due to low card penetration and lower levels of trust, almost 60 per cent of Indian online buyers use cash on delivery (COD) payment option; 17 per cent use credit cards, 13 per cent use debit cards, 9 per cent use net banking, less than 1 per cent opt for EMI and less than 0.5 per cent opt for third party wallets.⁷²

China:

According to official statistics released by the State Statistics Bureau, GDP values were 54.04, 59.52, 64.40, 68.91 and 74.41 trillion yuan from 2012 to 2016, and GDP growth rates were 7.9 per cent, 7.8 per cent, 7.3 per cent, 6.9 per cent, and 6.7 per cent between 2012 and 2016.

⁶⁸ Internet Live Stats (<http://www.internetlivestats.com/internet-users/india/>)

⁶⁹ eMarketer

⁷⁰ Gartner Research, www.gartner.com/newsroom/id/2876517

⁷¹ ASSOCHAM Research, www.assochem.org/newsdetail.php?id=5427

⁷² Deloitte Research E-Commerce in India A Game Changer for the Economy

(<https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-E-commerce-in-india-noexp.pdf>)



Figure 25: China's GDP (100 million Yuan) and its Growth Rates (Source: State Statistics Bureau)

In China, e-commerce development has spurred GDP growth by contributing almost 7.05 per cent to GDP, which is much higher than the global average of 3.11 per cent.⁷³ On 24 December 2016, the Ministry of Commerce of China, the State Internet Information Office and the National Development and Reform Commission jointly issued the *13th Five-year Plan for E-commerce*. According to this Plan, after 20 years of active promotion and innovation, in the course of the 12th five-year, China's e-commerce trade became the largest and fastest-growing E-commerce market in the world.

In 2015, China's e-commerce revenue reached 21.79 trillion yuan, an increase of 32.95 per cent, exceeding the target (15.6 per cent) of the *Plan for Development of E-commerce during the 12th Five-year Plan*⁷⁴. E-commerce revenue has more than doubled in the period 2013-2015, and is the new driver of economic growth. In 2016, China's e-commerce revenue is estimated to have reached 26.1 trillion Yuan, with an annual increase of 19.78 per cent.⁷⁵

Growth of China's E-commerce Revenue (2004-16)

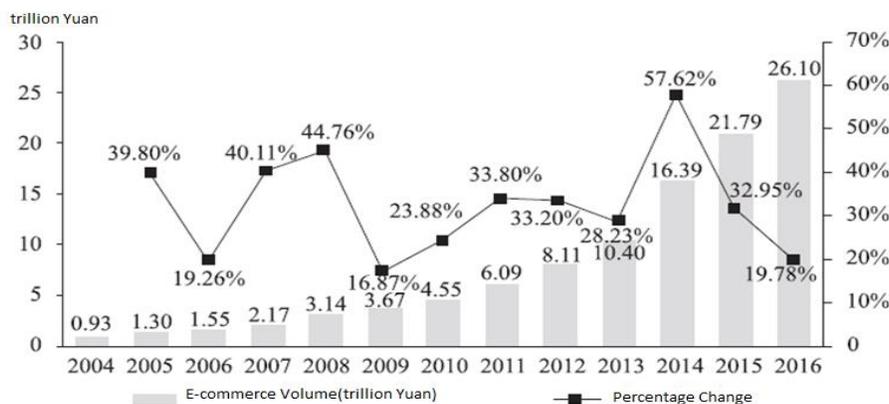


Figure 26: Source (Dept. of Electronic Commerce and Information, The Ministry of Commerce, China)

⁷³Ecommercewiki.org;

https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/5/56/Global_B2C_Ecommerce_Report_2016.pdf

⁷⁴ Ecommerce Report of China (2016) , Source: MOFCOM,

<http://dzsws.mofcom.gov.cn/article/ztxx/ndbg/201706/20170602591881.shtml>

⁷⁵ Ibid.

In 2016, China's retail e-commerce sales reached 5.1556 trillion yuan, with an annual increase of 26.2 per cent.⁷⁶

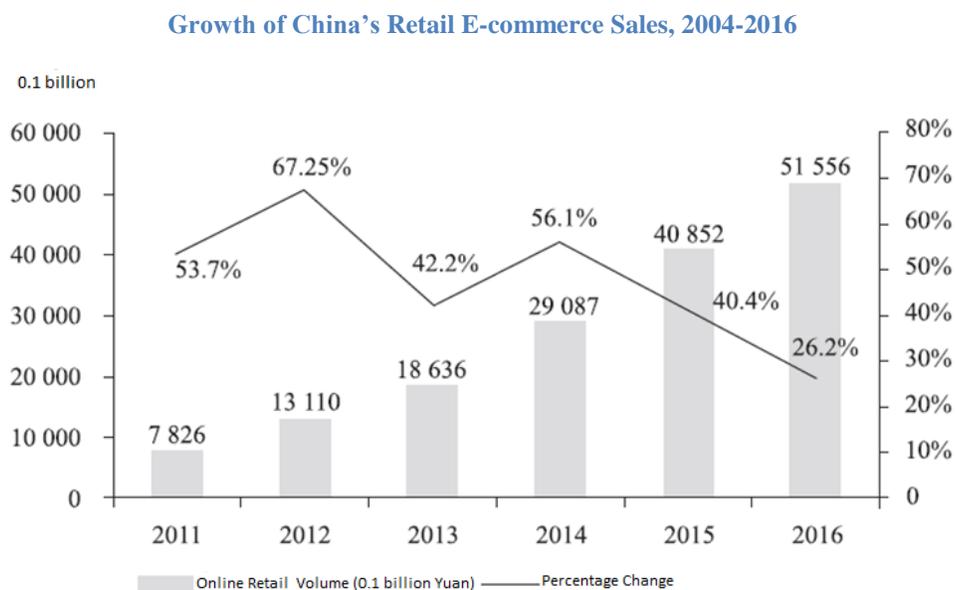


Figure 27: Source (Dept. of Electronic Commerce and Information, The Ministry of Commerce, China)

In 2015, for the first time, B2C sales surpassed C2C. Similarly, sales made through mobile devices overtook PCs. The distribution industry has grown rapidly together with booming e-commerce, the business volume of which exceeded 20 billion yuan, for the first time, remaining the largest in the world.

Since the approval of the Chinese Goods Ordering System by the former State Development Planning Commission in 1995, China's e-commerce has passed the transitional stage and is now an essential driving force in China's new economy. Among the ten largest internet enterprises in the world, four are from China.

The continuous increase in e-commerce revenue and sales volumes can be attributed to the presence of big players like Alibaba.com and JD.com and growth of Internet infrastructure and smartphone use as well as adoption of new technologies across all e-commerce business processes.

Among other factors, the growth of Internet infrastructure and Internet users has been a key factor leading to the remarkable growth of e-commerce in China. By 2016, the total amount of Chinese netizens had reached 731.25 million, and Internet penetration reached 53.2 per cent.⁷⁷ Due to this increased Internet penetration, there was a constant increase in the use of e-commerce applications by Chinese netizens.

⁷⁶ Ibid.

⁷⁷ <https://cnnic.com.cn/IDR/ReportDownloads/201706/P020170608523740585924.pdf>

Use of E-commerce Applications by Netizens in China, Jan 2017 Survey

Application	Number of users (Unit: 10 thousand)	The percentage internet user using the application	Annual rate of growth
Online payment	47,450	64.9%	14.0%
Online shopping	46,670	63.8%	12.9%
Online banking	36,552	50.0%	8.7%
Travel booking	29,922	40.9%	15.3%
Online news	61,390	84.0%	8.8%
Internet financing	9,890	13.5%	9.6%
Online education	13,764	18.8%	25.0%
Online medical services	19,476	26.6%	28.0%

Table 3: Source: China Internet Network Information Center (Jan 2017 Survey)⁷⁸

According to the China Internet Network Information Centre Survey of Jan 2017, the number of online shoppers in China in 2016 reached 466.70 million, an increase of 53.45 million from the previous year leading (annual growth rate of 12.93 per cent). The percentage of Internet users engaging in online shopping increased from 60.0 per cent to 63.8 per cent between 2015 and 2016. The number of users buying via mobile phones also increased to 440.93 million, an increase of 100.17 million from previous year (annual growth rate of 29.81 per cent). The percentage of mobile internet users engaging in online shopping has also increased from 54.8 per cent to 63.4 per cent. This indicates a growing trend towards mobile online shopping.⁷⁹

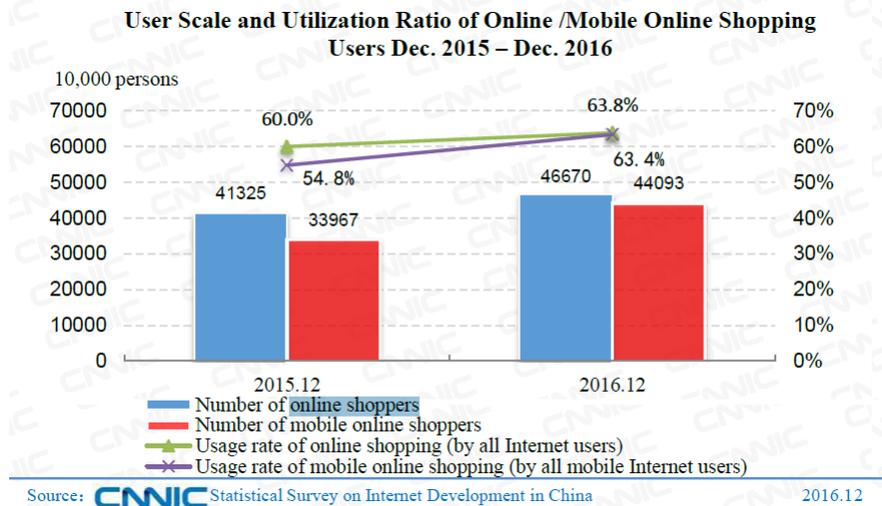


Figure 28: (Source: China Internet Network Information Centre, Jan 2017 Survey) (Unit 100 million)

⁷⁸ Ibid.

⁷⁹ Ibid.

Driven by the expansion of China's retail online sales, the number of enterprises engaged in online sales has risen. By December 2016, 45.3 per cent of Chinese firms were engaged in online sales.⁸⁰

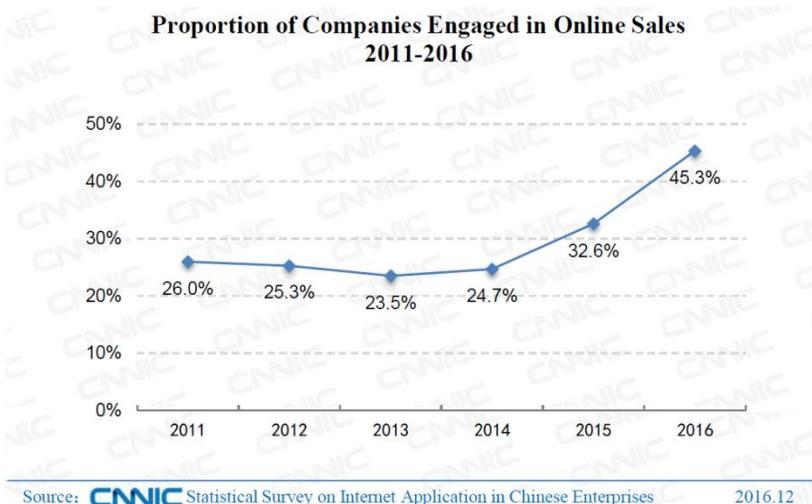


Figure 29: Source (China Internet Network Information Center, Jan 2017 Survey)

South Africa:

South Africa's GDP in current prices was US\$ 294.13 billion in 2016.⁸¹ In 2016, South Africa's real GDP increased by about 0.28 per cent compared to the previous year.⁸²

E-commerce in South Africa is still in a nascent stage compared to developed countries. This is clearly illustrated in the fact that despite a 26 per cent growth in online retail in 2015 amounting to R7.5bn, this still constituted only 1 per cent of total retail sales (compared to 8 per cent in the US for example).⁸³

The retail e-commerce market in South Africa in 2016 stood at US\$ 2 billion and is forecasted at US\$ 2.69 billion in 2017. This is on the back of revenue that is expected to show an annual growth rate (CAGR 2017-2021) of 15 per cent resulting in a market volume of US\$ 4,697m in 2021. The market's largest sector is "Electronics and Media" with a market volume of US\$ 964m in 2017. The average e-commerce revenue per user (ARPU) currently amounts to US\$ 145.91.⁸⁴

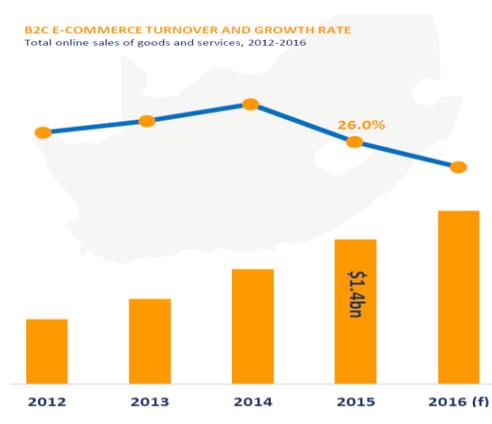


Figure 30: B2C E-commerce Turnover and Growth Rate (Source: Ecommerce Foundation, 2016)

⁸⁰ Ibid.

⁸¹ Statista, <https://www.statista.com/statistics/370513/gross-domestic-product-gdp-in-south-africa/>

⁸² Statista, <https://www.statista.com/statistics/370514/gross-domestic-product-gdp-growth-rate-in-south-africa/>

⁸³ Statista, 2016

⁸⁴ Statista, 2016

According to the 2016 Ecommerce Foundation Report,⁸⁵ total online sales of goods and services have increased in volume terms from 2012-2015 and is also estimated to have increased in 2016. However, as shown in Figure 30, growth rates have registered a decline since 2014. The retail e-commerce sales CAGR for South Africa from 2016-2021 is forecast to be about 15 per cent.⁸⁶ According to UNCTAD estimates based on 2014 data, only 6 per cent of South African population above 18 years shops online.⁸⁷

The number of Internet users in South Africa was estimated to be about 28.58 million in July 2016, indicating an internet penetration rate of 52 per cent. However, the annual growth rates of Internet users have been continuously dropping from 143 per cent in 2010 to an estimated value of 3.9 per cent in 2016.⁸⁸ To promote e-commerce volumes and push online retail sales beyond the current 1 per cent share, there is a need to widen the Internet user base. According to Statista, smartphone users are about 14.1 per cent of the population. However, the percentage is estimated to increase to 21.9 per cent in 2021, which would be a favorable trend for e-commerce development in South Africa.⁸⁹

Year	Internet Users**	Penetration (% of Pop)	Total Population	Non-Users (Internetless)	1Y User Change	1Y User Change	Population Change
2016*	28,580,290	52 %	54,978,907	26,398,617	3.9 %	1,078,982	0.9 %
2015*	27,501,308	50.5 %	54,490,406	26,989,098	4 %	1,056,471	0.97 %
2014	26,444,836	49 %	53,969,054	27,524,218	6.5 %	1,606,113	1.03 %
2013	24,838,723	46.5 %	53,416,609	28,577,886	14.7 %	3,175,441	1.1 %
2012	21,663,282	41 %	52,837,274	31,173,992	22.1 %	3,918,281	1.15 %
2011	17,745,001	34 %	52,237,272	34,492,271	43.2 %	5,355,819	1.19 %
2010	12,389,183	24 %	51,621,594	39,232,411	143 %	7,289,979	1.23 %

Figure 31: Trends in Internet Users of South Africa (Source: Internet Live Stats, 2017)

2.3.2. Business models

Brazil:

Leading e-commerce companies operate under different business models:

E-commerce models	Leading companies
B2C E-commerce marketplace	B2W, Netshoes, Mercado Livre,
C2C E-commerce	Mercado Livre
B2B E-commerce	Rakuten Ichiba, Shopify

⁸⁵ Ecommercefoundation.

(https://www.ecommercewiki.org/wikis/www.ecommercewiki.org/images/5/56/Global_B2C_Ecommerce_Report_2016.pdf)

⁸⁶ <https://www.statista.com/statistics/220177/b2c-E-commerce-sales-cagr-forecast-for-selected-countries/>

⁸⁷ http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d07_en.pdf

⁸⁸ Internet Live Stats (<http://www.internetlivestats.com/internet-users/south-africa/>)

⁸⁹ <https://www.statista.com/statistics/488376/forecast-of-smartphone-users-in-south-africa/>

According to Euro-monitor International, Brazil represents about 42 per cent of all B2C E-commerce in Latin America. B2C e-commerce turnover in Brazil was reported to be US\$ 17.105 million in 2016.⁹⁰ The one factor enabling the development of the business-to-consumer (B2C) sector is the “long-tail” effect, which allows a wider product offering in niche areas compared to that found in physical storefronts. Surveys held in other countries, for example, indicate that online stores’ inventories are six to 23 times larger than those of physical stores.⁹¹ Online retailers are taking advantage of US selling techniques. Black Friday and Christmas in Brazil are special dates when on-line purchase increases substantially. Black Friday in 2015 in Brazil, for example, generated retail sales of US\$ 460 million breaking all previous records for a single day. In total, 1.64 million e-consumers made at least one purchase within 24 hours on the Black Friday.⁹² Brazil has been regarded as a market of opportunities for e-commerce, especially for B2B. Brazil is by far the region's largest country for e-commerce and will remain so for the near future, according to industry forecasts.

Russia:

Leading E-commerce companies under different business models:

E-commerce models	Leading companies
B2C E-commerce marketplace	Wildberries, Ulmart, M.video, Ozon.ru
C2C E-commerce	Avito, Ebay
B2B E-commerce	AliExpress, Citilink, Eldorado. Other B2B ETPs are Marketplace (https://www.b2b-center.ru/), Fabrikant.ru (https://www.fabrikant.ru/), GAZPROMBANK GROUP ETP (https://etpgpb.ru/) and TEK-TORG (ROSNEFT) ETP (http://rn.tektorg.ru/); additionally there are six Federal Electronic Trading Platforms(ETPs) for E-Procurement ⁹³ : 1. http://www.sberbank-ast.ru/ 2. https://www.rts-tender.ru/ 3. https://www.roseltorg.ru/ 4. https://etp-ets.ru/ 5. http://etp.zakazrf.ru/ 6. http://www.auction-house.ru/ (launched in 2017)
B2G E-commerce	The 6 Federal ETPs listed above

Russian e-commerce consists of a small B2C sector at around US\$ 11 billion in 2015 for physical goods, US\$ 80 billion for B2G according to the zakupki.gov.ru official portal, and a large B2B volume at around \$700 billion.⁹⁴

Overview of B2G E-commerce statistics under Federal Law dated 05.04.2013 No. 44-FZ is as below:

2016 B2G E-commerce under Federal Law dated 05.04.2013 No. 44-FZ	
Overall amount of government and municipal procurement notices	6 406 billion rubles (RUB)

⁹⁰ E-bit Empresa and Ecommerce Foundation, 2016

⁹¹ <https://www.export.gov/apex/article2?id=Brazil-e-Commerce>

⁹² <https://www.privacyshield.gov/article?id=Brazil-e-Commerce>

⁹⁴ Russia china E-commerce summit_cn.pdf

Amount of government and municipal procurement notices in 5 (five) B2G electronic trading platforms	3 844 billion rubles (RUB)
Source: Association of Electronic Trading Platforms	

Overview of B2B e-commerce in Russia under Federal Law dated 18.07.2011 No. 223-FZ (e-procurement by state-owned and state-controlled enterprises) is as below.⁹⁵

2016 B2B E-commerce under Federal Law dated 18.07.2011 No. 223-FZ	
Overall amount of procurement notices under Federal Law dated 18.07.2011 No. 223-FZ	25 719 billion rubles (RUB)
Amount of procurement notices in 79 electronic trading platforms (ETPs)* compliant with procurement regulations under Federal Law dated 18.07.2011 No. 223-FZ *The reference is made to the 79 ETPs that are among the largest ETPs in Russia compliant with procurement regulations under Federal Law dated 18.07.2011 No. 223-FZ	25 702 billion rubles (RUB)
Source: Association of Electronic Trading Platforms	

India:

Leading e-commerce companies under different business models:

E-commerce models	Leading companies
B2C E-commerce marketplace	Snapdeal.com, Amazon.com, Flipkart.com BigBasket.com, FirstCry.com, Zovi.com, Uber.com, olacabs.com
C2C E-commerce	Cloudacar.com, quickr.com, olx.in, ebay
B2B E-commerce	Tadeindia.com; mjunction services limited (metaljunction, coaljunction, buyjunction), cloudBuy.com, tolexo.com, industrybuying.com, power2sme. com, Amazonbusiness.com

The growth of the B2B e-commerce sector is relatively slow compared to the B2C e-commerce in India. The entry barriers in the B2B e-commerce are more than those in the B2C e-commerce industry. Understanding the untapped potential of the B2B e-commerce industry, the Government of India has allowed 100 per cent FDI in B2B e-commerce,⁹⁶ which has enabled global successful B2B e-commerce companies such as Walmart and Alibaba to evince interest in India's B2B e-commerce industry.

China:

Leading e-commerce companies under different business models:

E-commerce models	Leading companies
B2C E-commerce marketplace	Alibaba, Tmall, Jingdong/ JD.com
C2C E-commerce	Taobao,

⁹⁵ Ibid.

⁹⁶ <http://www.thehindu.com/business/Industry/govt-permits-100-per-cent-fdi-in-online-market-places/article8409495.ece>

B2B E-commerce	Huimin.cn, JD.com, Xintonglu, Jinghuobao, Lingshoutong, ZhangHeTianXia, and DHGate.com(B2B cross-border trade).
SC2B (Supply chain to business)	Epec.com

The B2B sector has always represented a large proportion of the transactions within China's e-commerce arena. UNCTAD estimates that China's B2B market was about US\$ 1.4 trillion (~9.54 trillion yuan) in 2015.⁹⁷ SME share of B2B e-commerce market totaled 23.6 billion yuan in 2016, representing close to half of total e-commerce market in China. Alibaba has had approximately 50 per cent market share in 2016⁹⁸.

Alibaba's business-to-consumer (B2C) marketplace Tmall outpaced its competitors with a 56.6 per cent share of retail e-commerce sales in 2016. JD.com ranked second with a 24.7 per cent share⁹⁹.

iResearch reports that B2C platforms will continue to steal a share away from consumer-to-consumer (C2C) e-commerce sites over the next few years, as the quality of goods becomes an increasingly important factor in consumer purchase decisions.¹⁰⁰

EPEC.com is an e-commerce platform that facilitates SC2B (supply chain to businesses) transactions of industrial products. This platform is supported by Sinopec's (super-large petroleum and petrochemical enterprise group owned by the state) extensive industrial resources and supply chain services. The mission of EPEC.com is to enable a convenient, efficient and reliable procurement process both within China and at a global level.¹⁰¹ Epec.com has witnessed total transactions of 90.2 billion yuan (\$13.1 billion) since its launch in April 2017, a year-on-year increase of 526 per cent. More than 1.58 million products are available at the platform from industries including coal, steel, petrochemicals and oil equipment. Registered enterprises have reached 35,000.¹⁰²

DHgate is the biggest B2B transactional cross-border e-commerce marketplace in China, offering integrated services for international logistics, cross-border payments, internet financing, and online marketing. DHgate's 1.4 million sellers offer 40 million products and serve 10 million buyers from 230 countries and regions.

South Africa:

Leading E-commerce companies under different business models:

E-commerce models	Leading companies
B2C E-commerce marketplace	BidorBuy, Shopify, Payfast safarinow, takealot
C2C E-commerce	Bid or Buy
B2B E-commerce	Alibaba, UAfrica, Yuppie Chef, Safarinow Travelground Zando

South Africa is one of the continent's leaders in e-commerce development. It is significantly ahead of many other African countries in terms of infrastructure indicators such as Internet, smartphone and payment card penetration. Overall, the South African B2C e-commerce market potential is still largely

⁹⁷ <http://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=1466>

⁹⁸ <https://www.chinainternetwatch.com/20122/b2b-e-commerce-2012-2019/>

⁹⁹ <https://retail.emarketer.com/article/alibabas-tmall-maintains-reign-over-chinas-retail-e-commerce/58ada2369c13e50c186f6f32>

¹⁰⁰ <https://retail.emarketer.com/article/alibabas-tmall-maintains-reign-over-chinas-retail-e-commerce/58ada2369c13e50c186f6f32>

¹⁰¹ <https://global.epec.com/portal/public/aboutUs/aboutUs.do>

¹⁰² http://www.chinadaily.com.cn/business/2017-04/19/content_28988537.htm

untapped, as online transactions are just about 1 per cent of total retail sales in 2016. Generally, B2B customers are also B2C customers, so interaction is generally the same. Both have become accustomed to performing consumer product research online. As a result, both types of customers use consumer websites, or B2B versions thereof, to purchase products and services for their companies or as individuals.

2.3.3. E-commerce Platforms

Brazil:

Rakuten and Shopify are the main e-commerce platforms in Brazil. Rakuten provides Internet services, business-focused services including e-commerce, eBooks & eReading, travel, banking, securities, credit card, e-money, portal and media, online marketing and professional sports. Rakuten started work in Brazil in 2011.

Shopify is an e-commerce platform that allows anyone to easily sell online, at retail locations. It offers a professional online storefront, a payment solution to accept credit cards, and the Shopify POS application to power retail sales. Shopify currently powers over 160,000 retailers in 100 different countries.

Other key e-commerce platforms are Magento, eBay and Amazon.

Russia:

According to the 2016 Report by East-West Digital News,¹⁰³ Ulmart is the leading multifunctional, non-specialized, trading internet platform in Russia. It has diversified storefronts offer a wide range of goods and over 120 SKUs: such as electronics, kids' and automotive goods, DIY, air tickets, digital content, and much more.

B2B E-commerce is led by AliExpress, Citilink, Eldorado, Marketplace (<https://www.b2b-center.ru/>), Fabrikant.ru (<https://www.fabrikant.ru/>), GAZPROMBANK GROUP ETP (<https://etpgpb.ru/>) and TEK-TORG (ROSNEFT) ETP (<http://rn.tektorg.ru/>). Additionally, B2B and B2G eProcurement is carried out by six Federal Electronic Trading Platforms (ETPs) listed below:

1. <http://www.sberbank-ast.ru/>
2. <https://www.rts-tender.ru/>
3. <https://www.roseltorg.ru/>
4. <https://etp-ets.ru/>
5. <http://etp.zakazrf.ru/>
6. <http://www.auction-house.ru/> (launched in 2017 and has limited volume compared to above 5 ETPs)

India:

In terms of Gross Merchandise Value (GMV), the top e-commerce Platforms according are Flipkart (including Myntra) – 45 per cent, Snapdeal - 26 per cent, Amazon India – 12 per cent, PayTM – 7 per cent, others – 10 per cent.¹⁰⁴ However, Amazon India is rapidly taking market share from Snapdeal in 2016. Alibaba has also recently entered the Indian market and is focusing on businesses in e-commerce, payments and logistics.

¹⁰³ <http://www.ewdn.com/2016/08/03/new-ranking-reveals-russias-top-E-commerce-sites/>

¹⁰⁴ Morgan Stanley Report 2015

Leading companies have also started to build their own platforms for small business owners and traders. In this regard, Magento, Woo Commerce, Drupal Commerce, BootmySale, Shopnix and Kartrocket are the main e-commerce Open-Source Content Management Systems (CMS). Shopify and ZEPO are the Self-Hosted Platforms in India. Also, PayTM, MobiKwik and Oxigen Wallet are the top 3 Mobile Wallets in India.¹⁰⁵

The main logistic and distribution operators in the e-commerce industry include eKart (logistics wing of Flipkart), DHL, BlueDart, DTDC, IndiaPost, UPS, Delivery, GoJavas.¹⁰⁶

China:

The development of SMEs in China in terms of e-commerce mainly relies on several giant platforms, led by Alibaba. The total transactions of China's online shopping market were US\$ 680 billion in 2016 with an increase of 23.9 per cent. It is estimated to reach US\$ 1.06 trillion in 2019. China's B2C online shopping market has over 56 per cent market share.

In 2015, Alibaba (Taobao, TMall, AliExpress, Alibaba International Trade Site, Alibaba Domestic Trade Site) remained the largest e-commerce platform in China due to its user base and abundant experience in the industry, as well as advanced technologies such as big data analytics. In 2015, it had 59.2 per cent market share, followed by JD.com with a market share of 25.2 per cent.

South Africa:

South Africa is comprised of international firms with local representation e.g. Shopify by UAfrica and PayPal by First National Bank (FNB). Payfast is the local equivalent of PayPal. BidorBuy is the largest online market space with others including Gumtree and OLX.

2.3.4. Best Practices

Brazil:

The **B2W** group is the largest online retailer and the sixth largest retailer in Brazil. It accounts for 26.2 per cent of the entire Brazilian e-commerce market. Some SMEs are aligning themselves with larger companies like B2W to gain prominence and in some cases use the marketplace's fulfillment options. This is especially beneficial to SMEs without the budget or marketing capability to establish their own e-commerce website and software.

Netshoes is the largest online retailer of shoes and sporting goods in the world and has shown great potential for growth. In Brazil, mobile users try to save their mobile data because of cost. Recognizing the opportunity, Netshoes teamed up with Brazilian mobile phone operators to allow free, unlimited navigation on its mobile site and app. The payoff for Netshoes was increased time spent on site, and a 54 per cent increase in revenue.¹⁰⁷

Mercado Livre is the second largest online retailer. The company benefits from strong infrastructure, enabling third party merchants to easily launch their own stores. It also profits from offering its own online payment service, MercadoPago, which is similar to PayPal.

¹⁰⁵ The best platforms to create an E-commerce website: 2017 Guide (<http://orcastudio.co/blog/best-platforms-to-create-an-E-commerce-website-2017-guide/>)

¹⁰⁶ Media Reports

¹⁰⁷ <http://www.millwardbrown.com/global-navigation/blogs/post/mb-blog/2016/12/07/best-practice-in-mobile-advertising>

Russia:

Wildberries, since 2004, is one of the largest online stores of clothes, footwear, accessories, and cosmetics. Every year the company develops and expands its geographical presence to improve quality of service for their clients. Wildberries.ru cooperates with the leading suppliers and tries to expand the range of goods and the geographical coverage as it invites new companies of clothes, footwear, accessories and cosmetics.

Ulmart is a private Russian online retailer that led the Russian e-commerce sector in 2013-2015 in terms of revenue (with about US\$ 1 billion per annum). The retailer's distribution network now covers over 400 sales points in more than 200 Russian cities. The new format differs from the traditional approach. It focuses on customer as a major decision maker, which in its turn, calls for an entirely different and more integrated approach to logistics. It is the buyer who encourages the development of the logistics system by choosing from a range of delivery methods, for example, home delivery or independent pickups at an outpost. The logistical infrastructure then becomes the foundation for the sustainable development and growth of the company.

Federal eProcurement is done through six online e-commerce platforms mentioned in section 2.3.3. This brings in efficiency and transparency in federal procurements.

Seldon is a unique software product in Russia that significantly simplifies and systematizes the work with procurement. The system consolidates information about different procurement types including government, commercial, international and planned purchases in the country and abroad and makes it possible to monitor and analyze incoming information.¹⁰⁸

India:

Flipkart offers a wide range of products and offers a wide range of payment options including credit/debit card, cash-on-delivery, net banking, cheque/DD and money order. Additionally, Flipkart has adopted some best practices in supply chain- building a strong network of more than 500 distributors and keeping stock of only the most frequently ordered items and building strong infrastructure for operations with offices and warehouses in major cities and tie-ups with many courier agencies. Flipkart bears the cost of delivery, which provides it an edge over competitors and motivates it to improve its delivery systems. It continuously updates its technology and automates the warehouse. The company use sales to predict the inventory levels and replenishes the warehouses every 24-48 hours.¹⁰⁹

Snapdeal, founded in February 2010, is an online marketplace that claims to have an assortment of 15 million plus products across 500 plus categories from regional, national and international brands and retailers. Snapdeal has cooperated with investors and private owned businesses such as Soft Bank, Black Rock, Temasek, eBay Inc., Premji Invest, Intel Capital, Bessemer Venture Partners and Ratan Tata, among others. Snapdeal operates in all major industry sectors in the area of e-commerce: electronics, IT and mobiles, furniture, construction, retails, pharma, textiles, food and agricultural products, and engineering.

China:

According to Forbes, **Alibaba** is a form of “collective entrepreneurship” between the company and thousands of merchants that join the network -- Alibaba provides the platform, and the merchants provide

¹⁰⁸ <http://seldon.ru/en/system/>

¹⁰⁹ <http://opepiimraipur.blogspot.co.at/2011/12/best-practices-at-flipkart.html>

the products. This model, which relies on revenue sharing rather than listing fees, makes it easier for additional merchants to join the network.¹¹⁰ Through investee affiliates, Alibaba also participates in the logistics and local services sectors¹¹¹. In October 2004, Alibaba launched Alipay using a third-party guarantee to promote online payment services and to improve the trust deficit in online payments and long-distance purchases. According to a Harvard Business Review, the key contributors for Alibaba's success include quick responses to rapidly changing environment and the ability to adopt new business models.¹¹²

Alibaba's competitor, **www.JD.com**, also offers a wide selection of authentic, high-quality Chinese products at competitive prices and delivers them to customers' doors in a speedy and dependable manner. JD aims to provide consumers around the world with an innovative and robust ecommerce platform through close cooperation with domestic suppliers in China. JD.com offers a world-class set of online retail services to its legion of users, who now number close to 200 million in total. As a technology-driven company, JD.com has focused considerable effort in developing a robust and scalable platform which not only supports the company's rapid growth but also allows it to provide cutting-edge technology and services to its partners and customers.

DHgate.com tries to build trust among customers by providing suggestions and recommended best practices for importing goods off the internet from China. DHgate.com is an all-in-one platform with integrated services for accessing global manufacturers and top brands, international logistics, cross border payments, internet financing, etc. DHgate.com's US product distribution warehouses allow for 24-hour delivery and convenient product returns and refunds.¹¹³

South Africa:

UAfrica, is a South African based technology company that offers a cloud based e-commerce service to small and medium enterprises across Africa. It provides services as a centralized inventory and order management system which gives an online store retailer the ability to link its products across multiple sales channels, store fronts, social media channels, feasible or popup stores online using Shopify as its point of sale.¹¹⁴

UAfrica has a partnership with **Shopify**¹¹⁵ - a leading cloud based international e-commerce solutions provider and order management systems. UAfrica service enables an online business store to list its product offers on one store allowing the product to be synchronized during the order process. Hence when an order is made, while at the same time inventory levels are adjusted across all its multiple sales channels. The services offered include a shipping interface of the product sold to reduce costs and time involved in the delivery of the product to the buyer, as well as providing automatic updates on the status of their orders with online tracking within their own store.

BidorBuy, is an online market space that is home to a large number of sellers and buyers visiting the website platform. UAfrica links its clients with BidorBuy and in that way, increases viewership traffic on

¹¹⁰ <https://www.forbes.com/sites/panosmourdoukoutas/2014/04/15/alibabas-five-advantages/#60e6bb670a60>

¹¹¹ <http://alibabagroup.com/en/about/overview>

¹¹² <https://hbr.org/2015/06/the-self-tuning-enterprise>

¹¹³ <http://blog.dhgate.com/dhgate-coms-guide-for-safely-buying-products-from-china.html>

¹¹⁴ UAfrica, 2017

¹¹⁵ Shopify

their online stores. Multi-channeling increases the customer base of online stores, which is a big drive towards pushing up sales and revenue.¹¹⁶

2.3.5. Challenges and Business Environment

Brazil:

Despite good prospects, many e-commerce businesses struggle with expansion in Brazil. Below are some of challenges and issues faced by various enterprises:

➤ Internal Challenges in Brazil

Complicated Bureaucratic Procedures

To obtain the National Register of Legal Entities (CNPJ), one needs to define the category of e-commerce, the legal form of the company, the name and corporate name, the formulation of the social contract and registration with various government agencies. Such burdensome regulations and procedures could take up to 90 days to establish an e-commerce entity. These structural problems make it difficult for local and foreign players to enter the Brazil market.

The Consumer Defense Code (CDC)

The Consumer Defense Code (CDC) established in 1990 provides regulations for providers and consumers, stating various standards of conduct, term and penalties. However, the CDC does not have specific regulations for e-commerce, and is framed in the same way as door-to-door sales, which can cause insecurity for entrepreneurs since some regulations can create situations of legal discomfort in case of bad faith of consumers. Also, issues such as delivery delays caused by carriers and returns policy for products that cannot be reused cause insecurity for entrepreneurs.

High Taxes and Complicated Tax Structure

Issues with taxes are among the top challenges of e-commerce in Brazil. Taxes are high and numerous, which significantly increase overall costs. Duties, taxes and fees can double the original price of a product, and can vary considerably depending on product category. It is estimated that when opening a company, entrepreneurs hand over 67 per cent of profit in tax (EOS Intelligence, 2013). This is the highest tax burden of all BRIC countries. Furthermore, the complex tax structure drives added costs for lawyers and accountants' compensation to navigate through various issues with the tax regulators and reconcile tax differences between Brazilian states (as there is no uniform tax across the country).

Underdeveloped Distribution Infrastructure

The country's weak and immature infrastructure has a negative impact on shipping of orders. Brazil is a country with vast territory and majority of transportation is done by road. The country's roads are in poor condition, many of them unpaved, affecting safety, delivery time as well as damaging cargo and trucks. Big cities in Brazil are infamous for their traffic congestion, with three cities in the top ten of most congested cities and Rio de Janeiro coming as fourth in the Traffic Index (TomTom, 2016); delivery schedules within these places are affected immensely. 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.

¹¹⁶ BidorBuy

Insufficient Talent Availability

Even in times of crisis and high unemployment (IBGE, 2016), the e-commerce market faces the challenge of finding qualified people to fill vacancies. 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. Traditional schools of undergraduate and vocational training are still unable to train professionals to meet the growing demand for e-commerce, leaving the task to the companies.

Volatile Economic Environment

The difficult economic environment, including high inflation, poses a challenge for retailers, affecting investment decisions. Additional risk factors are always a deterrent for incoming businesses as well as entities currently operating in Brazil. Not only does it affect the economic environment, but it also influences the country's socio-cultural environment, as well as the rate of emergence and acceptance of new technologies.

➤ Barriers to Imports in Brazil

Taxation

Apart from the red tape in Brazilian imports, there are other issues; all items that are worth more than US\$ 50 are heavily taxed and go through stringent checks. The import duty and taxes payable are assessed on the sum of the value of the imported goods, the costs of freight, and the cost of insurance. In addition to duty, imports are subject to a state sales tax (ICMS), a type of federal tax (PIS PASEP - Social Integration Program and Civil Service Asset Formation and COFINS - Contribution to Social Security Financing), excise tax (IPI - tax on industrialized product) on certain goods, in addition to some charges like storage fee, air handling fee, airport fee, and declaration fee.

Barriers to Imports

Brazilian custom procedures are costly, complex, and slow. Before entering the market, companies need to be aware of Brazilian product registration and local market certification requirements. A Brazilian business partner is helpful; product registration and compliance procedures are customarily and more easily handled by the Brazilian partner/importer because directly exporting via e-commerce platforms without a Brazilian partner on-the-ground could cause problems for foreign companies in complying with Brazilian laws. Such significant delay affects consumers' confidence and increase costs significantly for the company.

➤ Barriers to Exports in Brazil

Financial

In Brazil, every taxpayer is provided with an 11-digit identification code by the Brazilian Federal Revenue Agency. This code is called Cadastro de Pessoas Físicas (CPF) and is used in a wide array of day-to-day activities in Brazil involving personal and commercial activities. It is also a local anti-fraud tool to identify each individual. Merchants face problem in issuing a Nota Fiscal (invoice) without a CPF number - which is applicable for customers who are not Brazilian. This gap prevents many retailers from expanding their operations via exports.

Logistics

In Brazil, it is considered a fiscal evasion when a consumer is unable to issue an invoice to the retailer when carrying out a merchandise return when crossing borders. This causes many challenges regarding shipping, returns and cancellation.

Technology

Tracking options are hardly available but if merchants choose to cross borders, they would need to integrate such a feature and provide a calculation of freight charges for overseas consumers.

Fiscal

As mentioned above, Brazil has a complex tax structure for goods and services within the country. To be able to deliver abroad, one would need to follow the Fiscal Code of Operations and Services (CFOP) for exports. Also, due to the regulatory differences between countries, merchants face various time-consuming processes.

Communication

Currently, merchants are not integrated with global marketplaces and marketing campaigns are currently targeted only at the local consumers. Description of products, weight, sizes and measures are all in Portuguese. Merchants find it difficult to communicate with consumers abroad as it requires a certain level of cultural understanding to adapt to the local market.

Russia:

According to research, the main factors inhibiting the growth of SMEs in cross border e-commerce relate to delivery, language barriers and trust. Delivery is very expensive and slow. Comparing Moscow-based and regional companies, the former are most concerned about delivery, while the latter about a lack of knowledge of foreign languages like English. Both groups were equally concerned about the lack of confidence and trust of foreign buyers in Russian companies.

Challenges faced by merchants	Total	Moscow	Regions
Delivery abroad	31%	34%	30%
Language barrier	27%	22%	30%
Convincing others that they can trust you	25%	26%	24%
Difference in time zones	20%	22%	21%
Receiving payments	19%	22%	16%
Purchase returns	10%	13%	8%
Excessive demands of foreign customers	7%	6%	8%

The vast majority of foreign orders are pre-paid, which distinguishes them from domestic orders. For the sellers, the main problem when receiving payments is the lack of confidence and trust of buyers in sellers from Russia.

Another problem is insufficient transparency and unpredictability of rules, and the lack of a clear and precise explanation of customs procedures. A business customs clearance is a risk factor that they are not always willing to bear.

Lack of information about the delivery process (unregistered parcels sent without tracking codes), leading to miscommunication with clients and mutual misunderstanding, is also one of the challenges faced by SMEs in Russia. The reason for these problems is cost cutting as well as ignorance of the rules of logistics companies.

Entrepreneurs do not use content/search advertising capabilities, specialized networks, adverts on specialized sites, display and video adverts. The main reason is higher (or seemingly higher) startup costs and the lack of knowledge and experience.

India:

Based on feedback from various stakeholders in the e-commerce industry, the major challenges reported by e-commerce companies, especially MSMEs, are the lack of trust in e-commerce vendors, regulatory issues, and due diligence checks. An overview of challenges faced by enterprises engaging in e-commerce is provided in Table 5.

Table 5: Broad Overview of Challenges Faced in the E-commerce Ecosystem of India

Scaling up operations and profitability	B2C e-commerce companies have raised capital from investors to scale up their operations. However, from a profitability perspective, losses have grown faster than sales. The majority of companies give heavy discounts, leading to the absence of long-term sustainable business models.
Tax framework	Due to the absence of a uniform tax structure, states have adopted different tax frameworks and inter-state goods movement is a challenge. It not only increases operational and compliance cost but also delays timely delivery of goods. This issue will be resolved with the introduction of the goods and services tax.
Counterfeit goods	There is an increasing incidence of cyber thefts and payment thefts. Additionally, the supply of counterfeit products by the merchants on the platform is on a rise
Highly technical barriers to market entry	The B2B e-commerce ecosystem is highly fragmented with fewer companies due to factors such as the requirement of domain expertise, detailed knowledge of product features and specifications.
Lack of robust technology integration	Users are likely to be using standalone systems prior to adopting B2B e-commerce for handling inventory and orders. Integrating existing systems with B2B e-commerce is critical, but is usually not implemented efficiently for sharing information and selling online
High costs associated with complex logistics requirement	The challenge in delivering orders quickly and efficiently often depends on size, scale and location. It demands the use of specialist freight services increasing the cost of delivery considerably.
Rigid procurement processes in large corporates	Large corporates have stringent procurement and approval processes for buying goods in bulk which restricts their procurement teams to buy on B2B e-commerce 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.

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 uncomfortable and unfamiliar with technology and need to be trained on the use of e-commerce technology.
Digital payment transaction failure	Due to a lack of high-speed bandwidth and inefficiencies in payment gateway technology, the e-commerce industry is facing high transaction failure rates leading to customers dissatisfaction.
Dependence on telecom operators for rural penetration	E-commerce companies that want to expand into tier 2 and 3 cities are dependent on the telecom operators to roll out 3G/4G services into such areas for connectivity.
Reverse logistics	Reverse logistics is highly inefficient which results in high inventory and increased costs.
High cost of customer acquisition	Intense competition and heavy discounting has resulted in customer acquisition and retention costly for e-commerce companies.
Unskilled staff	MSMEs cannot afford high-skilled staff to mandate e-commerce operations such as product upload, online marketing, shipment and after sales services.
Lack of expertise in peripheral activities	MSMEs lack 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 migration to online platforms.
Different pricing models across platforms	MSMEs have to deal with different pricing models of different platforms, which tends to become an operational challenge. They also have to deal with multiple platforms as often one platform might not adequately cover the areas as per their requirement.
High cost of finance	Access to finance is difficult from the banking system due to lack of collateral and stringent documentation requirements.
Mobile apps by platforms	There is an increasing focus on mobile applications which gives an advantage to big merchants who can afford the cost of developing a mobile app, something smaller merchants find much difficult to do.
Preference for credit	Historically "credit" is a preferred mode of payment in offline trade where generally the payment is made 30 days after receipt of goods. In B2B e-commerce, however, payment will have to be made upfront or at most CoD will be accepted.

China:

The main challenges faced by SMEs while engaging in e-commerce are:

➤ **Internal challenges in China**

Misunderstandings about e-commerce

In China, a large number of SMEs are already satisfied with their development patterns, and do not feel the need to invest in e-commerce. However, some SMEs realize the enormous potential of e-commerce but have limited capacity. Therefore, in most cases they might have an official website, and have opened an online shop with some mainstream e-commerce service platform, but without constant investment, these will not be sustainable. There are also some SMEs that go to the other extreme; they are ambitious and eager to succeed in e-commerce but became impatient due to inadequate profits in the short term.

Lack strategic and systematic planning among e-commerce platforms

The establishment of an e-commerce platform is a gradual and step-by-step process, including, among others, searching on the Internet, collection and publishing of contents, establishment of an official website, and improvement of supply chain management, all of which require long-term planning and implementation. Many SMEs lack strategic and systematic planning when it comes to development of e-commerce platforms.

Shortage of talented labour

SMEs lack talented staff with adequate knowledge of e-commerce technologies and e-commerce business. They often have to compete with larger and more powerful companies. Also, they do not have adequate resources to invest in trainings.

Inadequate support services

The environmental conditions such as laws and regulations, technology standards and infrastructure construction that are required to carry out e-commerce business activities are still inadequate. The financial supervision system in relation to e-commerce supervision, as well as administrative regulations for industry and commerce, taxation, customs and inspection are not yet promulgated. Moreover, e-payment system, logistics system, and credit management system also need to be improved.

➤ **Challenges hindering cross border trade in China**

Differences in cross-border product inspection standards

China's commodity inspection standards are inconsistent with foreign quality and safety standards. The basic key standards of domestic and foreign goods are not marked clearly, which brings great difficulty to customs clearance and immunization tests. At present, the custom and quality inspection department can test small and individual products one by one only, which is costly and time consuming. Therefore, only the basic quarantine inspection is available.

Traditional “whole in and out” customs clearance mode cannot meet the “one by one in and out” of B2C

In the traditional B2B trade mode, the single insurance policy is huge and only one kind of commodity is traded. It is efficient since customs clearance products are in bulk. However, for the cross-border e-commerce B2C model, the individual demand of buyers is strong, single orders are small and the cross-

border trade is especially fragmented. If the “one by one in and out” model is taken as the major model for customs clearance, batch checks are not possible. This greatly increases the number of customs clearance inspections and associated work. Therefore, the “one by one in and out” model cannot meet the rapidly rising demand of clearance.

Ambiguous responsibility of foreign trade integrated service platforms

China's e-commerce SME trade occurs mainly through foreign trade integrated service platforms. However, the ambiguous definition and responsibility of these platforms has become a key issue restricting the development of China's cross-border e-business. At present, the Chinese government regards trade integrated service platforms as import and export entities, but the platforms are not manufacturers. These platforms essentially provide cross-border electric business services to SMEs. Therefore, it is not appropriate to classify them as import and export entities. In the current regulatory system, if an enterprise has product quality problems or evades tax during the cross-border transactions, the government will punish the platform rather than the enterprise. The current regulatory system is hence biased against the platforms.

The management and function of cross-border payment agencies is not clear

The regulation and function of payment agencies is not clear, which is a serious cross-border e-commerce risk. Payment agencies manage cross-border foreign exchange payments. These payment agencies mainly provide monetary payment and clearance services for e-commerce entities. As opposed to other financial institutions, they are a type of paying and clearing organization. However, the management of such non-financial payment agencies is not clear. Cross-border electronic payment involves large payment and foreign exchange risks, especially, when RMB is not fully considered the cross-border settlement currency.

The cross-border dispute settlement lacks regulation mechanisms

Lack of rules and regulations to regulate disputes emanating from cross border e-commerce trade is a serious drawback. For example, consumers find it difficult to return goods. Even if the return is successful, the goods undergo customs inspection, which increases costs and reduces efficiency.

Economic statistics conflict with the new industry model

At present, China's cross-border e-commerce is complicating export statistics. For instance, a platform that is headquartered in Shenzhen will record exports in Shenzhen City. However, the enterprises that produce the exported goods are not in Shenzhen. The current economic data statistics cannot keep up with the development of new formats.

Untimely consultation and implementation of policies and regulations from different departments

Although the Chinese government has introduced a number of policies and regulations related to e-commerce, the decrees from different departments lack systematic coordination and linkages. Cross-border e-commerce involves several government departments, such as the National Development and Reform Commission, the Ministry of Commerce, the Ministry of Industry and Commerce, the State Administration for Industry and Commerce, the General Administration of Customs and the Customs and Excise Department. It is difficult to harmonize the policies and regulations of cross-border e-commerce.

South Africa:

South Africa currently faces a number of challenges with regard to domestic and cross-border e-commerce. Some of the challenges are particular to government and some to SMEs. However, challenges of government, in turn, become major hurdles for SME companies as they slow down the pace of creating a suitable environment for SMEs to thrive (Worldwide Worx 2016).

➤ Challenges faced by Government in South Africa

- The externalisation of funds e.g. in tourism where foreign buyers deposit funds in a foreign bank account. The South African Reserve Bank (SARB) is unable to track these types of transactions.
- It is a statutory obligation for the government of SA to promote and support the role of SMEs in e-commerce (Electronic Communications and transfers Act 25 of 2002). However, key government institutions such as the Department of Finance (Treasury), SARB and The South African Revenue Authority (SARS) are still grappling with how to relate to cross border transactions and their potential high taxes. The fact that all these key institutions have no database of who is involved in e-commerce, let alone their size is a problem for the government. Furthermore, the identification and verification of taxable transactions is difficult. This in turn creates opportunities for tax avoidance that needs to be addressed.

➤ Challenges faced by SMEs in South Africa

- Lack of or inaccessible broad band infrastructure. South Africa has lagged behind many countries in Africa in the development of broad band infrastructure. For this reason, among others, South Africa has one of the highest data costs in the world.
- Telecommunication companies are virtual monopolies in the e-commerce space and certain role-players, especially large corporations, are also key players in e-commerce and therefore, sometimes crowd out SMEs.
- The high costs of broad band services.
- In 2008, US online retailer Amazon.com blacklisted the South African Post Office over concerns about theft.¹¹⁷ As such, concerns over the service require most retailers to rely on private courier services for deliveries, especially time-sensitive ones, which in turn add significant costs.
- In addition to the above challenges, SMEs engaging in e-commerce face problems common to all SMEs in South Africa. According to the 2014 GEM (Global Entrepreneurship Monitor South Africa) report, the lack of access to finance and poor profitability, low levels of R&D, onerous labour laws, poor infrastructure, skills shortage and inefficient bureaucracy are among the primary reasons for business failure in South Africa. In its policy report concerning the integrated strategy on the promotion of entrepreneurship and small businesses, the Department of Trade and Industry (DTI) (2005) identifies inter-departmental cooperation within government as a weakness when it comes to programme planning and implementation. Also small businesses located in rural areas are at a disadvantage compared to their urban counterparts (Watson & Netswera, 2009). Due to these challenges survival rates of start-ups are low. The DTI (2008) found that the majority of South Africa's MSMEs rarely survive beyond their nascent phases, lasting for an average of less than 3.5 years. According to Global Entrepreneurship Monitor (GEM), the survival rate for start-ups is low and opportunities for entrepreneurial activity appear to be low as compared to other developing countries.

¹¹⁷South African Retail and Consumer Products Outlook 2012-2016, PWC, October 2012

➤ Challenges to cross border trade in South Africa:

- With effect from 2014, it is compulsory for all foreign suppliers of e-commerce services in South Africa to be registered and pay tax on all services purchased by South African residents. This applies to both B2B and B2C services. The requirement that a foreign supplier be registered could, however, be detrimental to cross-border e-commerce.

2.3.6. Public and Private Initiatives

Brazil:

The Integrated System for Payment of Taxes and Contributions of Micro and Small Companies (Simples Nacional) is an optional taxation regime that allows the unified collection of municipal, state and federal taxes. In addition to unifying taxes,¹¹⁸ the rates are lower compared to the separate payment of taxes due to various exemptions.¹¹⁹ The tax rates are progressively calculated based on the monthly gross revenue of the company.

Further, the National Broadband Plan (PNBL) is an initiative from the Brazilian government to provide affordable broadband internet access throughout the country to individuals, governmental institutions and businesses that do not have access to this service.

E-commerce Brazil is a private entity that offers specialized content, trains professionals in the sector and promotes various events across the country like the Brazilian E-commerce Forum which was considered by Forrester as the third largest e-commerce event in the world and the largest in Latin America.

Russia:

Several ministries are implementing a number of programs to support SMEs' participation in e-commerce, including cross-border e-commerce. They are also establishing public and private discussion platforms to enhance the government policies on e-commerce.

However, one can not underestimate the role of independent private sector initiatives in Russia related to e-commerce, including in IT, that work as a growth driver for e-commerce in Russia (particularly, in B2B and B2G e-commerce). One of the biggest banks of Russia, Sberbank is in talks with Alibaba to launch a universal e-commerce platform in Russia. In exchange for its financial, marketing and technological support, Sberbank would get a 50 per cent stake in the joint venture, which would be registered as a Russian legal entity.¹²⁰ At the same time, the other big e-commerce companies, such as Yandex and Ulmart, also plan to create a platform on the basis of their e-commerce market.

¹¹⁸ Taxes unified includes: Income Tax of Legal Entities; Contribution to the Social Integration Program and Training of Heritage Civil Servants - PIS / PASEP; Social Contribution on Net Income - CSLL; Contribution to Social Security Financing - COFINS; Tax on Industrialized Products - IPI; Tax Operations Relating to the Circulation About Commodities and Transportation Services and Interstate Inter-municipal and Communication – ICMS; Tax Any Services Nature – ISS; and contributions to Social Security,

¹¹⁹ Exemption of payment of contributions to social services such as SESC, SESI, SENAI, SENAC, exemption of payment of Employer's Syndicate Contribution, exemption of taxes withheld at the source or at the Annual Income Tax Return for the amounts paid to the partner of the company which are not related to salary, rent or rendered services

¹²⁰ <http://www.ewdn.com/2017/01/20/russias-sberbank-in-talks-with-alibaba-to-launch-universal-E-commerce-platform-in-russia/>

The Federal Government has increased transparency by moving federal procurement of goods and services as well as sales to online platforms with the option of eSignatures.¹²¹

India:

The Indian government has undertaken several initiatives to boost e-commerce in India. It has been leveraging e-commerce digital platforms to organize traditionally offline markets; it has launched an e-market platform to connect farmers with *mandis* of various states to sell agro-commodities online. The government's flagship initiatives such as Digital India, Start-up India, Innovation India, and Skill India are also expected to contribute to the growth of the e-commerce industry.

The Goods and Service Tax (GST) will roll out nationwide in July 2017, marking a revolutionary change in the Indian taxation system.¹²² GST will replace federal taxes with a single unified tax in line with the motto 'one nation, one tax'. GST will be applicable to both online and offline businesses. Through GST, the Government is hoping to standardize and simplify the tax structure while keeping a check on tax evasion.

To encourage cashless payments, the National Payments Corporation of India has developed and launched the easy to use BHIM App which suits the Indian scenario. Buyers do not need to register the payee beforehand. They also do not need to know the bank account number of the payee; knowing the mobile number of the payee is enough. There is also no need to activate the internet banking to use the BHIM App.¹²³ In order to encourage digital payments, Government of India is giving various incentives for using this App for payments.¹²⁴

China:

In 2015, government authorities at all levels strengthened their support for e-commerce by improving new commercial infrastructures, such as e-payments and logistics, and also by promoting and guiding the development of e-commerce service industry. The initiatives included the establishment of an e-commerce demonstration system consisting of National E-commerce Demonstration Cities, National E-commerce Demonstration Bases, National E-commerce Demonstration Enterprises, as well as the establishment of cross-border e-commerce services pilot cities, cross-border e-commerce services comprehensive pilot zones, e-commerce services comprehensive pilot counties in rural area, e-commerce and distribution pilots, and alleviating poverty through e-commerce. The system of Inter-Ministerial Joint Meeting for E-commerce has been established; it constituted a set of promotional schemes to enable national and local entities to work closely in improving the E-commerce services.

In 2015, the State Council set up cross-border e-commerce zones in 12 Chinese cities. A "parcel tax" – which is less than the usual customs duty– is levied on the goods sold through online trading platforms in these zones.¹²⁵

¹²¹ <http://www.zakupki.gov.ru/epz/main/public/home.html>

¹²² <http://retail.economicstimes.indiatimes.com/news/industry/impact-of-gst-on-E-commerce-marketplace-here-is-all-you-need-to-know/57428592>

¹²³ <https://www.quora.com/What-are-all-the-features-of-the-BHIM-app-In-what-cases-can-people-use-it>

¹²⁴ <http://economicstimes.indiatimes.com/topic/BHIM-app>

¹²⁵ <http://www.china-briefing.com/news/2016/04/14/china-removes-parcel-tax-for-cross-border-e-commerce-retail-imports.html>
http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/Bringing%20SMEs%20onto%20the%20e-Commerce%20Highway_final_250516_Low-res.pdf

On 16 June 2015, the general office of the State Council issued Guidance on Promoting the Healthy and Rapid Development of Cross-border E-commerce. Moreover, the Chinese Ministry of Finance, General Administration of Customs and the State Administration of Taxation of China released the announcement on issuing the list of the cross-border e-commerce retail imports. The Ministry of Commerce also announced that after the expiration of the “one-year transition period”, a new regulatory system will be adopted from 1 January 2018.

To promote B2B e-commerce, five major tasks were established at the 2015 Central Economic Work Conference: (1) cut excessive industrial capacity, (2) reduce excess stock, (3) de-leveraging, (4) lower corporate costs, and (5) improve weak links. By implementing these tasks, the B2B online purchasing industry reversed its downward trend and 31.5 per cent of enterprises engaged in online purchasing.

Epec.com, launched in April 2016, is an example of the state’s full implementation of structural reforms on the supply side. It has a team from Sinopec, called Epec Procurement Manager that provides customized eProcurement strategies with guidance and professional services, such as sourcing, contract negotiation, process control, and after-sales services to customers to both the domestic and global customers.¹²⁶

South Africa:

South Africa was among the first African countries to initiate fixed-broadband development programmes to support e-commerce initiatives. The Government announced its broadband policy, South Africa Connect, in 2013. The policy called for an average user speed of five Mbps to be available to half the population by 2016 and a universal average download speed of 100 Mbps by 2030.¹²⁷

The Government faces challenges in the regulation and tax treatment of externalized funds due to the inability to track flows. One of the responses emanating from the South African Reserve Bank is incentivizing merchants to adopt 3D Secure (under the auspices of the Payment Association of South Africa; a division of the SARB).

Chapter 3

3. Regulations and Standards in BRICS

In order to allow the full potential of e-commerce, a sound regulatory and business environment is essential. The list below provides a structure as well as checklist to consider for building an enabling environment for e-commerce growth. It examines the key ingredients along a cross-border e-commerce process chain which captures establishing business online, international e-payment, cross-border delivery and after-sales, and groups them on three horizontal layers: firm-level capacities, immediate business environment and national environment. For cross-border e-commerce to flourish, certain elements must be considered at different levels. At the firm level, competitiveness depends on the ability to understand and use appropriate technologies to establish an online presence, to conduct international e-payment, to handle multiple small orders and to provide aftersales services to foreign customers for example. A competitive business environment depends on affordable Internet access, access to online e-commerce platforms, access to international e-payment services, and access to express delivery services. At the national level, legislation dealing with e-signature and e-contract for example must be supportive for e-

¹²⁶ http://www.chinadaily.com.cn/business/2017-04/19/content_28988537.htm

¹²⁷ <https://mybroadband.co.za/news/government/93243-south-africa-connect-the-new-broadband-policy.html>

commerce to grow. The flow of foreign exchange and prevention of online fraud and cybercrime may have implications on international e-payment. Cross-border delivery depends on countries' transport infrastructure and customs clearance practices. Finally, e-commerce may also benefit from adequate online consumer protection legislation. BRICS group initiatives for e-commerce development including harmonization of standards, interoperability, and mutual recognition on e-doc can be useful, for example, the framework for BRICS e-commerce cooperation proposed by Russia and China.¹²⁸

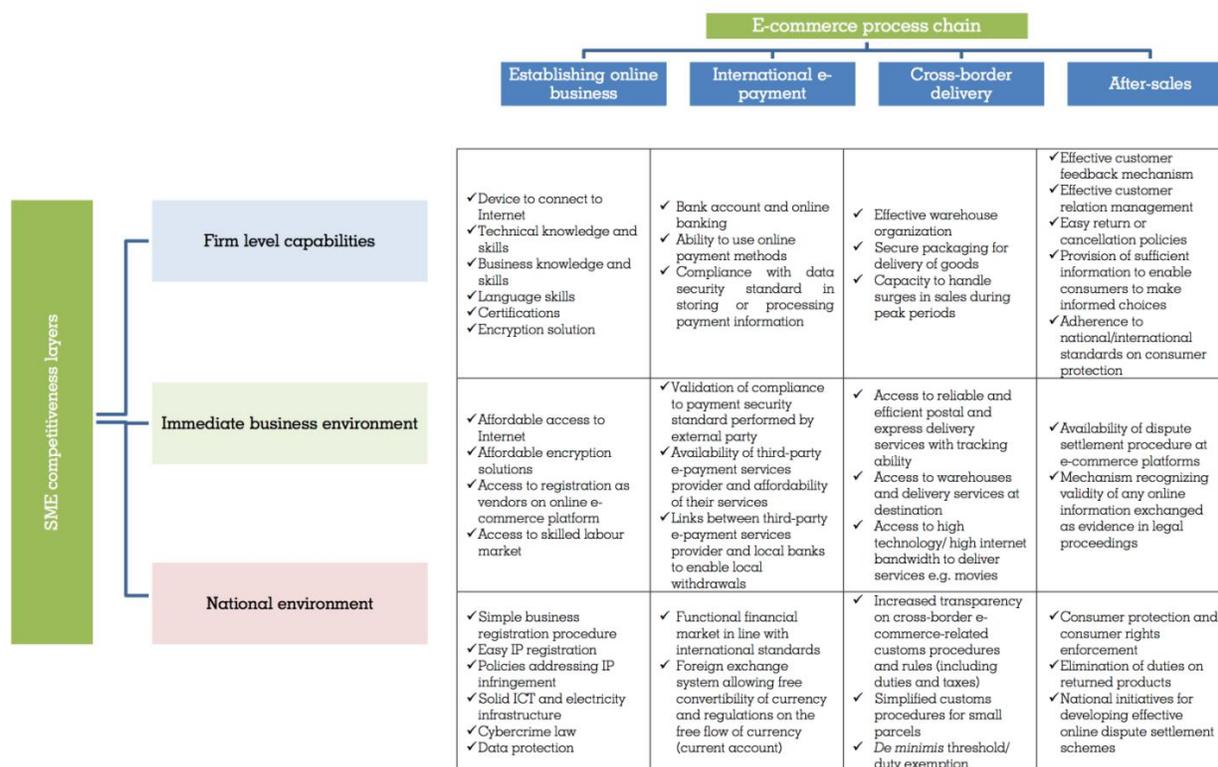


Figure 32: Checklist for E-commerce growth

Source: ITC e-learning course on “E-Commerce for SMEs: An Introduction for Policymakers”

Adequate and supportive legal environment is essential for creating trust in online transactions and securing electronic interactions between enterprises, consumers and public authorities. Though regulations and standards exist within BRICS to regulate e-commerce, in most cases these do not specifically address e-commerce issues; the existing frameworks fall within the larger ambit of federal laws for data protection, privacy and consumer protection. There is no clear-cut segregation of regulations and standards meant for offline and online trade. Some BRICS countries, like China and India, have proposed legislations to address unique issues pertaining to e-commerce.

All BRICS countries have adopted legislation in at least three out of the four areas of cyber law i.e. e-transaction, consumer protection, privacy, and data protection, as well as cybercrime.

¹²⁸ <http://www.brics-info.org/wp-content/uploads/2015/12/Ecommerce-cooperation.pdf>

Table 6: Adoption of Legislations in BRICS				
Note: L indicates that legislation is adopted; D indicates that legislation is drafted)				
Country	E-transaction	Consumer protection	Privacy and data protection	Cybercrime
Brazil	L	L	D	L
Russian Federation	L		L	L
India	L		L	L
China	L	L	L	L
South Africa	L	L	L	L

Source: illustration based on UNCTAD Cyberlaw Tracker
http://unctad.org/en/Pages/DTL/STL_and_ICTs/ICT4D-Legislation/eCom-Cybercrime-Laws.aspx

Some of the major current and proposed regulations in BRICS are detailed below:

Brazil:

Due to the small number of national and regional regulatory measures applied specifically for e-commerce, many Brazilian state and city laws regarding retail transactions apply to online stores as well.

The Brazilian government indicates that the Internet should remain free and open for all legitimate commercial and development purposes, including by allowing improved access to information, knowledge and new technologies. Based on the general rule, rights and obligations should be the same and apply equally offline and online.

In 2013, the Brazilian Government approved the Decree n° 7962 that regulates the purchase of goods and services through electronic means. The Decree was approved as an amendment to the Consumer protection code (No. 8.078/90), specifically in E-commerce.¹²⁹ Online consumers should have clear information about the product, service and supplier which they are buying from, as well as the terms of delivery and availability and effectiveness of after-sale service. The purpose of these new E-commerce laws is to provide the consumer with an information channel, as well as the ‘‘direito ao arrependimento’’- the consumer right to return unwanted purchases.

¹²⁹ Xavier, F. F. (2013). Decree establishes new rules for E-commerce in Brazil (as cited in ITC, 2016)

Brazil does not have a comprehensive and specific data protection framework. The Brazilian Civil Code and the Consumer Defence Code (CDC) contain general provisions for privacy and protection of personal information. In this sense, the Federal Constitution expressly guarantees that the privacy and private life of individuals are unbreakable, and ensures the right to compensation for property or moral damages resulting from the violation of such rights. In 2014, Brazil passed a legislation that governs principles, rights and responsibilities for Internet use in Brazil, also known as Marco Civil da Internet (No. 12.965/2014).¹³⁰ The Ministry of Justice started working on a draft bill of Law on Data Protection in 2011 and after several public consultations, the government finally released the Preliminary Draft Bill for the Protection of Personal Data (Anteprojeto de Lei para a Proteção de Dados Pessoais) in 2015.¹³¹ The draft bill aims to impose data protection obligations on individuals, businesses or organizations processing personal data in Brazil.

Russia:

The e-commerce industry is subject to rules contained in Russia's Civil Code. However, a range of federal laws were designed to regulate larger sectors, sometimes even in a non-electronic context.

The Russian Federal Law on Personal Data (No. 152-FZ) enacted in 2006 requires data operators to take all the necessary organizational and technical measures required for protecting personal data against unlawful or accidental access. In 2015, a new amendment to the law stipulates that all personal data of Russian citizens must be stored locally or in domestic servers.¹³²

The federal laws providing for the special regulation of B2G E-commerce and B2B e-commerce as regards state-owned and state-controlled enterprises, and a federal law providing for the special regulation of e-signature, are listed below:

- Federal Law dated 05.04.2013 No. 44-FZ “On Contractual System of Government and Municipal Procurement of Goods, Works and Services”;
- Federal Law dated 18.07.2011 No. 223-FZ “On Procurement of Goods, Works and Services by Certain Types of Legal Entities”;
- Federal Law dated 06.04.2011 No. 63-FZ “On Electronic Signature”.

In 2014, the Russian Federation reformed the public procurement legislation (Law No. 44-FZ) with the aim of transferring paper-based competitive tendering into electronic form and to improve information software as well as to create a unified information system. This also aims to make public procurement more open, competitive and transparent. In accordance with Law No. 44-FZ, a unified information system of government procurement (UES) should be in place by 2016.¹³³ It is expected that by 2020 the use UES would automatize the work of more than two million users and reduce costs for entities and suppliers.

From a broader perspective of Russia's participation in the EAEU, several regulations have come in force; this includes mutual recognition of e-signature certificates in public e-procurement between Russia and Belarus as of 15 September 2012, and Decision of EEC dated 18.09.2014 No. 73 “On the use of services and legally valid electronic documents in the inter-state informational cooperation” that came into force on 1 January 2015 and means to establish the Trusted Third Party service between Russia, Belarus and Kazakhstan.

¹³⁰ Xavier, F. F. (2013). Decree establishes new rules for E-commerce in Brazil (as cited in ITC, 2016)

¹³¹ Barbosa, C. R. et al (2017). Data protection in Brazil

¹³² Medvedev, S. et al. (n.d.) Data protection in Russian Federation

¹³³ <https://www.oecd.org/governance/procurement/toolbox/search/towards-e-procurement-russian-federation.pdf>

E-commerce transactions are covered by laws. This implies that buyers, during their purchases from e-market can expect high quality of services, including shipping, refunds, and payments. This also entails:

- Clear delivery and payment policy to encourage buyers to be more active consumers (shipping discounts, co-branding programmes with the Russian Post, private logistics companies).
- Development of returns policy. Proactive and efficient communication should be used to keep contact with customers (per email/SMS updates), especially when delivery issues occur. Providing clear and detailed information on the websites (better photos, accuracy descriptions) can help to prevent additional problems from disgruntled customers. Russian customers have become used to high quality services provided by foreign e-commerce merchants. Unfortunately, current refund policies are weak and this leads to a lack of trust.
- Protective from fraud (many fraudsters who take products and demand a refund, for instance).

Some aspects of the legislation on personal data collection, storage and use have become particularly demanding and its implementation can be fastidious and costly, especially for players operating from abroad.

India:

The regulatory landscape governing e-commerce in India is evolving, though not at the desired pace. The Indian legal system has regulated e-commerce under the same set of laws that regulate offline commerce. Nevertheless, policy makers have increasingly sought to address various facets of e-commerce such as the issues of FDI norms, data privacy and consumer protection laws in a focused manner.

➤ Consumer Protection Laws

The Consumer Protection Act, 1986 (“CPA”) ensures and protects the rights of consumers in relation to providers of goods and services in India. The CPA had been enacted to deal with consumer issues that arise when a consumer physically interacts and purchases the goods or services from a seller. However, it neither contemplates other issues that may arise out of online transactions due to their impersonal nature nor does it provide any separate mechanism for addressing grievances that could arise from an online business transaction. A new law as foreseen in the Consumer Protection Bill (2015) has been introduced to address the growing complexity of the business landscape with the expansion of e-business across India. The Consumer Protection Bill (2015) seeks to replace the 30-year-old CPA and proposes to set up a regulatory authority which will have powers to recall products and initiate class action suit against defaulting companies. Although the Consumer Protection Bill (2015) may seem to be a step in the right direction, many consumer advocacy groups want a separate law that is specifically targeted at the e-commerce sector to protect the rights of internet consumers in India.

➤ Privacy and Data Protection

S.43A of the Indian Technology Act, 2000, (“IT Act”) provides for the award of compensation for failure to protect data. Moreover, Information Technology (Reasonable security practices and procedures and sensitive data or information) Rules (2011) lay down the legal framework relating to ‘sensitive personal data or information’. The IT Act and the framed rules impose civil criminal liability on persons if they are in breach of privacy and confidentiality. Although the IT Act and the rules have tried to provide a backbone to the data privacy issues faced by users and e-commerce companies alike, the legal framework still needs to evolve to address the many challenges plaguing the sector.

One of the biggest challenges that an e-commerce company faces is an unauthorized access to users' personal information and the misuse of such information. The fact that most servers containing confidential private information are located outside territorial jurisdiction of India's courts is another issue. To address the need for separate privacy legislation, the Government of India has introduced a draft privacy bill, which has been pending before the Ministry of Personnel since 2011, awaiting comments from stakeholders and further discussion with the concerned ministries. In its most current form, the draft bill proposes a renovation of the data privacy framework in India, whereby the collection, storage, processing and transfer of data would be assessed for compliance through the lens of privacy principles, with enhanced penalties for any violations of privacy.¹³⁴

China:

Due to the rapid growth of e-commerce in China, the country published the Draft E-commerce Law ("Draft") on 27 December 2016 in order to further regulate and administrate the various e-commerce activities and facilitate its healthy development. The Draft Law applies to e-commerce activities occurring within China or activities involving the participation of e-commerce operators or customers who are within China. As such, a foreign e-commerce website that targets Chinese customers, or a foreign e-commerce platform that allows Chinese vendors to trade on it, will also fall into the regulatory regime of the Draft and so must follow the applicable requirements. The Draft distinguishes "3rd party E-commerce platforms operators" (such as the operators of Taobao and Tmall) from "other E-commerce operators" (which would include vendors residing on Taobao or Tmall, or organisations operating their own websites to sell their own goods). The Draft recognizes the former's leading roles in the development of e-commerce. In this context, a platform operator is required to: (i) examine and supervise the operational activities of other e-commerce operators residing on its platform; (ii) formulate and publish fair and clear rules for transactions conducted through its platform; (iii) take necessary measures to provide stable and secure platform services, and keep operation records properly; and (iv) establish credit evaluation mechanisms, emergency response mechanisms, mechanisms for a vendor to terminate its trading activities through the platform, and other necessary mechanisms.

Moreover, the Draft also displays the requirements concerning e-contracts (e.g. presumed capacity, formation of contracts, automatic transaction information systems, and electronic errors), e-payments (e.g. rights and obligations of payment institutions, payers, and payees, pay confirmation, wrongful payments, unauthorized payments, and excess reserves) and express delivery services (e.g. delivery service alliances, service standards, responsibilities and liabilities, and delivery time).

With reference to the protection of customer interests, the Draft emphasizes the importance of personal data protection, and specifies the requirements for utilizing data generated in e-commerce projects. It also sets out requirements concerning the authenticity of information, quality control of goods and services, use of standard contracts, and security deposits for customer protection.

For the purpose of standardizing the market order, the Draft provides requirements on IP protection and procedures for dealing with IP infringement complaints. The Draft also lists the prohibited activities that constitute unfair competition or manipulation of credit evaluation. In this way, it encourages China's development of cross-border e-commerce, and tends to increase the digitalization and convenience level of customs clearance, tax collection, and inspection and quarantine procedures in the future.

¹³⁴ R. Prasad; G. Manoharan, et al. (2016): Topical Issues in the Regulation of E-commerce in India, in Legal Services Newsletter. US-India Business Council: http://www.usibc.com/sites/default/files/Files/blog/LegalServices_Newsletter.pdf

South Africa:

The regulatory framework of e-commerce in South Africa is governed by the Independent Communications Authority of South Africa (ICASA), under the Electronic Transactions Act. The ECT Act comprises of 14 sections with 99 sections, which address E-commerce issues such as e-government, consumer protection, privacy, cyber-crime, and liabilities of service providers, to mention a few. The objective of the ECT Act is to facilitate electronic transactions by creating legal confidence around such transactions.

ECT Act requires that online sellers provide consumers with information about the full name and legal status of their website to ensure that the business email address, telephone number, the price of products, the payment methods available and return policies are clearly displayed. The ECT Act also deemed e-signatures to be equivalent of paper signatures for the purposes of electronic contracting or trading.

If an online company collects and stores personal information it has an obligation to only collect, use and distribute data for reasons that customers agree to. Against this background, the Protection of Personal Information Bill states that personal information must be used for explicitly-defined and lawful purposes related to a function or activity of an online business. Additionally, the company should never store credit card details on the site.

The Regulation of Interception of Communication and Provision of Communication-Related Information Act (RICA) govern paper-based and electronic communications and prevent the unlawful interception of any communication during occurrence or transmission. However, for e-commerce store owners, this act holds an exception related to business purposes. RICA allows the interception of employee emails as well as internet usage without any prior consent, provided that the employer acts within the terms of lawful interception.¹³⁵

Chapter 4

4.1. Measuring Dynamism in E-commerce

Measurement of e-commerce volumes in various sectors, patterns of growth, e-commerce readiness and the impact of e-commerce on economy is a daunting task, entailing many challenges:

- ***Inadequate availability of reliable official statistics***

Due to the high cost of data collection and processing official e-commerce statistics are inadequate, especially in developing countries. Therefore, e-commerce measurement has primarily relied on corporate reports of payment processing companies, private consultancies and International organizations like UNCTAD, WCO and UPU.¹³⁶ To be able to formulate policies for e-commerce, governments need to establish specialized agencies for e-commerce data collection and processing coupled with an emphasis on skill development in Big Data analytics.

- ***Difficulty in measuring transactions of informal nature***

Complexity of data collection is exacerbated in developing countries by the informal – and sometimes innovative – nature of e-commerce transactions, such as paying by phone credit or informal

¹³⁵ Lara Sampson (2017): A guide to South Africa's eCommerce laws, in PayU, <https://www.payu.co.za/guide-south-african-e-commerce-laws>

¹³⁶ "Bringing SMEs onto the E-commerce Highway" International Trade Centre (ITC), 2016

payments.¹³⁷ It is also difficult to measure C2C transactions that materialize through social media portals. This can be countered introducing measures that promote digital payments across all sectors.

- ***Questionable methods of estimation***

Most data is available in B2C sector. However, The Asian Development Bank estimated that B2B transactions accounted for 90 per cent of total e-commerce transaction value in Asia (ADB, 2015). Despite accounting for a larger volume of e-commerce transactions, discussion of B2B trends are based on B2C e-commerce statistics. Regulations promoting payments in B2B sector will help counter this limitation.

- ***Very few countries collect information of cross-border E-commerce or distinguish between domestic and cross-border***

Most countries rely on enterprise survey data and consumer survey data to estimate cross border e-commerce. The enterprise surveys capture online sales by resident firms to foreign consumer and enterprises (B2B and B2C) while as the individual surveys capture information about the online purchases of residents from foreign businesses or individuals (B2C and C2).¹³⁸ These surveys do not usually include questions that would help access the proportion of domestic and cross border trade. Apart from including such questions in the surveys, UNCTAD suggests using Balance of Payment statistics and postal shipments data as proxy indicators of cross border e-commerce.

- ***Lack of skills to analyze large volumes of data and their correlation with macro-economic indicators***

The enterprises in developing countries lack the requisite skills and resources for analyzing and collecting large volumes of data produced on account of online transactions. Capability building in this area of Big Data Analytics is a must for to strengthen or retain the competitive advantage.

To evaluate the e-commerce readiness of countries, UNCTAD prepared a B2C E-commerce Index, 2016. To prepare these indices UNCTAD relied on four indicators: Internet use (per cent of population), secure servers per one million inhabitants, credit card (per cent of population 15+) and postal reliability score. These indices are indicators of the capability or infrastructure perspective, and not actual trade flows. Even so, information is useful especially for countries aiming at strengthening their e-commerce enabling infrastructure.¹³⁹ However, these indicators may not be enough to measure the dynamism in e-commerce, as for example, with the increased adoption of e-payment, credit card penetration might diminish its use in estimating e-commerce readiness.

Other indicators could also be considered. The list below provides seven areas as possible indicators that could assist policymakers to assess the e-commerce environment in their countries with the aim of leveraging the potential for e-commerce and maximize its benefits, particularly for SMEs. These seven areas were identified by eTrade for all (etradeforall.org):

¹³⁷ Ibid.

¹³⁸ http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d06_en.pdf

¹³⁹ http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d07_en.pdf

Table 7: Possible Indicators to Assess E-commerce Environment

CLUSTER	EXAMPLES OF INDICATORS
ICT Infrastructure and Services	Internet users (per 100 people), fixed broadband internet tariffs (PPP \$/month), active mobile broadband subscriptions (per 100 people)
Payment Solutions	Debit cards, credit cards (per cent age 15+, per cent using card in last year)
Trade Logistics and Trade Facilitation	Mail (per cent of population having mail delivered at home, postal reliability Logistics (performance on international shipments, tracing and tracking, timeliness)
E-Commerce Skills Development	Per cent of firms using e-mail to interact with clients and suppliers, B2B ICT use, B2C Internet use
Legal and Regulatory Frameworks	Existence of legal frameworks for electronic transactions/ e-signatures, data protection/privacy, consumer protection online, cybercrime prevention
Access to Financing	Per cent of firms constrained by access to finance, per cent of working capital financed by banks
E-Commerce Readiness Assessment and Strategy Formulation	Indices of e-commerce readiness (UNCTAD), ICT readiness (ITU), Networked readiness (WEF)

Source: Ferrantino, M. (2017, March 13) Presentation “E-Commerce and Its Enabling Environment: What Can We Measure? What Do We Need to Find Out?” at FED Seminar on E-Payments and Financial Inclusion

In addition to tackling the challenges mentioned above, there is a need for forward-looking approach in measuring e-commerce dynamism and assessing the impact of e-commerce, with a picture of the major factors that might shape e-commerce in the coming years and the potential implications for growth and policy. This includes measuring additional statistics like percentage of users making purchases via mobile devices, percentage of users who use multiple devices, comparing purchasing behavior of buyers as against the surfing behavior. In today’s world, people continuously switch devices, from the web to mobile to apps, before completing an online transaction; many consumers search for online products via mobile devices but make actual purchases via desktops. Measuring analytics across devices is still in its infancy, but it is becoming a more significant field of interest for those in e-commerce. This will provide useful information to sellers how customers respond before turning into a paying customer.¹⁴⁰

To further enhance cooperation among the international agencies on measuring e-commerce, the inter-agency task force on international trade statistics¹⁴¹ has recently been requested to engage with national statistical authorities (including BRICS countries) to improve the measurement of digital trade. In addition to that, partnership with private sector, particularly the major e-commerce platforms would be equally important as more and more e-commerce transactions are being conducted on/facilitated by these platforms.

¹⁴⁰ <https://ecommerceguide.com/guides/ecommerce-future/>

¹⁴¹ Members include Eurostat, FAO, IMF, OECD, UNCTAD, UNIDO, UNSD, UN regional commissions, WCO, WTO

4.2. Impact of New Business Models

There is also a need to measure the responsiveness of e-commerce enterprises in adopting new and innovative ways of widening their market base and positioning their products and services in the online space. This includes adoption of new technologies like Virtual Reality, Augmented Reality, Artificial Intelligence, and Big Data Analytics as well as adoption of new models like Customer to Manufacturing (C2M), and Curation and Pay Monthly Models.¹⁴² These technologies and models that are aimed at greater personalization and enriched customer experience will drive e-commerce businesses in the future as competition increases. Customers will eventually buy from online sellers that can provide an enriched shopping where customers can visualize and gauge products as if they are buying from physical stores and can place personalized orders for goods and services.

Red Collar (RC), a pioneer Chinese clothing brand, was founded in 1995. Leveraging modern IT, RC has integrated online and offline models to successfully establish a personalized customization platform (RCMTM) for selling custom made clothes.¹⁴³ It has successfully adopted C2M model of design and manufacturing by establishing a global network of online staff coupled with real-time synchronization and data driven model of intelligent customization for clothing. Red Collar system collects customers' measurements and preference for fabrics and design and automatically transforms those into manufacturing specifications thereby reducing employee head count by 30 per cent.¹⁴⁴ On an average RC produces more than 2000 customized suits while reducing the inventory of raw material by 80 per cent and shortening the production cycle by 40 per cent.¹⁴⁵

Contextual shopping will take personalized shopping experience to the next level thanks to things like customer-centric tech and the Internet of Things. All digital devices owned by users can be connected to send and receive data from e-commerce platforms; users' preferences will be captured to provide relevant recommendations for shopping. Using Artificial Intelligence, brands are able to more intelligently process and sift through huge volumes of data to offer recommendations tied to individual's needs and preferences. For example, in early 2017, Starbucks launched "My Starbucks Barista", which will utilize AI to enable customers to place orders with voice command or messaging, to 1000 US consumers with a more extensive roll-out planned in 2017.¹⁴⁶

Enterprises need to invest in such technologies in future. Chinese company Baidu places great importance on research in artificial intelligence. Baidu's Deep Speech 2 voice recognition system works as a universal system, learning English as well as multiple versions of Chinese. It can recognize spoken words with great accuracy. A growing number of Chinese smartphone users use Baidu's voice recognition system for making internet searches.¹⁴⁷ Such innovative technologies will drive e-commerce in the coming years.

¹⁴² Ibid.

¹⁴³ <http://www.redcollar.com.cn/en/about.aspx?id=141>

¹⁴⁴ <https://www.forbes.com/sites/janeho/2016/08/15/chinas-suit-maker-redcollar-blazes-trail-for-mass-made-to-measure/#2cb1f78b5470>

¹⁴⁵ Blue Book on the Development of Industry in China (2015-2016)

¹⁴⁶ <https://www.forbes.com/sites/michelleevans1/2017/03/23/why-commerce-players-must-invest-in-artificial-intelligence-today/#40a562544283>

¹⁴⁷ <https://www.therobotreport.com/news/baidus-deep-speech-awarded-as-breakthrough-technology>

Chapter 5

5. Recommendations for Strengthening E-commerce Cooperation within BRICS

The key recommendations for strengthening e-commerce cooperation among BRICS are detailed below:

- **Strengthen capacity-building for E-commerce development in BRICS**

It is necessary to have a network of technical and support centers for capacity building in BRICS, as already proposed by UNIDO. The main purpose of the project is to support BRICS countries in capacity building, sharing of best practices and technologies in e-commerce development in domestic market and cross-border trade. Capacity building efforts by other international organizations, such as WTO's Aid for Trade initiative, UNCTAD's "eTrade for all" and ITC's "e-solutions" and "Virtual Market Places" also contribute to strengthening the capacities of the developing country SMEs to better engage in e-commerce.

- **Increase adoption of ePayment solutions for domestic and international payments**

ePayment could increase the efficiency of the overall economy and produce significant spill-over effects. It also provides an opportunity to leapfrog as countries that have seen the most rapid adoption of ePayment in recent years are the ones that have had inadequate payment infrastructure, such as Kenya and China. In line with UNCTAD's recommendations to foster an enabling environment for e-payments,¹⁴⁸ BRICS governments need to create a regulatory environment that ensures payment security, data encryption and data privacy, as well as promote cooperation between banks and ePayment service suppliers. BRICS governments also need to strengthen cooperation on increasing security and reliability of the payment systems. This includes encouraging payment options that are tailored to local needs and opportunities. Despite the benefits associated with e-payments, a majority of SMEs have generally been slow in adopting the use of e-payment systems.¹⁴⁹ BRICS governments therefore could consider embedding ePayment related awareness building and training in the relevant entrepreneurial skill development programmes for SMEs.

- **Strengthen the legal framework, capacity and infrastructure for countering cyberattacks**

BRICS countries are increasingly becoming the targets for cyberattacks. Lack of relevant international legal frameworks, and inadequate capacity and infrastructure at home to respond effectively to cyberattacks are the main concerns for BRICS countries. Coordination and cooperation among the BRICS are critical in this context to create a safe and stable environment promoting faster sharing of information, thus giving countries the opportunity to react quickly and efficiently in combating cybercrime. It is also essential that all stakeholders, such as financial institutions, government agencies as well as key private sector players carry out Cyber security due diligence.

- **Enhance consumer protection legislations**

As indicated by UNCTAD's cyber law tracker, among the four major areas of e-commerce related legislations, i.e. e-transaction, consumer protection, privacy and data protection and cybersecurity, consumer protection related legislations is an area where BRICS countries could invest more efforts to

¹⁴⁸ "Bringing SMEs onto the E-commerce Highway" International Trade Centre (ITC), 2016

¹⁴⁹ Wanjau Kenneth, R. M. (2012). 'Factors affecting adoption of electronic commerce among small medium enterprises in Kenya: Survey of tour and travel firms in Nairobi'

complete their legal framework. The level of consumer protection may vary depending on the country specific circumstances, but a minimum level of consumer protection, addressing the specificities of e-commerce transactions could increase the confidence of consumers in e-commerce and increased adoption of e-commerce.

- **Enhance exchange on data regulations**

Companies increasingly rely on data to run their business. This is particularly relevant for e-commerce companies, who rely on browsing and transaction data, as well as user-generated content. This provides convenience and efficiency, but may also lead to issues related to misuse of personal data. Data privacy is an issue discussed in the international fora and enhanced exchange among the BRICS on data regulation could provide better understanding and eventually lead to more effective regulation. This should also take into account the particular circumstances in each BRICS countries.

- **Establish a mechanism for cooperation among BRICS private sector entities**

Private sector plays an important role in driving the sector growth and policy adjustment. Subject to consideration and approval by the BRICS countries, a mechanism could be established to promote private sector exchange on e-commerce, facilitate cooperation and provide inputs for policy making process. Issues of common interest to all the BRICS e-commerce companies could be identified through dialogues hosted by this private sector cooperation mechanism and channeled into the relevant policy discussions. This may help the BRICS e-commerce companies on the issues such cross-border trade, investment facilitation, investor matchmaking, venture capital funding, legal, taxation and logistic procedures, encompassing all B2B, B2C and B2G trade and partnership avenues.

- **Explore the linkages between trade, investment and financial services**

E-commerce is a dynamic sector where the linkages between trade, investment and financial services are stronger and more relevant than compared with traditional economic activities. Therefore, within the BRICS governments, it could be beneficial to develop mechanisms for increased exchange and coordination domestically among the different agencies overseeing these activities, as well as increased exchange between the BRICS regulators in these areas.

- **Strengthen cooperation with International Organizations on capacity building and policy advice**

BRICS cooperation on e-commerce may benefit from continued support from the international organizations such as UNIDO, WTO, UNCTAD and ITC, in terms of analyzing data, studying trends, discussing policy options and delivering technical assistance. WTO's Work Program on Electronic Commerce, for example, has been examining trade related issue relating to e-commerce since 1998, and ensured continued practice of not imposing customs duties on electronic transmissions. The more recent UNCTAD led "eTrade for all" initiative aims to improve the ability of developing countries, and particularly the least developed countries, to use and benefit from e-commerce. Currently, it comprises 25 partners and more than 30 business entities in the Business for eTrade Development.¹⁵⁰ ITC has developed a concept for analyzing SME competitiveness in e-commerce that is applied in its capacity building projects such as "e-solutions" and "Virtual Market Places" projects which helps developing country SMEs on the ground to become e-commerce ready and connect them to the international

¹⁵⁰ http://unctad.org/en/Pages/DTL/STI_and_ICTs/eTrade-for-All/eTrade-for-All-Organization.aspx

markets.¹⁵¹ All these initiatives are useful for the BRICS to continue enhancing collaboration on e-commerce.

- **Organize Trade Fairs for enhanced collaboration among entrepreneurs in BRICS countries under the framework of BRICS Business Council**

BRICS countries organize various types of trade fairs, and e-commerce is an increasingly important area in trade fairs. Participation in trade fairs could help companies showcase their best technologies and offerings, and increased business linkages could be leveraged to address main developmental challenges in BRICS. These trade fairs could have a greater focus on start-ups and endeavor to bring together young entrepreneurs from across BRICS nations. The BRICS Business Council could play an important role in coordinating as well as hosting relevant trade fairs.

- **Strengthen cooperation with the World Bank Group and the New Development Bank (NDB)**

Access to finance is always important for any development initiative. It is therefore necessary to explore and pursue opportunities for supporting e-commerce related projects with the World Bank and the NDB. This will also facilitate knowledge exchange regarding their operations in accordance with their respective policies and procedures and explore opportunities for advisory services.

¹⁵¹ <http://www.intracen.org/itc/sectors/services/E-commerce/>

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