E-commerce Development Report of the Small and Medium Sized Enterprises of BRICS Countries

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Table of Contents

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1. Abstract

In the past few years, the rapid growth of e-commerce has attracted global attention. The effect and influence of BRICS' e-commerce and small and medium sized enterprises (SMEs) development has also become increasingly prominent. To promote the development of SMEs and e-commerce and facilitate realization of the SDGs (Sustainable Development Goals), this report provides a comprehensive analysis of the development and current status of BRICS' e-commerce and SMEs since the financial crisis. It also discusses the problems and challenges that the BRICS countries face in e-commerce development. Against a background of increasingly complicated global trade standards and agreement negotiations, this report explores related laws and regulations, presents an overview of the status of e-commerce in the BRICS, as well as trade rules and standard setting that will likely promote the rapid e-commerce development in BRICS countries. The report puts forward proposals to advance e-commerce and SME development. The first part of the report is an abstract; the second part discusses current global e-commerce development trends; the third part focuses on the status of SMEs and e-commerce in the BRICS; the fourth part addresses the main obstacles to the development of BRICS's SMEs; the fifth part concerns e-commerce laws and regulations in BRICS nations; and the sixth part provides recommendations for further strengthening e-commerce cooperation between BRICS countries and their SMEs.

1.1 Overall Situation

The rapid growth of e-commerce in global retail trade is attracting increasing attention. It is expected that the proportion of e-commerce in the global retail trade will increase from 7.4% in 2014 to 14.6% in 2020[1]. Additionally, with the use of ICT, Artificial Intelligence and other modern information technologies, e-commerce will have profound impacts on global production networks and retail businesses. The development of mobile e-commerce and social media is changing lifestyle patterns and consumption. Emerging countries, especially BRICS nations, which account for 42.19%[2] of the world population, represent a large pool of potential consumers and

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[1] Office of National Statistics (UK) © Statista, 2017

[2] Shanghai Academy of Social Sciences calculation based on the world population data published by United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects, the 2015*

Internet users. With increasing penetration rate of BRICS nations' mobile Internet, the development of e-commerce in these emerging economies has a bright future.

1.2 Essential Features of SMEs and e-commerce in BRICS countries

Although there are wide national differences in the development of BRICS's e-commerce, the momentum of overall growth is strong. The average rate of growth of BRICS e-commerce is around 20% (China has recorded an annual growth rate of above 37%), which is far above the global average. In terms of growth rates of e-commerce trade, China, India and South Africa are the fastest-growing markets. The growth rates of Brazil and Russia have fluctuated due to various factors. China and India have the largest e-commerce trade volumes while Russia, Brazil and South Africa have smaller trading volumes because of their relatively smaller economies. BRICS e-commerce has provided a platform for the development of SMEs, which has driven the generation of employment opportunities.

1.3 Main Problems Faced by e-commerce SMEs

The most common challenges faced in BRICS e-commerce development include lack of adequate data, logistics infrastructure, trust, regulations, cross-border customs clearance and talent. However, over and above these shared issues, each BRICS country has its own unique problems and challenges. For example, e-commerce development in Brazil is faced with customs and tax problems. In Russia, the language barrier in cross-border e-commerce in Russia stands out. In South Africa, payment and logistics in South Africa are a problem. In China, reputation and trust in e-commerce is coupled with improvements in consumer protection.

1.4 Rules and Standards of e-commerce Trade in BRICS Countries

Though individual BRICS countries have established varying laws and regulations pertaining to e-commerce transactions and security systems, there is a need to set up unified regulatory standards for cross border trade among BRICS countries.

In China, although there are laws relating to e-commerce, because the unified "e-commerce law" has not been formulated, the present legal norms are fragmented, vague, and unable to cope with the rapid development and continuous innovation in e-commerce. In comparison, Russian e-commerce legislation was introduced relatively earlier and the e-commerce laws have been updated regularly. Indian

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Revision. https://esa.un.org/unpd/wpp/Download/Standard/Population/.

electronic business related policies and legislations are unclear, which is likely to cause uncertainty for enterprises. The Brazilian system of e-commerce-related legislation is slow and depends almost completely on two laws. In South Africa, existing legislation is not comprehensive and has not kept up with e-commerce development. From the perspective of transaction security and consumer protection, China has clearly defined responsibilities and obligations of e-commerce third party platforms, and placed the establishment of consumer protection goods or quality and service guarantee mechanism on the agenda. In Russia cybersecurity and credit problems have become increasingly prominent. India has promulgated and implemented consumer protection laws in certain areas. Brazilian internet and online payments do not receive effective protection. The South African legal framework still has scope to improve the prevention of unfair competition and encryption of information.

The laws, regulations, policies and standards of BRICS countries vary in terms of level of development and focus. This not only limits the expansion of cross-border e-commerce enterprises to other member countries but also makes it harder for cross-border business enterprises to secure their interests. In order to establish a unified standard of cross-border e-commerce rules for BRICS countries, this study proposes the following policy recommendations: define international rules for cross-border e-commerce providers; establish multilateral negotiation mechanisms for cross-border e-commerce; strive to eliminate the tariff and non-tariff barriers between BRICS nations; improve international cooperation and dispute resolution system; let large enterprises and eWTP and other markets perform their roles according to unified industry standards and rules; build the "BRICS national standard and technical information exchange platform"; and promote China's cross-border e-commerce standards "going out".

1.5 Proposals to Strengthen E-commerce Cooperation between BRICSs SMEs

BRICS e-commerce cooperation will enable the rapid development of e-commerce and allow BRICS countries to promote e-commerce cooperation at the global level. The establishment of a common interest is the core and foundation of BRICS e-commerce cooperation.

Within the framework of BRICS economic partnership and strategic cooperation, in order to commit to e-commerce, member countries need to establish an e-commerce cooperation mechanism. They also need to focus on strengthening capacity, including technological innovation, skills and professional training, infrastructure, such as ICT, logistics and distribution, transportation capacity, technical support for e-commerce

development, information exchange for e-commerce logistics between member countries, and cooperation and innovation in mobile payment technology, with a focus on SMEs.

BRICS countries also need to strengthen cooperation in key e-commerce cross-border trade processes, including cooperation in "single window", intellectual property, trade promotion, small, medium and micro-enterprises (MSMEs), especially in e-commerce technology trends, standard setting, trade rules, tariffs, skills training, legislation and policy framework. We need to promote cross-border e-commerce trade between BRICS countries, strengthen cooperation of BRICS countries in global economic processes, and promote e-commerce alliances and e-commerce access for SMEs. The promotion of pragmatic cooperation that directly benefits people, will advance inclusive and sustainable development and will eventually drive economic growth and employment.

2. Current Global Trends of e-commerce

2.1 Overview of Current Global Trends in e-commerce

The rapid increase of Internet penetration, innovations in online payments and changes in consumption patterns, have made online trading increasingly popular, leading to high levels of growth for global e-commerce trade.

According to the United Nations Conference on Trade and Development (UNCTAD), e-commerce refers to all purchases and transactions made through the network and computer, where payment and transportation can be completed online or offline[3]. In general, e-commerce includes business to business (B2B), business to customers (B2C), customers to customers (C2C) and business to governments (B2G) transactions.

At present, there are no official statistics on the value of domestic and cross-border e-commerce. Only a few countries have collected information on e-commerce revenue. For the development of global e-commerce, most of the data available comes from private consultancy surveys or estimates from relevant agencies.

2.1.1 Market size and Growth Rates

Based on existing information and latest estimates from UNCTAD, the global e-commerce market in 2015 reached US$ 25 trillion, accounting for 32.34% of global GDP, which is 1.39 times larger than the market size in 2013 (see Fig. 1).

Fig. 1 Global E-commerce Market Size, 2013 and 2015 (in US $ trillion)

Source: UNCTAD estimates on the conference of "Towards Inclusive E-commerce", e-commerce Week 24-28 April 2017, Palais des Nations, ...
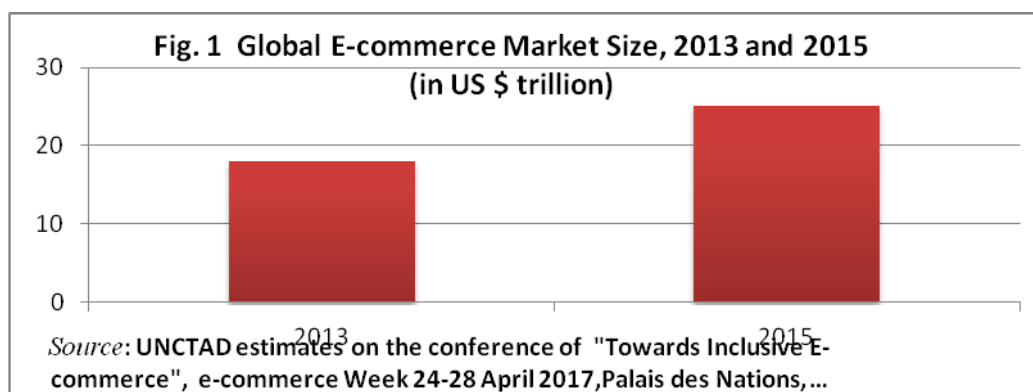
The global e-commerce market has been growing rapidly, with an average annual growth rate of more than 12% between 2013 and 2015 and an 8% increase of contribution to GDP in 2015 compared with 2013. E-commerce transactions of some

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[3] Source: UNCTAD: INFORMATION ECONOMY REPORT 2015, CHAPTER I : REVISITING THE DEVELOPMENT POTENTIAL OF E-COMMERCE, PP3.

countries and regions are growing more rapidly, such as, the United States, which has a growth rate of more than 14% of retail e-commerce transactions since 2015[4]. Chinese e-commerce transactions (retail e-commerce transactions included) have maintained an annual growth rate of at least 27% since 2013[5].

2.1.2 B2B e-commerce is the main force of global e-commerce activities

In global e-commerce transactions, around 90% is business to business (B2B) transactions, followed by business-to-consumer (B2C) transactions. C2C, B2G and other e-commerce transactions are relatively small (see Fig.2). In general, B2B e-commerce is the main component of global e-commerce activities.

Fig.2 Share of B2B, B2C & OTHERS

Source: Shanghai Academy of Social Sciences(SASS), UNCTAD.
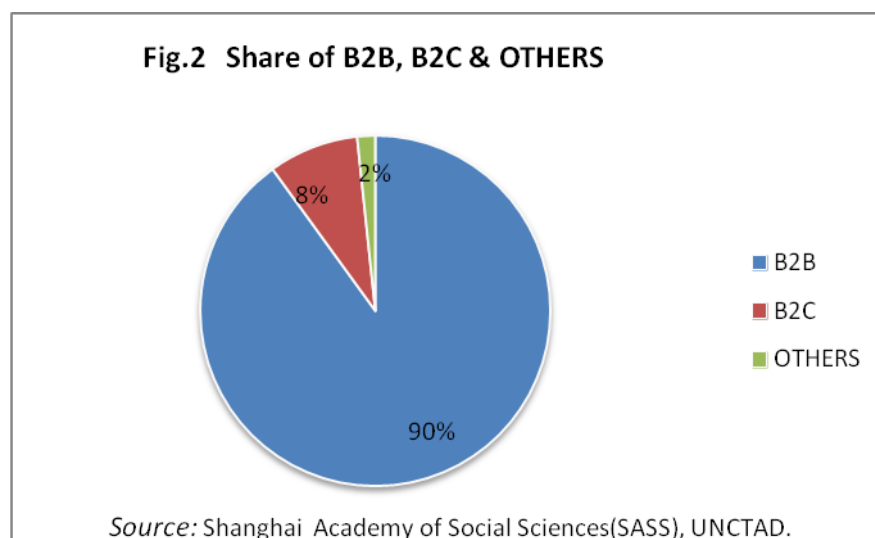
2.1.3 B2C e-commerce is more active and growing significantly faster than B2B

Since the development of global e-commerce in the early 2000s, e-commerce enterprise activities have been dominated by B2C e-commerce. The rise of online shopping has not only changed the business model of global retailing, but has also led to unprecedented growth of B2C e-commerce, especially since 2010, when B2C registered significantly faster growth than B2B. In 2013-2015, global B2C e-commerce maintained an annual growth rate of over 20%[6] (see Fig. 3). In the Asia Pacific region and Latin America, B2C e-commerce grew by more than 28% in 2015. China's B2C growth rate is more than 35%, and, according to UNCTAD estimates, China surpassed the United States as the world's largest B2C country in 2015.

Despite the lack of official statistics, research by organizations and consulting groups, such as UNCTAD, eMarketer and Ecommerce Foundation, have estimated global

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[4] US Department of Commerce, US Census Bureau News, QUARTERLY RETAIL E-COMMERCE SALES, FRIDAY, FEBRUARY 17, 2017, AT 10:00 A.M. EST

[5] The Ministry of Commerce, P.R. CHINA

[6] e-commerce-commerce Foundation，Global B2C e-commerce-commerce Report 2016, September 2016.

B2C transactions at around US$ 2.5 trillion. With greater Internet penetration and growing popularity of online shopping, global B2C e-commerce continues to maintain double-digit growth, and it is expected that the proportion of B2C in overall e-commerce turnover will continue to increase.

Fig.3 Global B2C E-Commerce Growth Rate (%)

Source: Economic Foundation, September 2016.
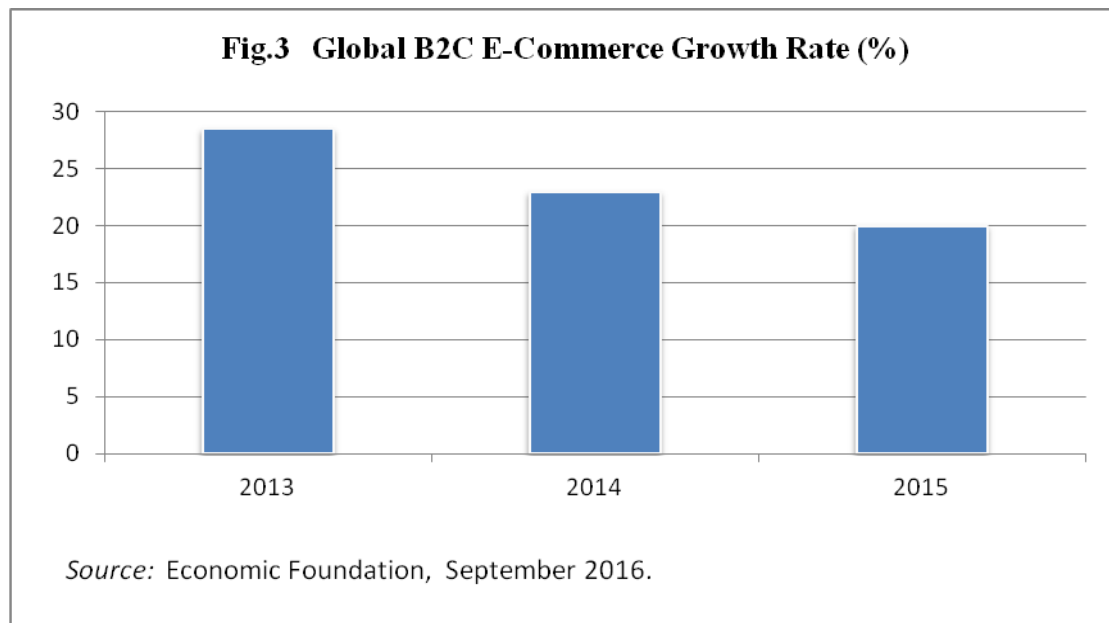
2.1.4 E-commerce development across different regions

A. Developed countries remain the backbone of global e-commerce development

In 2015, the world's top ten economies in e-commerce transactions were all developed economies, except China. According to UNCTAD, the United States remains the largest e-commerce market, with an e-commerce transaction volume of over US$ 7 trillion in 2015, followed by Japan, China, South Korea, Germany, the UK, France, Canada, Spain and Australia (see Fig. 4). The ten largest economies have 64.56% of the world's e-commerce market.

Fig. 4 Top 10 of 2015 E-commerce Sales(in US$trillion)

Source: UNCTAD estimates on the conference of "Towards Inclusive E-commerce", eCommerce Week 24-28 April 2017,Palais des Nations, Genev
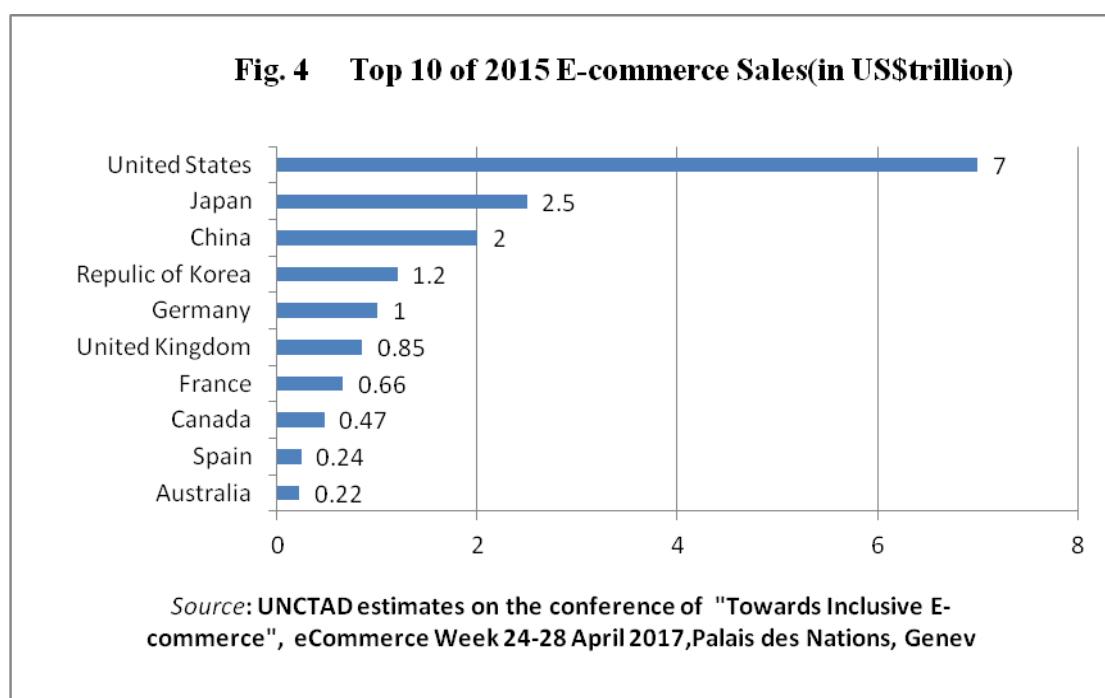
B. Percentage share of Global B2B and B2C Sales

There are significant differences among countries in global e-commerce sales proportion (see table 1).The United States and Japan together account for nearly 40% of global B2B, while the United States and China account for 42% of the global B2C e-commerce market.

Table 1. Top 10 Countries in Terms of B2C and B2B e-commerce Sales Share in 2015 (%)

Country	Share of B2C	Share of B2B
China	21.25	6.14
United States	21.07	28.78
United Kingdom	6.89	2.88
Japan	3.93	10.64
Germany	3.20	4.22
France	2.51	2.63
Canada	1.65	1.88
Republic of Korea	1.65	4.97

Australia	0.96	0.84
Spain	0.86	0.97

According to eMarketer (see Fig. 5), since 2011, the size of the B2C e-commerce market in Asia and the Pacific, Latin America and the Middle East and Africa has grown significantly. In comparison, the market performance of other regions is relatively weak, with the market share of North America and Western Europe declining significantly.

Fig. 5   Share of B2C E-commerce Sales, by region, 2011 and 2016 (%)

Source: eMarketer, 2017.
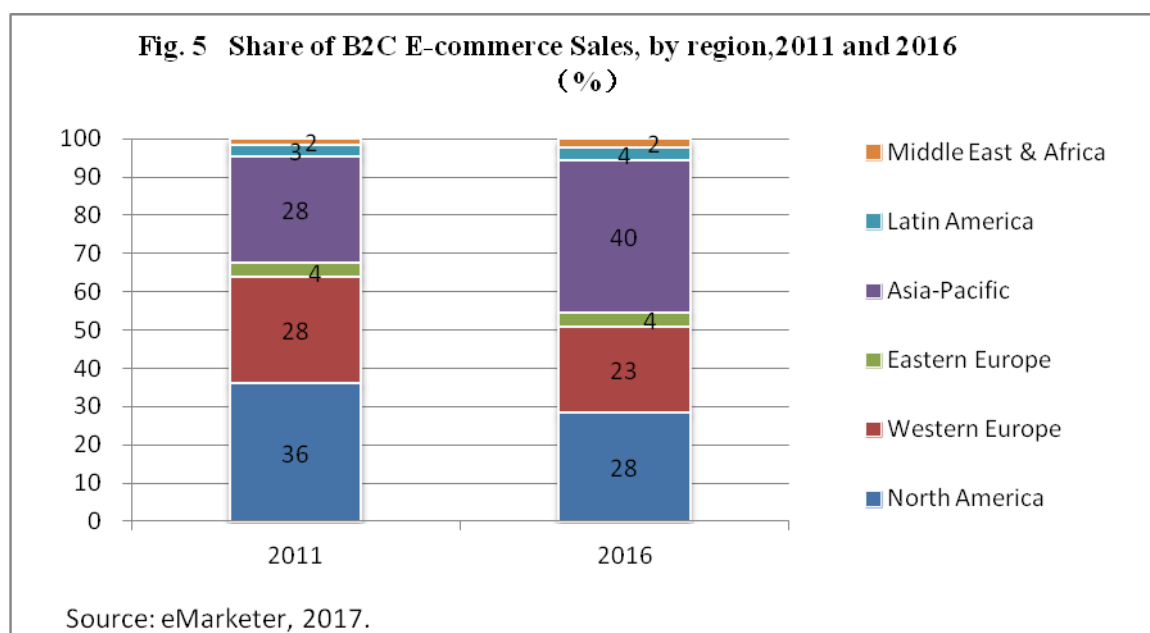
2.1.5   Outstanding performance of emerging economies in global retail e-commerce

In the global retail e-commerce, China is the fastest growing and largest trading country in the world. From ITC and eMarketer data, the top countries with retail e-commerce sales worldwide in 2015 were China, the United States, the UK, Japan, Germany, France, South Korea, Canada, Brazil and Australia (see table 2). In 2015, Brazil and other developing economies also joined the top ranking global retail e-commerce markets.

With the popularization of smart mobile and the rapid development of e-commerce, emerging economies have also become increasingly prominent in the B2C. In 2016,

China, India and Brazil ranked first, ninth and tenth among the top 10 economies respectively in global B2C e-commerce transactions.[7]

Table 2. Countries with the largest retail e-commerce sales worldwide in 2015

	Retail e-commerce sales in 2015 (in US$ billion)	Shares in Global Retail E-commerce (%)
China	672.01	35.09
United States	340.61	17.79
United Kingdom	99.39	5.19
Japan	89.55	4.68
Germany	61.84	3.23
France	42.6	2.22
Republic of Korea	38.86	2.03
Canada	26.83	1.40
Brazil	19.49	1.02
Australia	19.02	0.99
Global Total	1915	100

Source: International Trade Centre (2016). *Bringing SMEs onto the e-commerce Highway*. ITC, Geneva, pp64.

English Version. (www.intracen.org); Emarketer, August 22,

2016.https://www.emarketer.com/Article/Worldwide-Retail-e-commerce-Sales-Will-Reach-1915-Trillion-This-Year/1014369

2.1.6   Great potential in BRICS e-commerce markets

The BRICS have a total population of 3.1 billion, accounting for 42.19% of the total global population.[8] There are around 2.52 billion[9] Internet users at the global level, and the number of people using the Internet in the BRICS is expected to exceed one

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[7] Economic Foundation, *Global B2C E-commerce Report 2016*

[8] Shanghai Academy of Social Sciences calculation based on the world population data published by United Nations, Department of Economic and Social Affairs, Population Division, *World Population Prospects, the 2015 Revision.* https://esa.un.org/unpd/wpp/Download/Standard/Population/

[9] Economic Foundation, *Global B2C e-commerce Report 2016*

billion. In China alone, Internet population is over 700 million.

Among global Internet users, the average percentage of online shoppers is 16%. In BRICS, the percentage of internet users who transact online is higher in China and Russia with percentages of 17.5% and 19.2% respectively (see Fig. 6). The size of the retail market is influenced by population size as transactions are done individually.

The growth rates of e-commerce transactions in BRICS countries in 2015 are also impressive. India's annual e-commerce growth rate was 54%. China and Russia registered growth rates of 27% and 25% respectively. Brazil and South Africa had growth rates of approximately 15%[10]. The growth rates indicate strong momentum of the BRICS's e-commerce development.
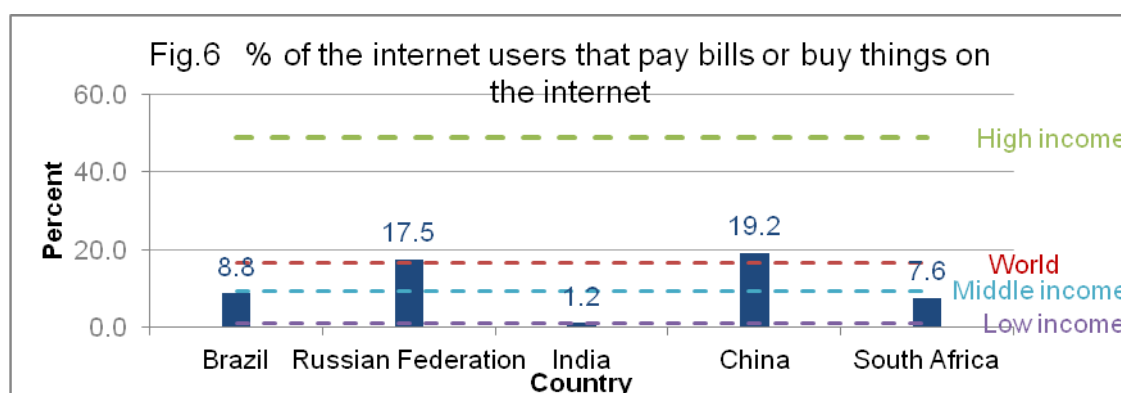
Source: ITC calculation based on Global Fundex data, 23 May 2017.

2.2 The Impact of e-commerce on Global Economy, Technology Progress and Job Development

The main requirement of e-commerce is the Internet and Information and Communication Technology. The development of e-commerce further drives the development of the information communication industry and other related industries, which are becoming the new economic growth points in many countries.

2.2.1 Impact of ICT on e-commerce market allocative efficiency

Information has become the most important strategic and economic resource. The accessibility of information does not only influence and determine market efficiency, but also determines market allocative efficiency of resources. Distinguished from the traditional business, the essence of e-commerce is to make market entry more convenient and decrease search costs of market information for both supply and demand. By means of ICT, direct or indirect information can be accessed anywhere at

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[10] Source: Data Insight

any time by suppliers of products and services, or consumers. As the Internet is open and accessible, users have easy access to information and can therefore make informed purchasing decisions and can improve work efficiency. Using ICT, consumers can conveniently buy any-time and anywhere, and reduce the costs of consumption. From the perspective of enterprises, ICT enables them to reach out to customers, and communicate with upstream and downstream customers, reducing procurement costs, cost of sales and production costs.

For example, a Russian private shoe company Afour, with the help of e-commerce, enables both domestic and overseas customers to order online and pay bills via Paypal. The buyers are mainly from the United States, Canada, Australia and other English-speaking countries. About 65% of Afour's orders come from abroad, with 50% of non-domestic sales attributed to orders from the United States. Today Afour operates all over the world, except in South America.

Research shows that commodity transactions or service transactions online can reduce the average cost of processing a transaction by 90%, and reduce the direct cost of buying goods and services by 11%.[11] Through the adaption of ICT, e-commerce can lower the cost of obtaining information, and make it faster and more convenient, which dramatically reduces the market transaction costs, and improves the market allocative efficiency of resources.

2.2.2　E-commerce is changing traditional business, production and sales models

Compared with the traditional business model, which is built on the entities and physical space, the e-commerce model breaks the space-limitation by making the business activities digitalized through networking and informatizing. The influence of e-commerce on traditional business is mainly reflected in two aspects. First is changing the market price system and commodity pricing system. Under the traditional model, given that the characteristic of information asymmetry is prominent, enterprises or vendors who get more information master the advantage of pricing. However, under the e-commerce model, the accessibility of information greatly narrows the difference between information owners, so that commodity pricing is more close to perfect competition. Second is subverting the traditional marketing concept. E-commerce makes marketing direct, convenient, and efficiently close to customers or consumers. It makes marketing channels more flexible and diversified and marketing more targeted due to the popularization and application of ICT.

Through ICT, e-commerce greatly shortens the distance of the supply chain between manufacturers and consumers, and changes the traditional market structure and

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[11] "Internet Economics—A Thinker'sGuide. "The Economist,April 1, 2000, PP. 64—66.

traditional ways of cooperation in industry. So, enterprises can skip dealers and connect directly with customers, and customers' demands can be directly transformed into production. E-commerce affects enterprises' production both internally and externally. As Fig. 7 shows, internally, e-commerce impacts the supply of raw materials and labour division, which then affects production. Externally, e-commerce can impact the market and users feedback, which then affect production. The traditional structure of market division may be changed from external to internal division through the Internet, or alternatively, be changed from internal integration in enterprises to market independent division, and therefore be coordinated by market transaction in market division. In other words, the accessibility of new ICT will enable the economic subjects to realize the automatic adjustment of the structure of division, product structure and even the entire industrial structure through the development of e-commerce.

Fig.7 E-commerce impact on Firms
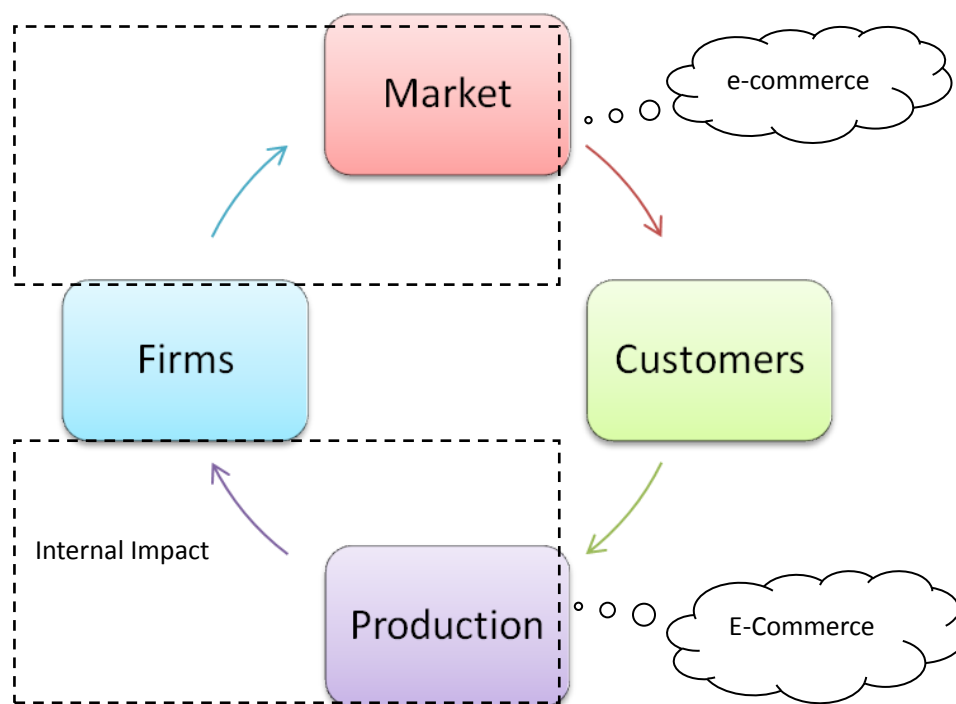
Sources: Shanghai Academy of Social Sciences.

The Brazilian company Mash selling men's underwear, apparel and accessories uses an e-commerce platform to sell and secure orders, and implement customized production. Mash has a large flow of goods through several retailers and a unique e-commerce channel for sales. Business teams from e-commerce platforms and companies together decide the types of products sold by e-commerce platforms, which are purchased online by consumers and produced in factories. When a customer places an order, the order is sent to the anti-fraud system to be reviewed and

confirmed. After the order has been approved, the VTEX platform sends commodity and consumer information including address and CPF, to the ERP system in the E-millennium. Once the order reaches the ERP system, the package and mailing teams at Mash start the order assignment. During the packaging progress, the goods are collected to the warehouse, and updated in the ERP system. After the receipt is issued, the order information and related taxes are collected, and the receipt is packaged together with goods. Lastly, a post tracking number is generated and transported by a Mash carrier. The tracking number is registered in the system and sent to the consumers. In this way, e-commerce influences the whole process from production to market, and changes the traditional production and business model.

Zhaogang.com is China's earliest B2B whole-supply-chain e-commerce platform; through the whole industry chain ecology its business has been fully expanded to include the one-stop information warehousing processing service, the fourth party logistics platform, the Internet finance, the international e-commerce and so on. Zhaogang.com is transforming and upgrading China's steel industry, with extensive changes in development pattern and transforming China's iron and steel industry from chaotic "wholesale" to more advanced "retail system"[12].

2.2.3 Development of e-commerce promotes technological progress

The impact of e-commerce on technological progress is reflected in several aspects. First, e-commerce has intensified technological innovation of production process through increased competition among enterprises, especially in reducing product costs and prices. In order to maintain advantages in market competition, enterprises must carry out technological innovation to maintain the low price advantage of products.

Second, in the fiercely competitive market environment, another effective way for enterprises to maintain competitive advantage is through product innovation, implementing product differentiation strategies and offering diversified products to compete to highlight advantages.

Third, shopping and online trading have brought great challenges and threats to the traditional cash and on-the-spot transaction. Safe, convenient and fast efficient trading and payment methods are important key factors in the e-commerce process. In order to adapt to the rapid development of e-commerce, we have to change and innovate accordingly. For example, mobile payment, such as Apple pay, paypal，Alipay，NFC and Pay TM, not only brings technical progress of the payment method itself, but also brings technological innovation in security of electronic payment process, through

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[12] "Five major changes of zhaogang.com to reshape B2B ecology", Finance.hebei.com.cn, on December 2, 2016, http://finance.hebei.com.cn/system/2016/12/02/017602548.shtml

encryption, block chain technology, etc.

Fourth, the development of e-commerce is the inner motivation of the development of computer network technology, communication technology and artificial intelligence technology. The development of e-commerce is dependent on EDI (Electronic Data Interchange), namely Electronic Data exchange technology, Internet network technology, Web browsing technology, database technology and communication data processing technology. Without the support and progress of these technologies, there would be no development of e-commerce. Accordingly, the rapid development of e-commerce has also contributed to the progress of these technologies. For example, the rapid growth of B2C e-commerce in China has raised higher requirements for e-commerce enterprises network connectivity and data exchange. When "Taobao" first hosted "Double Eleven," the sales promotion, it encountered a "network crash". The event triggered an upgrade of the network and data exchange technology for e-commerce, which has promoted the innovation of China's communication network technology to some extent. The emergence of the new trend of mobile shopping has stimulated further innovation of artificial intelligence technology. Some of the world's leading e-commerce companies, such as Amazon and Alibaba, and Internet companies such as Google and Facebook are increasing investment in this area.

2.2.4 E-commerce facilitates the development of SMEs and employment growth through business model innovation

Through e-commerce, enterprises can build a global business marketing system, implement global business strategy, strengthen inter-industry cooperation across the globe, and thus enhance global competitiveness. Especially for small business or smaller industries, e-commerce breaks the barriers of scales as it not only lowers the costs and difficulties of access to the market, but also provides opportunities of partnerships and cooperation with companies from all over the world by providing access to information about the demands of the global market.

The B2B online market provides suppliers from developing countries opportunities to enter the export trade and global supply chains. For example, India's largest online B2B e-commerce platform, IndiaMart.com[13], mainly provides services for SMEs. China's Alibaba.com, which is the biggest B2B e-commerce platform and one of the world's biggest e-commerce platforms, serves above 100 million SMEs around the world, including one million domestic suppliers, 25,000 overseas suppliers, 10 million domestic purchasers, and 100 million overseas purchasers[14]. Zhaogang.com, founded in 2012, assists financial institutions such as banks to support small and micro

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[13] http://www.indiamart.com/corporate/about-us.html.

[14] B2B marketing in Alibaba, released on March 1, 2016

business upstream and downstream in a quick, convenient and safe manner by established data channels. The cross-border retail channel established by Zhaogang.com also assists steel and other manufacturing industries to become international by changing the industries' export model.

The development of B2C e-commerce has not only contributed to the development of SMEs, but also led directly to the growth of employment. At present, JD, one of the biggest B2C platforms in China, provides services to more than one million SMEs and directly and indirectly leads to more than four million jobs[15]. The number of jobs generated by Taobao Tmail retail e-commerce platform is estimated to be around 11 million. In particular, the development of B2C e-commerce has greatly driven the growth of entrepreneurship and employment of women. For example, in the online shops of Taobao.com, 49% of shop owners are women.

The innovation of e-commerce through business model has helped the development of SMEs and employment growth. The development of China's Three Squirrels e-commerce co. Ltd. founded in February 2012, now has more than 2,000 employees. With the help of the business model innovation brought by e-commerce, from the first order in June 2012 to more than 5.5 billion Yuan in total channel sales in 2016, it took Three Squirrels five years to become a well-known domestic company.

2.2.5 Promote the participation of SMEs in the global economy

E-commerce can help SMEs participate in the global economy by reducing costs and increasing efficiency in information search, communication and global marketing. Cross-border e-commerce, in particular, provides unique opportunities for SMEs to participate in international trade and global economic processes. Meanwhile, good online trading also could easily win international credit for SMEs[16], helping the SMEs grow stronger.

The Brazilian company—LuizaBarcelos, is an example how e-commerce promotes SMEs participation in globalization. LuizaBarcelos, a shoe company founded in 2013, started to engage in globalization in the beginning of 2016. LuizaBarcelos uses the Shopify platform in its US market and uses Paypal for payment. UAfrica, a South African company, also realizes globalization with the help of e-commerce. The e-commerce business on the UAfrica platform uses Shopify. Once a new order is made, the information is immediately sent to Shopify, and then the inventory status of e-commerce in each sales platform is updated instantly (UAfrica, 2017). Another South African company, "Nontle hair" provides all kinds of products for customers all

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[15] Data of research group's survey on JD Headquarter, on May 24, 2017

[16] International Trade Centre (ITC)：BRINGING SMES ONTOTHE E-COMMERCE HIGHWAY, Geneva,2016

over the world through e-commerce activities, including in Brazil, Peru, Malaysia and Asia-Europe（Nontle hair, 2017.

2.3 Global Development Trend of e-commerce

Regarding e-commerce development stages, e-commerce generally has three stages—the information release platform stage (mainly tools and channel function), the information trade service platform stage (information value chain formation), and the information integration service (information value chain extension), see Fig. 8. Overall, the development of global e-commerce is in growth period, and in some developed countries and regions e-commerce activities is gradually maturing.

Fig.8 E-commerce Development Stage

With more and more people using the Internet and moving to online consumption, global e-commerce transactions will continue to increase rapidly, but the rate of increase will be slow down gradually. The development of global e-commerce is presenting the following trends:

2.3.1 Mobile e-commerce is becoming mainstream

In e-commerce transactions, the use of intelligent mobile terminals is increasing. In the advanced economies of Europe and the United States, about 70% of B2C e-commerce transactions originate from mobile terminals. In China, nearly 40% of buyers use mobile terminals. With the acceleration of mobile terminal and Internet diffusion, mobile e-commerce is becoming the norm. According to the latest research of Goldman Sachs, by 2018, global revenues generated from mobiles will count for half of the revenue generated by e-commerce.

2.3.2 Cross-border e-commerce will be greatly developed

Currently, international trade shows new features of small-sized, high frequency and personalized customization. With the promotion and popularization of ICT, Internet, the Internet of Things and artificial intelligence technology, the proportion of cross-border e-commerce (including B2B and B2C) will continue to improve rapidly in global trade. In particularly, cross-border retail e-commerce will increase

explosively with continuous improvement of transportation infrastructure and logistics system.

2.3.3 The e-commerce industry chain and service ecology form gradually

With the popularization and rapid development of e-commerce, a large number of enterprises have shifted from offline trading to online trading. In industry sectors, where users are not open to changing the integration of upstream and downstream processes, e-commerce platforms will offer a more convenient and acceptable approach for completing the transactions from the users' perspective. This will boost e-commerce services including internet finance, intelligent logistics, and network credit.

2.3.4 The impact of social media on e-commerce activities is becoming increasingly prominent

The fastest-growing segment of the Internet is the number of mobile social media users. Since 2014, social media has developed rapidly. From 2015 to 2016, more than 280 million people worldwide use social media by mobile devices. Twitter, Facebook and WeChat all have online shopping links. As the impact of social media on people's daily life intensifies, shopping online through social media platforms will become more common. The latest e-commerce trends of "instant online celebrities" and "live video streaming" indicate that the integration of social media and e-commerce is deepening.

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

In recent years, e-commerce in emerging economies, mainly in Asia-Pacific, central and Eastern Europe, Latin America, the Middle East and Africa, has grown rapidly. Growth rates are much higher than in North America and Western Europe. In these emerging economics, the share of Internet population and innovation capacity is growing. These countries and regions innovate continuously in the field of payment systems, logistics systems, O2O and other business models. The proportion of e-commerce in emerging countries and regions will continue to rise, and the focus of global e-commerce will gradually shift to emerging regional markets.

2.3.6 The e-commerce activities in SMEs will usher in an era of economic development

Small and medium-sized enterprises are the active force of world economic development. Hindered by the status of telecommunications and ICT infrastructure, SMEs in many countries and regions have not yet launched or cannot carry out e-commerce activities. However, with the continuous improvement of Internet

penetration and ICT infrastructure, more and more SMEs will enter the e-commerce field. Predictably, with the deepening development of e-commerce, more and more SMEs will use the Internet to carry out the e-commerce activity and participate in related activities.

3. Current Status of E-commerce among SMEs

3.1 Brazil

3.1.1 Overall status of SMEs

According to the general law of micro and small enterprises ('Lei Complementar N° 123/6'), the threshold to determine whether the enterprise is a micro or a small enterprise is annual turnover. The general law defines the enterprise category micro and small but does not consider medium-sized enterprises.

InstitutoBrasileiro de Geografia e Estatística -the Brazilian Institute for Geography and Statistics (IBGE)[17] uses the number of employee in the business to conceptualize SMEs. The following criteria are observed:

Table1.ThethresholdsoftheBrazilianSMEdefinitionby'LeiComplementar N°123/6'andIBGE

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

SOURCE: RECEITA FEDEAL, IBGE

Source: The Brazilian Institute for Geography and Statistics (IBGE)

The Brazilian Development Bank (BNDES) adopts a size classification of enterprises according to annual turnover.

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[17] The Brazilian Institute for Geography and Statistics - One of the most authoritative institutions in Brazil, responsible for providing geological, social, population, economic data.

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

SOURCE: BNDES

Source: The Brazilian Development Bank (BNDES)

The slowdown in economic growth during recent years did not prevent SMEs from expanding. According to the data of DATASEBRAE (2014), 99.1% of Brazil's national enterprises are SMEs, reaching a total of 8.5 million in 2014. The number of micro-enterprises in the country increased from 2.6 million to 2.9 million from 2009 to 2014; with an increase rate of 10.4%. The number of small enterprises (MPE) was 662,230 in 2009 and grew up to 865,812 in 2014, with an increase of 30.7%. It was more than the increase rate of medium and large enterprise's (MGE), which was 10.3%. As shown in the figure below:
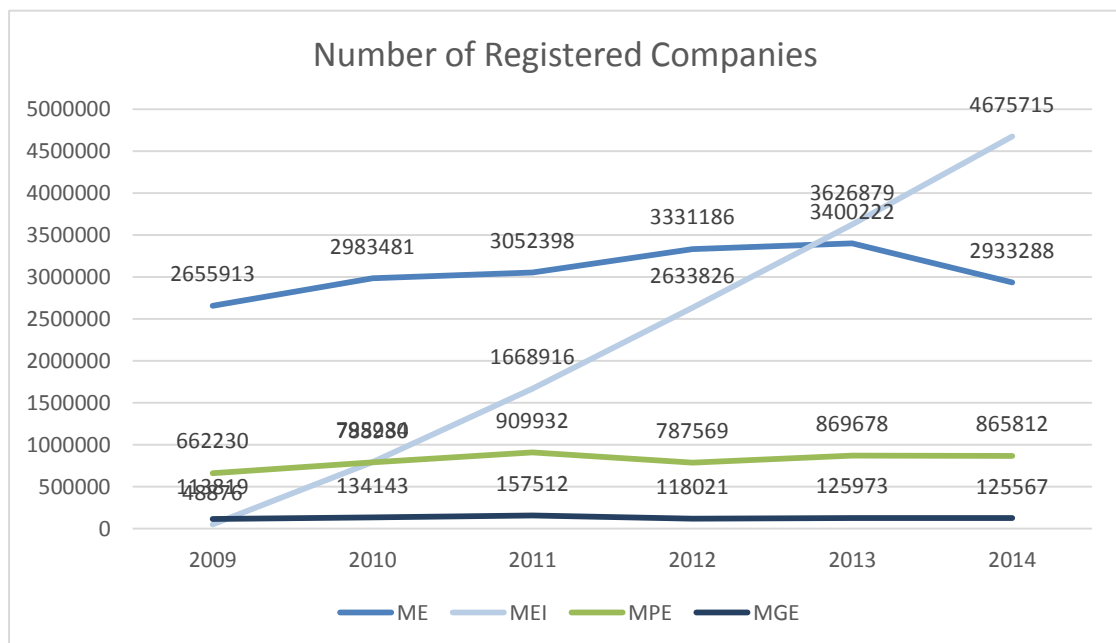
Source: DATASEBRAE

Figure.1 the change trend of different scale enterprise registration number in Brazil, 2009-2014

SMEs not only promote economic development, but also promote employment. According to data from SEBRAE, SMEs represented employment for more than 17.1 million people in 2013, providing 52% of all formal employment in the country. Salary expenses accounted for 40% of all staff salaries paid to private employees.

3.1.2 Overall status of e- commerce development in Brazil

In recent years, the e-commerce in Brazil has undergone rapid development. Brazil's e-commerce market grew from $6.03 billion in 2011 to $14.3 billion in 2016 and the contribution from e-commerce revenue tripled from 0.23% in 2011 to 0.75%.
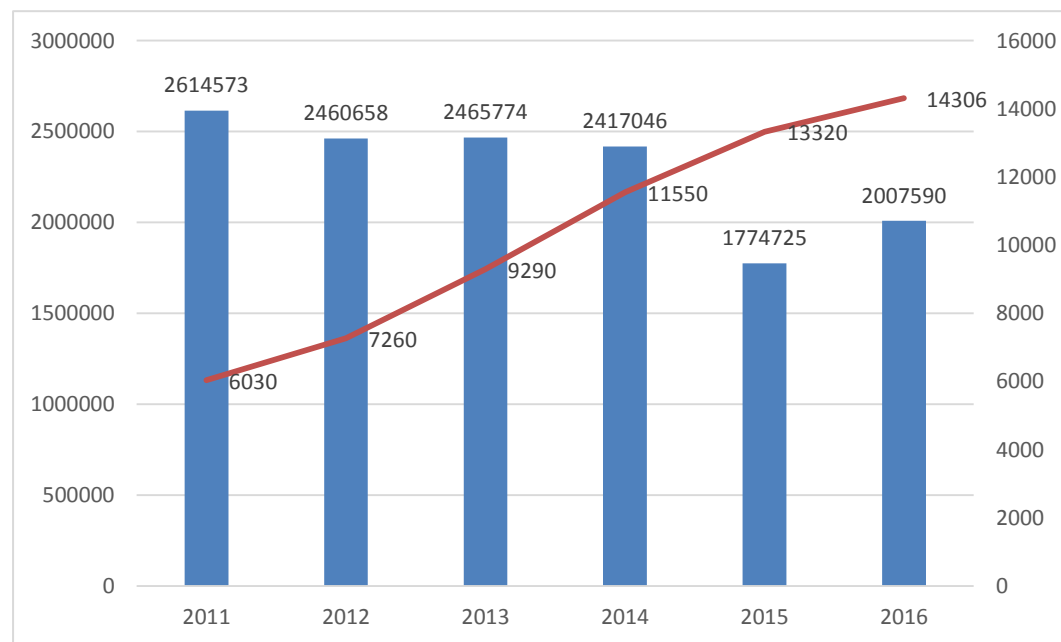
Source: world Bank, E-bit/Buscape

Figure2.Brazil'sannualrealGDPagainstannuale-commercerevenue, 2011-2016

According to research by E-marketer, Brazil's growth rate of e-commerce transactions showed a declining trend year on year, from 24.0% in 2014 to 17.3% in 2015, as is shown in figure 3.
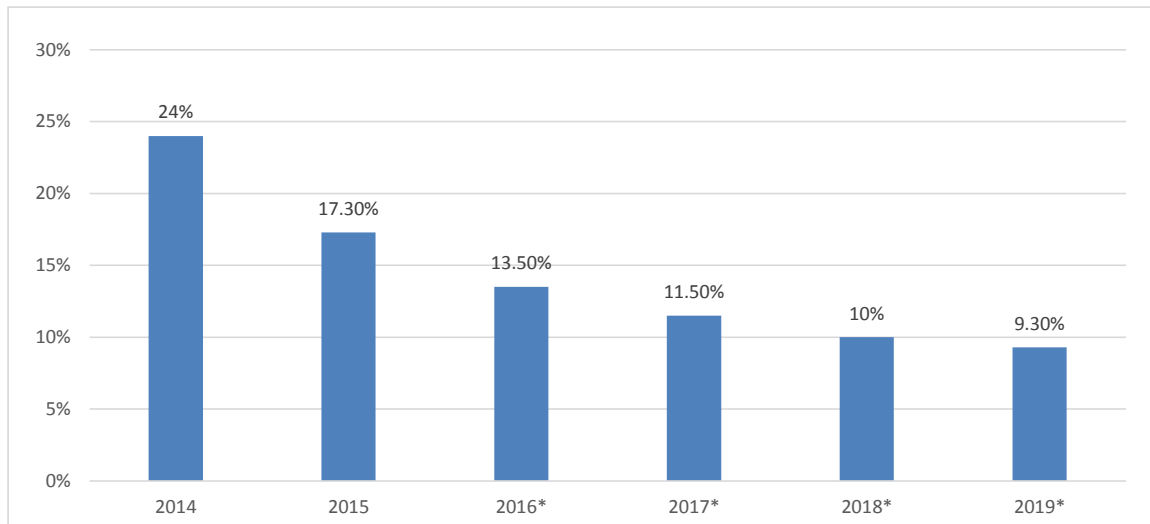
Figure 3 The Brazilian e-commerce transactions growth trend: 2014-2019

3.1.3 Development status of E-commerce among SMEs

According to e-Bit, e-commerce turnover in Brazil touched a total of $14.3 billion in 2016. This marked a nominal increase of 7.4% compared to 2015. It is estimated that e-commerce will thrive even more in 2017, with an increase of 12% in revenues, reaching a total of US$ 16.3 billion. However, the growth of e-commerce turnover of small and medium-sized enterprise decreased from 28% in 2013 to 7.4% in 2016. This is because the Brazilian professionals who returned from the United States and other developed countries tried to imitate the American model of e-commerce since 2010 and developed a large number of e-commerce branches, but had poor cash flow and continued losses after several years of development due to unfavorable investment atmosphere unlike China and the United States. Therefore the financing was hard for these enterprises operating in Brazil. The present weak infrastructure situation in Brazil also presents enormous challenge to e-commerce development. In addition, Brazil's leading logistics are relatively perfect, but the last kilometer condition is poor. Brazil postal, the state-owned enterprise is monopolist. Despite the presence of global delivery companies such as DHL, UPS, TNT, and FEDEX, the Brazilian e-commerce logistics in general is expensive and error prone with poor service and low efficiency, which greatly impacts e-commerce development. According to statistics, 87% of the e-commerce sites in Brazil transport goods by Brazil postal, 36% of the e-commerce prefers to use a professional delivery company which generally have no package size limitation, and can provide different services according to the speed of delivery and price requirements. These value additions however result in high delivery price in most cases and this eventually leads to a slower growth in Brazil's e-commerce.

E-commerce Annual Revenue
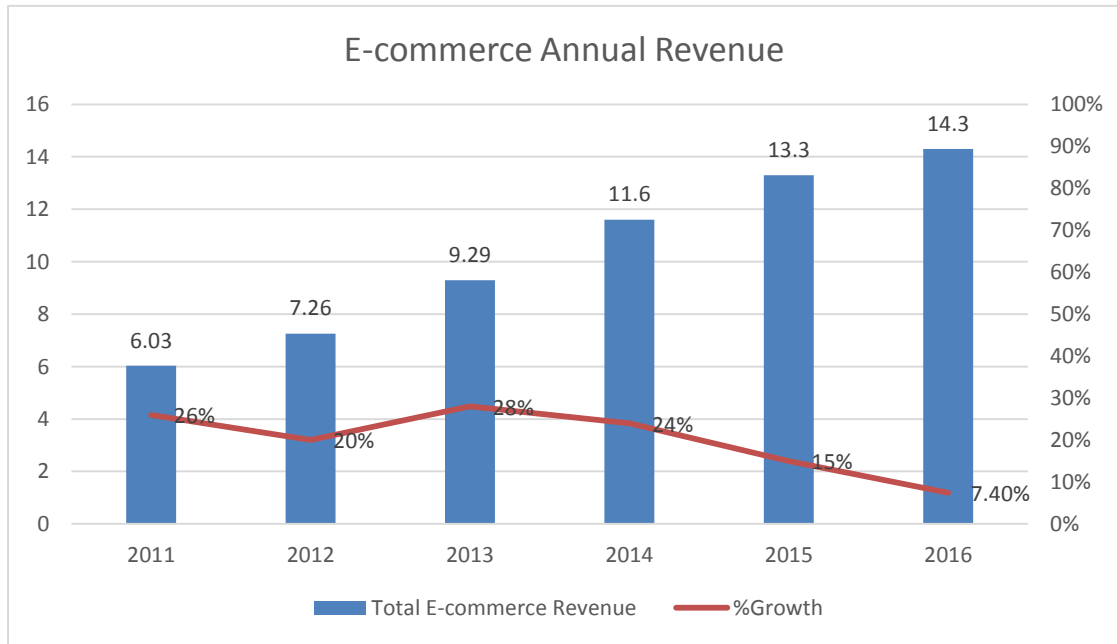
Figure.4 Develop status of e-commerce total revenue, 2011-2016 (Source: E-bit/ Boscage)

The direct cause of rapid development of e-commerce is the fast growth of Internet users and use of smart mobile phones.

Brazil has a population of 204 million (IBGE, 2016) with 75 million Internet users in 2016, of which 48 million Internet users are active customers (e-Bit, 2017).

Income Band Participation in E-commerce Transaction
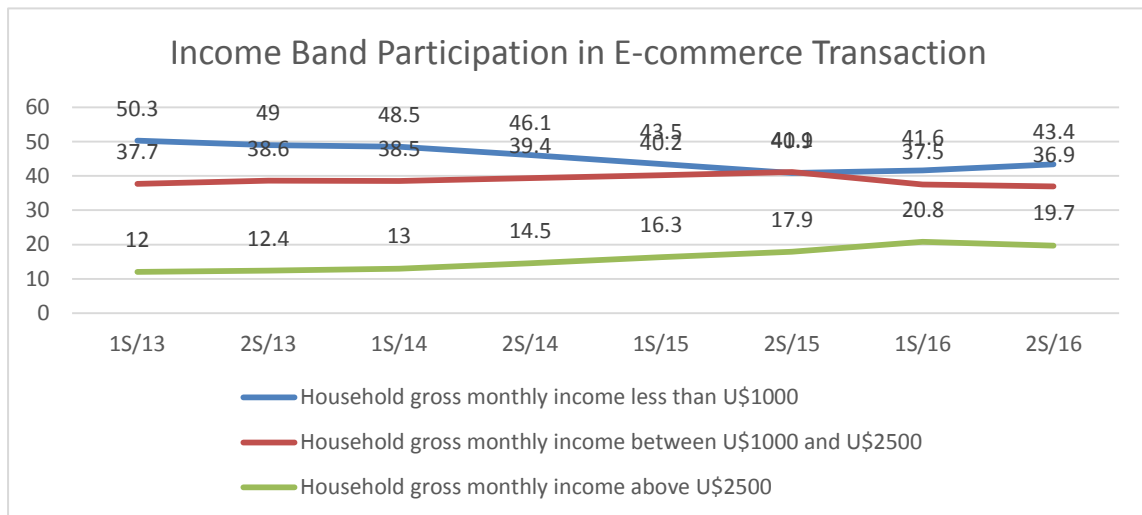
Figure5. The relationship between income and online participation: 2013-2016(Source: E-bit/ Buscape)

Consumer buying habits has also changed. In 2015, online consumers logging in from the mobile terminals accounted for 35% (e-Bit) of total online consumers. This implies that thirty percent of the online shopping started from mobile terminals, such

as mobile phones or I-pads. In 2016, the Brazilian shopping proportion through mobile terminal rose to 21% from 15% in 2015.
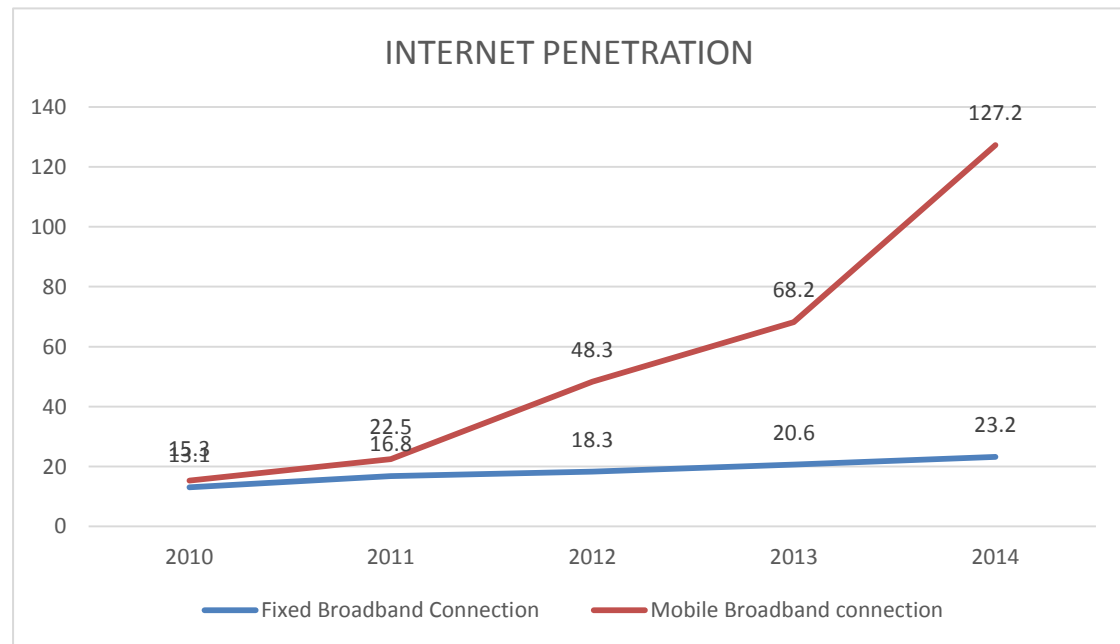
Figure 6. Network popularization status from the growth of fixed broadband and mobile broadband，
2010-2015 (Source：IBGE)

Cross-border e-commerce business has grown. It is estimated that 21.2 million consumers shopped from international e-commerce platforms, achieving a cross-border revenue of $2.4 billion, which marked an increase of 17% compared to 2015 and 38% compared to 2014 (e - Bit, 2017). Chinese web sites have important influence on cross-border shopping: 45% of Brazilians prefer Aliexpress.com when engaging in cross-border shopping which is then followed by amazon at 40% and eBay at 26%. The top five products types in cross-border shopping are: electronics, computers, apparel accessories, cell phone and toys (E-Bit, 2017).

3.1.4　Development status of cross-border e-commerce

According to *the Brazilian B2C e-commerce report in 2016*, the main reasons that Brazilian consumers do not to buy foreign goods is that the receiving time is too long and the cost to return goods is high.
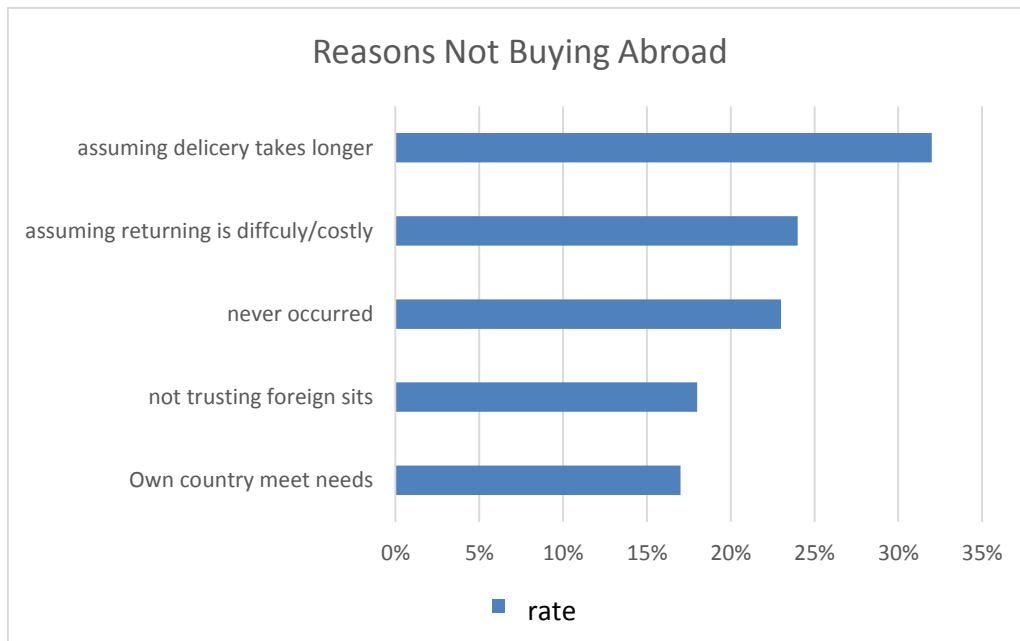
Source: Google Barometer

Figure7. Reasons not buying abroad

The most popular cross-border consumer goods for Brazilian consumers are clothing and footwear, which are significantly higher than the other categories.
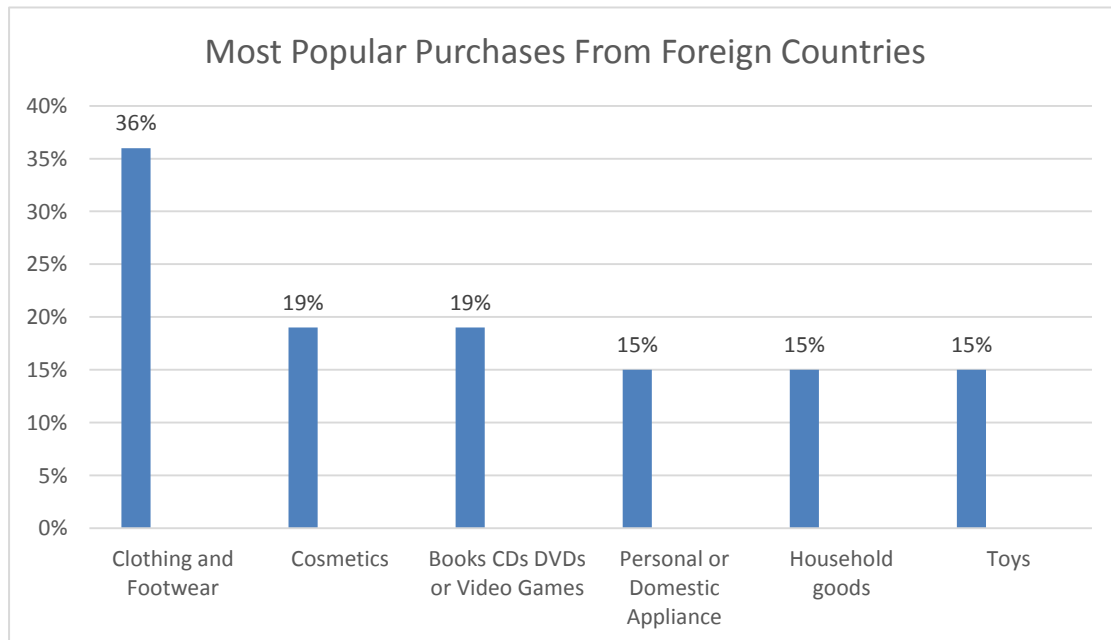
Source: Google Barometer

Figure 9. The main commodity categories of cross-border consumption in Brazil

3.1.5 Management institutions and policies

（1）E-commerce management institutions

The SMEs and e-commerce landscape in Brazil includes a broad range of organizations from the public and private sectors. Each sector plays a unique role in the ecosystem.

E-commerce Ecosystem in Brazil

Public Organization	Nonprofit Organzation	Private Sector Organizations
• MDIC • SEBRAE • Correios • …………	• ABComm • Camara-e.net • …………	• Ecommerce Brasil • Reclame Aqui • E-bit • …………
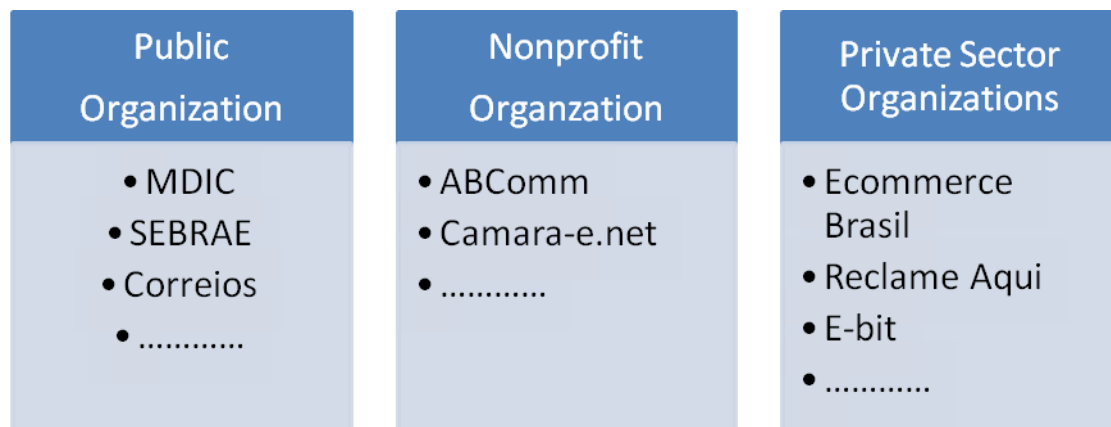
Figure 10. Key Public and Private Organizations Supporting e-commerce Ecosystem in Brazil

- The Ministry of Industry, Foreign Trade and Services（MDIC）

The Ministry of Industry, Foreign Trade and Services is responsible for the Brazilian Federal Government's Industrial and Foreign Trade Policy. The jurisdiction of the Ministry comprises, amongst others, the following themes: (1) industrial and services development policies; (2) intellectual property and technology transfer; (3) metrology, standardization and industrial quality; (4) regulation and implementation of programs and activities related to foreign trade; (5) international negotiations on trade; (6) public policies on innovation and competitiveness. The MDIC also formulates policies to support SMEs and is the main body for registration of trade activities.

- The Brazilian Micro and Small Enterprises' Support Service（SEBRAE）

The Brazilian Micro and Small Enterprises' Support Service is a non-profit autonomous social institution with the mission of promoting sustainable and competitive development of small businesses in the country. Fostering entrepreneurship, providing guidance to help small businesses to grow and generate more employment thereby helping to develop the Brazilian economy. SEBRAE aims

to create a favourable environment for the development of SME and hence participate actively in the efforts to update legal frameworks, promoting networking opportunities, training programmes and partnerships with both the public and private sector to facilitate access to markets and technology.

- Brazil Post（Correios）

Correios is a state-owned company that operates the national postal service, responsible for shipping and mail delivery system in Brazil. The company is fully owned by the Federal Government and subordinated to the Ministry of Communications. One relevant service provided is e-SEDEX, an express mail service available exclusively for goods acquired through e-commerce companies on a contract basis with a weight limit up to 15kg.

- Brazilian Electronic Commerce Association（ABComm）

The Brazilian Electronic Commerce Association is a non-profit enterprise that acts as an active voice in government institutions, defends the interests of digital business with public agencies and gathers representatives of virtual shops and businesses in the areas of information technology, events, news portals and marketing services to exchange experiences and make room for micro and small enterprises to participate in discussions about the Brazilian digital market.

- Brazilian Chamber of Electronic Commerce（Camara-e.net）

Founded on May 7, 2001, the Brazilian Chamber of Electronic Commerce is the leading multi-sector entity in Latin America and an organization representative of the Digital Economy. Its role has been fundamental to the promotion of security in electronic transactions, formulation of public policies, and especially for the improvement of sectoral regulatory frameworks that provide legal support to incentive measures necessary for the development of the country.

- Reclame Aqui

Established in 2001, Reclame Aqui is a website where dissatisfied customers can make complaints. The company is notified and has to provide an answer that is displayed on the website. The answer is then ranked by the customer. It is also a database that can influence the customer's decision. Reclame Aqui displays a rank in which companies are classified according to the number of complaints they receive and how quickly and effectively they are solved, classifying the best and worst companies.

- E-commerce Brazil

E-commerce Brazil is a private entity that promotes the e-commerce market in Brazil, offering specialized content, training professionals in the sector, as well as promoting e-commerce initiatives such as series of events across the country, including the Brazilian e-commerce Forum, considered by Forrester as the third largest e-commerce event in the world and the largest in Latin America.

- Brazilian online consumer behavior research company (E-bit)

Since 2000, E-bit has been providing competitive intelligence and delivering value to companies and helping consumer in choosing reputed stores. Through a sophisticated system connected with more than 21,000 e-commerce entities, E-bit collects data directly from the buyer online and generates information relevant to consumer purchasing decision by giving store certification to merchants. E-bit is also an important source of knowledge about the e-commerce landscape in Brazil, contributing to the development and growth of the industry.

（2）Government policy

- Simples National

The Simples National reduces tax burden, alleviates the impact of the bureaucracy, and increases cooperation between companies and encourage credit and capital into the market. The Simples National was implemented on 30 June 2007 by the Brazilian government, which greatly reduces the tax burden of enterprises. Aimed at SMEs, it has a significant impact on Brazilian economy structure, especially to promote the e-commerce market in Brazil, standardization the company and job, promote social inclusion. By January 2017, more than 12 million businesses were enrolled in the Simples National programme. Participation from various sectors is shown in Figure 5.
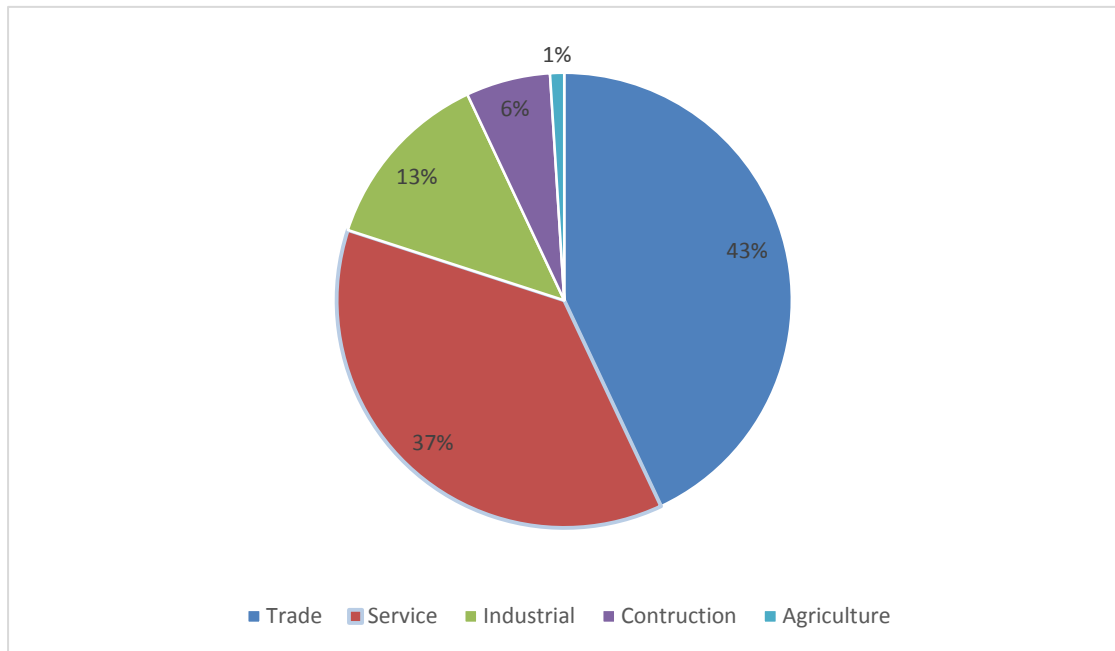
Souce: DATASEBRAE

Figure.11 *Percentage participation of businesses from each sector, 2017*

The Simple's National programme has also aroused opposition from companies. Firstly, only those approved company can enjoy the benefits of the mechanism. Secondly, while Simple's National reduces taxes and fees, there are still some companies that need to pay more due to different tax policies in different states. In addition, the calculation is too complicated.

● **National Broadband Plan (PNBL)**

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 yet. This includes massively expanding the state-owned infrastructure to reach most of the population and presenting incentives for internet providers to invest in the country's internet service infrastructure.

Since the launch of PNBL, over 612 Brazilian municipalities have received the service from the Telebras network, which amounts to around 40% of the population. From 2010 to 2014, wired broadband connections jumped from 13.1 million to 23.2 million, and in the same period, mobile broadband access increased from 15.3 million to 127.2 million, with the total cities covered jumping from 681 to 2930.This initiative will no doubt contribute significantly to the rise and development of e-commerce in Brazil.

3.1.6　Case study：E-commerce sales optimization and expand overseas markets

- **Case one：Mash company uses e-commerce to optimize sales process**

Mash is a Brazilian company of men's underwear, fashion and accessories, founded more than 40 years ago. The company has a wide range of distribution of its products through multi-brand retailers and a proprietary e-commerce channel founded in 2012, which is a separate legal entity from the factory accessed through the website: www.mash.com.br.

Mash's complete e-commerce business process works as follows: The commercial team of the e-commerce together with the commercial team of the company defines the collection, that is, the products that will be allocated for sale in e-commerce. These products are then ordered from the online store to the factory through a purchase order. This purchase order is registered in the ERP of the online store called E-millennium. Products are virtually registered in the ERP system and await receipt of the merchandise in the warehouse.

The Mash online store is based in the city of São Paulo. The entire logistics operation is managed by Mash's e-commerce team. The merchandise is shipped from the factory to the store's online warehouse. Upon receiving the products, the logistics manager checks if the invoice is in accordance with the quantity of products as well as whether the products received are in accordance with the purchase order made by the e-commerce commercial team of Mash. After this inspection, the products are stored and made available for commercialization on the VTEX e-commerce platform. Mash's commercial team talks to the communication team of its agency Next, which helps to produce online communication campaigns on a variety of channels, such as Email Marketing, Google, Facebook, Globo.com, among others. The Mash team also offers products for commercialization through the marketplaces that are available in Brazil, like Mercado Livre and Submarine, among others.

Once the communication campaigns have started, consumers are directed to the site where they can make the purchase. When a customer makes a purchase, the order is processed by Clearsale's anti-fraud system to ensure consumer suitability, as payment is processed through the BrasPag payment gateway. If the order is approved, the VTEX platform sends the order data with the customer's cadastral information, including address, CPF, as well as order data, such as the products purchased for the E-millennium ERP.

Once the order arrives in the ERP, Mash's Picking, Packing and Posting team is triggered to begin the order fulfillment process. In the picking phase, merchandise is collected in the warehouse and the product is written off in ERP. At the time of packing the invoice is issued, with all the order information and the taxes to be

collected. The invoice is then attached to the product and packed. Finally, at the time of posting, a tracking code of the 'Correios' is generated, the carrier used by Mash to perform the delivery. This code is registered on the platform and sent to the customer so that they can follow the order status.

- **Case two：Luiza Barcelos company use e-commerce to expand overseas markets**

LuizaBarcelos is Brazilian footwear brand established in 2013 and located in Belo Horizonte, Minas Gerais. In the beginning of 2016, the company started internationalization through e-commerce aiming to market products in the American market on its site as well as marketplaces such as Amazon and Ebay.

The first stage of the business consisted of defining the technological solutions that would be used, including platform, ERP, risk analysis and payment gateway for export. Even though LuizaBarcelos utilizes Rakuten as its e-commerce platform in Brazil, the company has switched to Shopify for its operations in the United States. The Brazilian technology is not adapted for calculating international freight rates, displaying multiple language product information, and its payment gateway and anti-fraud system is incapable of accepting international orders. In contrast, Shopify's solution allows for flexibility in user experience and supports growth in terms of volume and complexity but also has native integrations with the major marketplaces in the US market. With ongoing operations in Brazil, the company simplified its structure model by discarding the use of ERP and by initiating further integrations including use of PayPal as a payment gateway. PayPal thereby delivers a complete solution in terms of currency conversion without the need for a third-party risk analysis tool. Opting for such a structure has led to some disadvantages for brands that have a more complex operation such as a lower conversion rate due to the use of PayPal as the only gateway option and inventory availability issues since the products are updated manually.

Another challenge was the logistics of sending the products and eventual exchanges and returns. Much of the searches and purchases of Americans are through marketplaces such as Amazon, eBay, among others, and the lack of exchanges and returns has prevented the LuizaBarcelos from utilizing these channels since it is a requirement for sellers in these marketplaces to provide exchange and return policies. As such, LuizaBarcelos is unable to access consumers through the main e-commerce sites in the US, losing an important target market and a growth opportunity. An alternative is to forgo the ExportaFácil service from Correios and instead adopt traditional channels such as temporary export which is even more costly and time consuming. However, given the complexity and effort to carry out

this operation with subsequent conversion of the non-returned final export orders, this possibility is not considered.

LuizaBarcelos' success requires the availability of American market using e-commerce. But compared to the ease of exchange and returns in the American market, such a limitation will possibly hinder sales. Making a breakthrough in the future makes great importance for LuizaBarcelos to get a more competitive advantage in American market.

3.2 Russia

3.2.1 Overall status of SMEs

The world political and economic situation is grim since 2008, oil prices have fallen, causing a serious impact on the development of the Russian economy. Russia's recession affected Medium-sized enterprises the most, while small micro enterprises grew against trend. According to Unified Federal Register, over from 2010 to 2014, the number of small enterprises increased by 27%, microenterprises increased by 32%, while the number of medium enterprises fell by 45%.
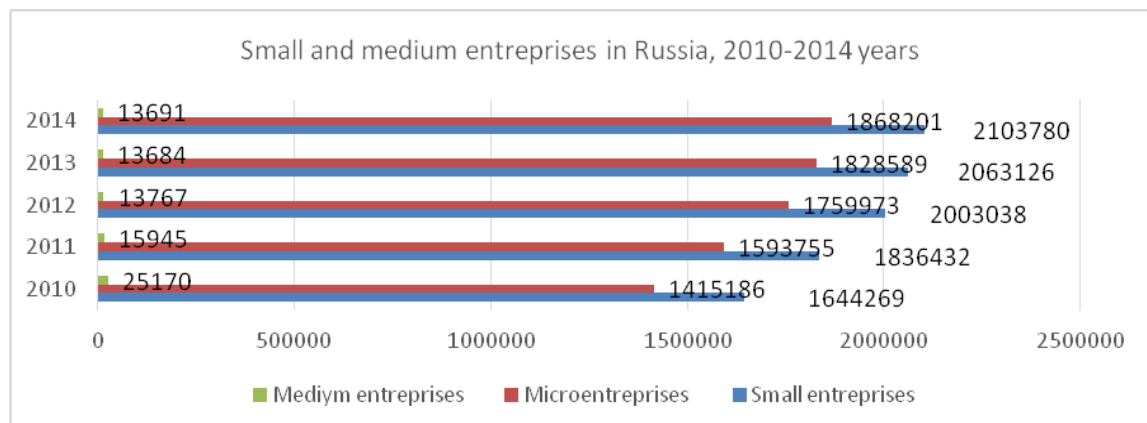
Source: Rosstat (Russian Statistics) http://www.gks.ru/free_doc/doc_2015/mal-pred15.pdf

Figure.12 Changes in the number of small and medium - sized enterprises in Russia

3.2.2 Overall status of e-commerce development in Russia

（1）E-commerce grew rapidly, but growth slowed

According to the report of "Russia's development of e - commerce in 2015" made by the Department of Eurasian Affairs of China's Ministry of Commerce, Russia's e-commerce trade (only including physical B2C trade) reached a total of 806 billion rubles (equivalent to $ 13.2 billion at the annual average exchange rate), up 25% from the previous year, compared to 35% in 2014., The President of the Russian

Association of e-commerce businesses stated in March 2017 that Russia's total retail e-commerce sales had reached 920 billion rubles (US$ 15.7 billion) in 2016, up 21% from the previous year. This data showed that Russian e-commerce has grown fast in recent years, but the growth rate was in slow decline. Nevertheless, the Russian Yandex and GfK companies' survey results showed that e-commerce was still the fastest growing areas in Russia's retail market in 2015.

Overall, the e-commerce market is less affected by the macroeconomic situation, more and more entities retail enterprises are developing online stores (such as H&M, Vans, Paris L'Oreal, Furla and other brands). According to Data Insight, (see Figure 14).
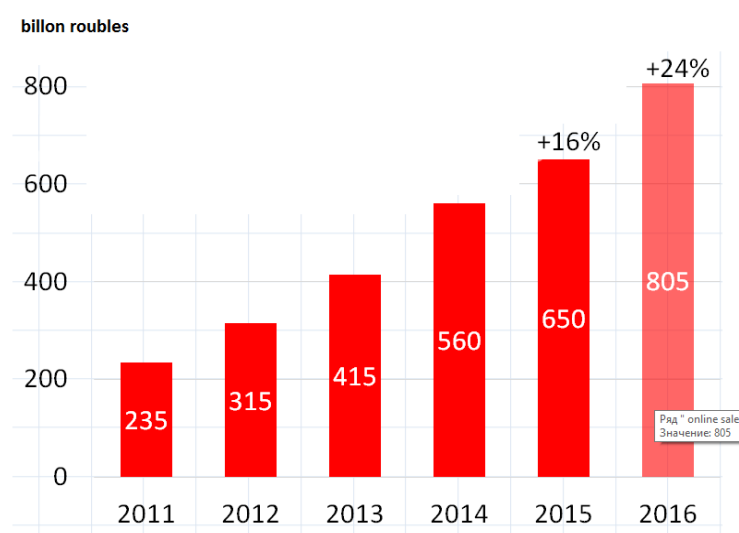
Source: Data Insight，http://www.datainsight.ru/en/main/
Figure.13 Growth of e-commerce domestic market in Russia, 2011-2016, Data Insight

The growth of e-commerce market was rapid, but overall, e-commerce still accounts for only 3-4% of the total Russian retail market (4% including cross-border network transactions). Compared to large-scale foreign e-commerce markets, Russia's e-commerce retailer's trade volume is significantly lower and less competitive. At the same time, the service quality that some local e-commerce providers provide is also poor.

（2）Cross-border e-commerce promotion channels are mainly focused on social networks

An online questionnaire of 270 Russian export companies (most of which are individual and SMEs), expert interviews and data provided by PayPal showed that the main promotional channels in Russia's overseas markets are concentrated on social

networks, led by Facebook and Instagram. Facebook and Instagram attract the majority of consumers and are the most important channels to sell Russian goods overseas.

Ranked second in the sales channel is interpersonal recommendation. Businesses said that they rarely attract customers by traditional promotional methods. Due to the high cost, they almost never place adverts in web pages or advertise in search engines.

（3）E-commerce exports are mainly concentrated in North America, Western Europe and Asia-Pacific

According to the survey data, Russian cross-border network sales (including electronic products, content categories goods, games and social networking services) was more than US$ 20 billion in 2016, with an increase of 32% compared to 2015. Overseas buyers are all over the world, among which North American accounted for 42.1% in 2016). Western Europe followed (30.8%), and the Asia-Pacific region (12.2%). China has not yet become a major market.

（4）Main e-commerce export categories are electronic products and tourism

The survey also shows that the Russian export market has undergone significant changes since 2014; as start-ups continue to emerge the success rates of large and small companies in the overseas market are getting closer. The most popular overseas sales categories includes electronic products (35%), travel tickets and hotels (26%), as well as fashion goods, handmade products, Russian specialties and automatic parts and electronic components (23%).

Table 3 list of 270 Russian web export enterprises status

Category	Market Share	Forecast 2016, US$ million
Games and digital goods (music, movies, books, etc.)	35%	750
Travel (tickets, hotels, guides, etc.)	26%	550
Physical goods (requiring delivery)	23%	500
Software (excluding games)	9%	200
Social networks (Vkontakte, Odnoklassniki) and Online Dating Services (Mamba, LovePlanet, Teamo, etc.)	7%	150

Source：Russian related questionnaires

3.2.3 Development status of SMEs e-commerce

（1）Overall development situation

Officially, Russian Statistics'information on the volume of sales goods and services via the Internet was 240.6 billion rubles or 0.9% of the total volume in 2015, and 28% of e-commerce sales operated by SMEs involved in e-commerce. The Russian e-commerce market is very fragmented. There are more than 200 domains, and no one website has a share greater than 5% of volume.

According to a big data survey of SMEs conducted by the Russian government in 2015 only 1% (10,800) of SMEs is involved in e-commerce. Their earnings are US$ 66 billion, 1.1% of total SME earnings in commerce. According to Data Insight, the volume of the internal market in 2016 is 190 million orders and 800 billion ruble sales in total (20-25% growth by orders and 24-30% by profit).

(2) Main platform for SMEs to carry out e-commerce

"Forbes" magazine published in the Russian version, the latest rankings of Russian Internet companies in March 2016. According to this Forbes ranking, Ulmart ranked first in Russian e-commerce; the other Russian e-commerce companies in the top 10 included Exist, Ozon, Wildberries, Citilink, Emex, Lamoda, 220-volt, KupiVip, and Utkonos. These companies cover home appliances, auto parts, food and other categories (see Table 4).

Table 4   Main platform for small and medium enterprises to carry out e-commerce in Russia

Rank	Name	Main Business	Valuation（Billions of Dollars）
1	Ulmart	Russia's largest business platform. Established in 2008，Sale 120,000 kinds of goods, including home appliances, mobile phones, computers, auto parts, clothing, maternal and child, home improvement, books and other categories. At present, annual income of Ulmart is US$ 1.1 billion; the business scope has been extended to 240 cities across Russia, and opened 443 commercial outlets.	11
2	Exist	Automotive e-commerce. Established in 1999, mainly provides	7

		original and non-original spare parts of popular car models. At present, Exist has more than 50,000 auto parts orders per day. Turnover was US$ 550 million dollars in the first half of 2015. In addition to the national distribution network, Exist also has a specialized online payment system, providing 24-hour support services.	
3	Ozon	Russia veteran business platform. It is the leader in Russian B2C field since 1998. Its main business is online sales of books, electronic products, music and movies. Providing up to 3.5 million products, it is regarded as "Russian Amazon". Ozon has an online travel agency- Ozon.travel, delivery services and other projects. Its services have expanded to 3.5 million outlets.	6.8
4	Wildber ries	The first free shipping fashion shoes business platform in Russia. Established in 2004, Wildberries is a Russian domestic shoes and accessories online sales platform. It sells 100,000 footwear, clothing and brand accessories, and provides free shipping courier service. It is the first e-commerce providers of unconditional free delivery in Russia. The website supports a variety of payment methods, including cash payments, bank card payments, and electronic payments.	6.3
5	Citilink	3C home appliance business platform. Founded in 2008, Citilink provides customers with digital download, computers, 3C appliances, etc. At present, there are 27 stores and more than 300 outlets located in various cities in Russia, attracting about 300,000 visits per day.	5.3
6	Emex	Auto parts e-commerce platform. Emex was established in 1999. At present, the company provides 770,000 auto parts, and on average attracts about 40,000 visits per day.	3.6
7	Lamoda	Fashion e-commerce platform。 Founded in 2010, Lamoda now has more than 200 million kinds of goods, 1,000 brands of men, women, children's wear, shoes and accessories. Lamoda has established its own logistics system, achieved one-day delivery in 66 cities around	3

		the Russian, and provides free shipping services. In addition, Lamoda created a free door-to-door fitting service.	
8	220-volt	Home appliance e-commerce platform. Founded in 2002, 220-volt now has about 180,000 products, mainly concentrated on power tools and accessories. The average daily visits are 10,000. It is reported that 220-volt owns a self-built logistics system, receiving orders throughout Russia, Belarus and Kazakhstan and other countries.	2.45
9	KupiVip	Tide discount business platform. KupiVip was established in 2008. The site sells more than 2,000 fashion brand products, including clothing, shoes and accessories. Suppliers from around the world offer discount up to 90%. Its brands include sales of high-end luxury goods KupiLuxe, and fashion shopping site ShopTime. It is understood that KupiVip launched a cross-border e-commerce website in late 2011 and early 2012. Cross-border e-commerce currently accounts for more than 25% of the company's total business. Involved countries include Germany, Italy, France and the United Kingdom, Turkey.	2.4
10	Utkonos	Food e-commerce platform. Established in 2000, Utkonosnow has 35,000 kinds of product categories, including food, baby supplies, daily necessities, feed and so on. The delivery area covers the whole Moscow and its surrounding areas.	1.5

（3） The development is uneven, logistics infrastructure and payment means fall behind.

First of all, the majority of online orders are from large cities of Russia, the proportion is seriously imbalanced; large Russian network orders accounted for about half of all orders.

Russia e-commerce market split by macroregions

- Moscow&Moscow region — 50%
- Petersburg — 9%
- North-West region — 3%
- Central region — 6%
- South region & Caucasus — 6%
- Volga region — 10%
- Ural region — 6%
- Siberia — 7%
- 4%

Source：Data Insight,《Russian e-commerce Market 2011》，http://www.datainsight.ru/en/main/

Figure.14 Major regional sources of Russian network orders

Second, Russia's logistics facilities are less developed. Russia has a vast territory, with long distance between regions. The transport infrastructure in small and medium-sized cities and remote areas is generally backward, distribution times, cargo security and other aspects are far from modern logistics standards.

In addition, delivery on arrival is still the main way to pay for online transactions, accounting for 80% of the total number of transactions. The number of online payment customers increased slowly. The use of bank cards is not common, credit card on delivery accounts for 4% of total transactions. As for the online payment system, three major channels, namely Yandex payment，Web money and QIWI wallet accounts for 5% of the total.

The undeveloped e-commerce market in Russia means that there is a huge development potential. It is expected that the annual trading volume of the e-commerce market in Russia will increase by 35% in 2017, reaching 10-15% of total retail sales. One of the key factors is that e-commerce continues to penetrate various cities outside of Moscow, the popularity of electronic signatures and online payment and the development of various types of infrastructure matures day after day.

3.2.4 Development status of cross-border e-commerce

（1）The steady growth of cross-border e-commerce

According to the study report of Russian e-commerce Market 2014 by Data Insight, Russian cross-border e-commerce in 2008 was 85 billion rubles, accounting for 13%

of all e-commerce transactions. This data does not include travel services, tickets, e-books and audiovisual products consumers purchased on the Internet, nor the amount of money to buy mobile devices from the Internet.

In 2016, volume of orders on cross-border platforms increased by 80% while as the value of cross-border online sales increased by 45%.

（2）nearly half of consumers consume cross-border

In recent years, the number of cross-border consumers in Russia has continued to rise. According to the study report of *Russian e-commerce Market 2014* by Data Insight, 36% of Russian users consume both inside and outside, 10% of users only buy things overseas, and 46% of users are involved in cross-border consumption.
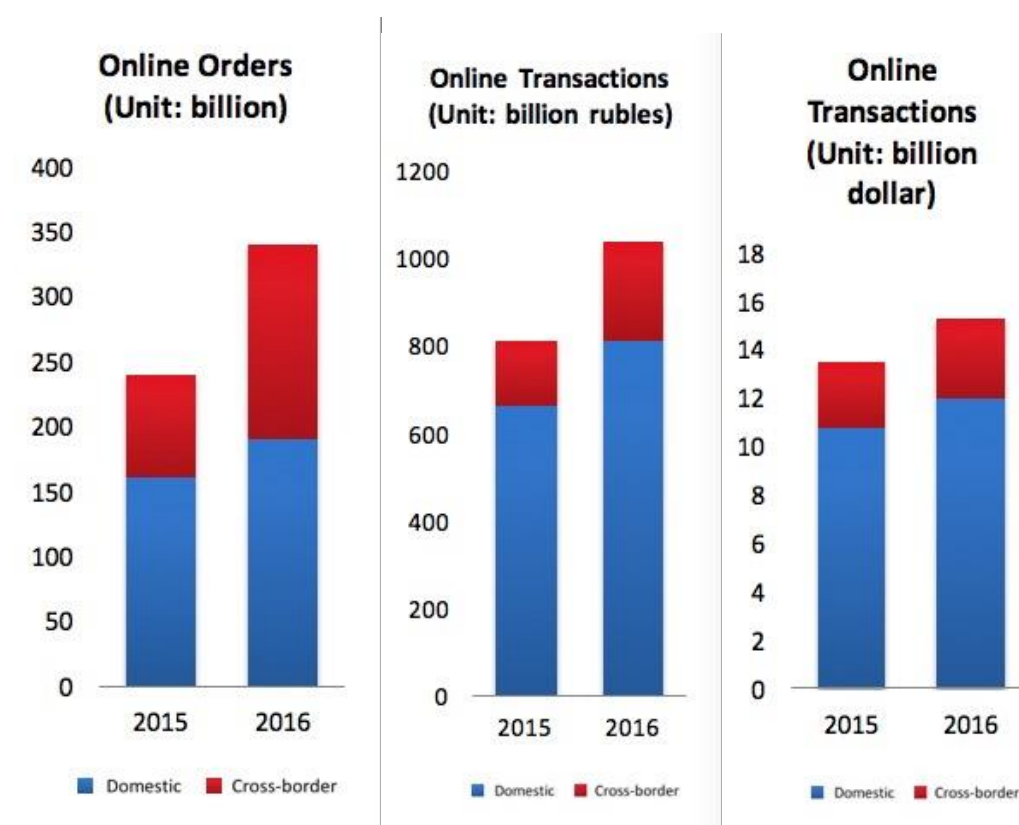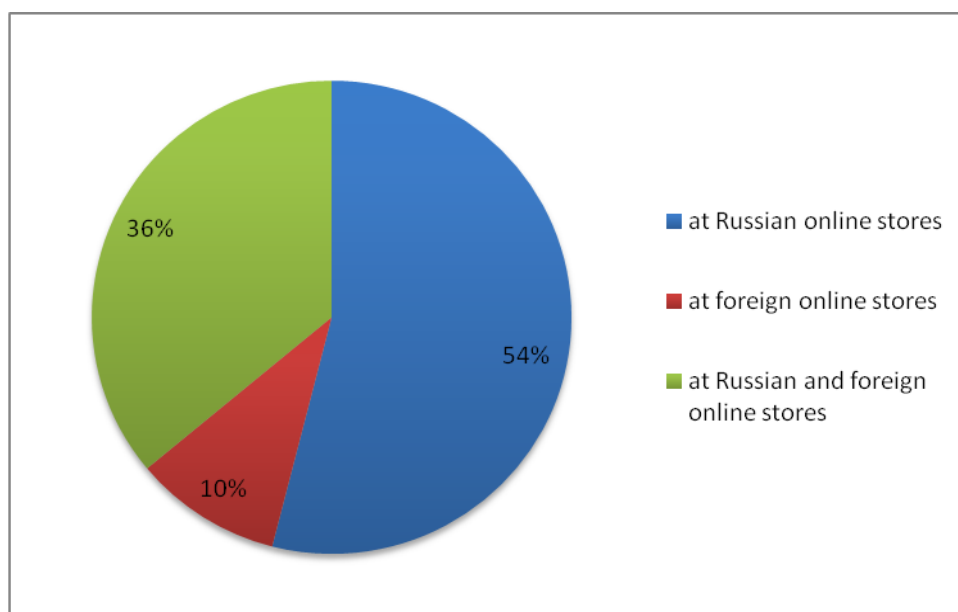
Figure.16　online orders and online transactions of Russian users: 2015－2016

IN WHICH ONLINE STORES HAVE YOU MADE PURCHASES AT SOME TIME?	share of online shoppers	number of online shoppers,millions
at Russian online stores	54%	13.6
at foreign online stores	10%	2.5
at Russian and foreign online stores	36%	9.3
total	100%	25.4

Figure. 16　Distribution of foreign users in Russia in 2014

（3）Ali Express is the most important platform for cross-border e-commerce

Ali Express has more than half of the share in cross-border e-commerce, close to 55%, far more than the second Ebay (14%). The other platforms' market share is shown in Figure 17.

LOCATION OF LAST PURCHASE (AT FOREIGN ONLINE STORES ONLY)	share of respondents	
AliExpress.com	54.5%	
Ebay.com	14.0%	
Taobao.com	2.4%	
Asos.com	1.4%	
Alibaba.com	1.2%	
LightInTheBox.com	0.8%	
Tinydeal.com	0.8%	
Iherb.com	0.7%	
others	6.9%	
do not remember where they shopped	17.3%	

Data Insight，《Russian e-commerce Market 2014》，http://www.datainsight.ru/en/main/

Figure.17　Main cross - border e - commerce platform in Russia

3.2.5　Management institutions and policies

In the Russian Federation, due to differences between different e-commerce entities, different types of e-commerce trade management correspond to government departments and private institutions, including the following departments:

The Ministry of Industry and Trade of the Russian Federation (Minpromtorg) is a federal executive body responsible for drafting and implementing government policy and legal regulations for foreign and domestic trade, public catering and consumer services, and folk handicrafts.

The Ministry of Economic Development of the Russian Federation is a federal executive body responsible for drafting and implementing government policy and legal regulations in the field of socio-economic analysis and forecasting, business development, including SMEs, protection of the rights of legal entities and self-employed entrepreneurs, licensing, accreditation of certification agencies and test laboratories (centers).

The Ministry of Communications and Mass Media of the Russian Federation (Minkomsvyaz) is a federal executive body responsible for drafting and implementing government policy and legal regulation in the field of information

technology (including the use of information technology for creating state information resources and ensuring access to them), telecommunications (including the use and conversion of radio frequency spectrums) and postal services, mass communications and mass media, including electronic media (development of the Internet, television [including digital] and radio broadcasting and new technologies in these fields). The Ministry of Communications and Mass Media also carries out postal administration and international relations in the field of communications.

The Russian Export Center (REC) was created by the Russian Government as a specialized organization to provide single window support for exporters, including financial and non-financial aid. The REC works in close contact with federal ministries and organizations.

The Federal Taxation Service is a federal executive body responsible for taxes and dues, calculation of taxes and their full and timely payment.

Federal Customs Service is a federal body responsible for customs clearance. The service acts as a currency control agent and has special functions in fighting illegal traffic, other related crimes, and administrative offences.

In terms of policy initiatives, the Russian authorities are planning to lower the tax threshold and impose value-added tax on cross-border consumption in 2017. According to the existing policy, the purchased goods that weigh less than 31 kg or cost less than Euro 1000 don't need to pay the tax. If the weight or amount exceeds the prescribed amount, the customer is required to pay 30% of the excess portion as tariff; the minimum tax is four euros per kilogram.

3.2.6 Case Study: e-commerce helped Afour to expand overseas

Afour is a Russian shoe manufacturer designing bespoke shoes. The company has an online store and show-room, and uses PayPal to accept payments from Russian and foreign clients.

Vladimir Grigoryev, the founder of the company says that he was a big fan of skateboards and excitingly designed shoes made by manufacturers from abroad. However, at some point, he realized that he could not find the desired ones in ordinary shore stores. Thus, the wish to be different inspired him to come up with an idea to open an internet store for a people who love individuality. The first designs are sewn in a factory by an acquaintance, new customers come through social networks and sales kept growing.

During the 2008 crisis, the growth stopped, but Vladimir decided to continue. Taking advantage of the respite, he mastered the entire cycle of the production process and

learned to sew and cut. Within two years he carried out all the orders himself in a shoemaker's workshop rented from a friend. Now the company employs 11 people, and the business shows a steady annual increase. Vladimir continues to embody the idea in life and calls himself a "steamer-man", dealing with all management, design, finance and recruitment processes. Afour owns two trading platforms: the site, which shows collection of designs, as well as the production shop, where one can try on different models.

The main audience of the brand is people aged 25-35; but, according to Vladimir, often young people come back and bring their parents as potential buyers.

Meantime, the number of buyers from abroad has grown as well; earlier the majority of buyers from abroad were Russians, but now orders from abroad come mainly from foreigners. The most active buyers are people from English speaking countries, especially the US, Canada and Australia.

The total share of orders from US makes up about 50% of all cross-border sales which in turn accounts for 65% of total sales. Continued overseas market expansion shows Afour's ambitions.

3.3 India

3.3.1 Overall status of SMEs

According to the small and micro enterprises classification of the Ministry of Micro, Small and Medium Enterprises (MSME), Medium enterprises refer to those manufacturing enterprises whose investment amount is less than INR 100 million, and service industry with less than INR 50 million investment (see Table 5):

Table 5. MSME Classification

Definition of MSMEs in India is based on investment in

Plant & Machinery / Equipment (since 2006)

Manufacturing Enterprises*

Micro	**Rs. 2.5 million**	**(US$ 37 thousand)**
Small	**Rs. 50 million**	**(US$ 0.75 million)**
Medium	**Rs. 100 million**	**(US$ 1.50 million)**

Services Enterprises**

Micro	**Rs. 1 million**	**(US$15 thousand)**
Small	**Rs. 20 million**	**(US$ 0.30 million)**
Medium	**Rs. 50 million**	**(US$ 0.75 million)**

*   Investment limit in plant and machinery

** Investment limit in equipment

As per the latest data available from the Ministry of Micro, Small and Medium Enterprises (MSME), the number of MSMEs in India consist of 51 million units which provide employment to around 117 million people. MSMEs manufacture more than 6,000 products, account for 45% of the total manufacturing output and contribute 40% of total exports from the country.

Growth of the MSME sector in India is critical to meet the national imperatives of financial inclusion and generation of incremental employment in the country. MSMEs also serve as suppliers to the high growth domestic and foreign companies, which are investing in the 'Make in India' initiative for indigenization of various products. MSMEs are becoming part of the business eco-system that enables and continuously supports businesses that provide the appropriate product of right quality with right solutions and services at competitive prices both in domestic and international markets.

3.3.2   Overall status of e-commerce development in India

(1) Expanding the scale of India's e-commerce

In 2014, the number of internet users in India stood at around 280 million and it was estimated that the number would rise to around 640 million by 2019. An increase of almost 70 million Internet users in a year is very significant. The rise of mobile internet users is also expected to be 457 million by 2019. E-commerce business is expected to be the most important part of Indian economy with a value of approximately US$ 100 billion by 2020.

E-commerce is facilitating MSMEs to scale up their operations by providing funding, technology and training. Evolution of technology led innovations such as digital payments, hyper-local logistics, mass customer engagements and digital advertisements have enabled the e-commerce industry to grow fast.

Within the e-commerce industry, the Gross Merchandise Value (GMV) is an important metric for valuations especially during the early stages of growth. The majority of B2C e-commerce companies report low profitability in early stages and the situation in India is no different. The companies suffered an overall loss while the GMV increased. The GMV for B2C segment in India was approximately US$ 16 billion in 2015.
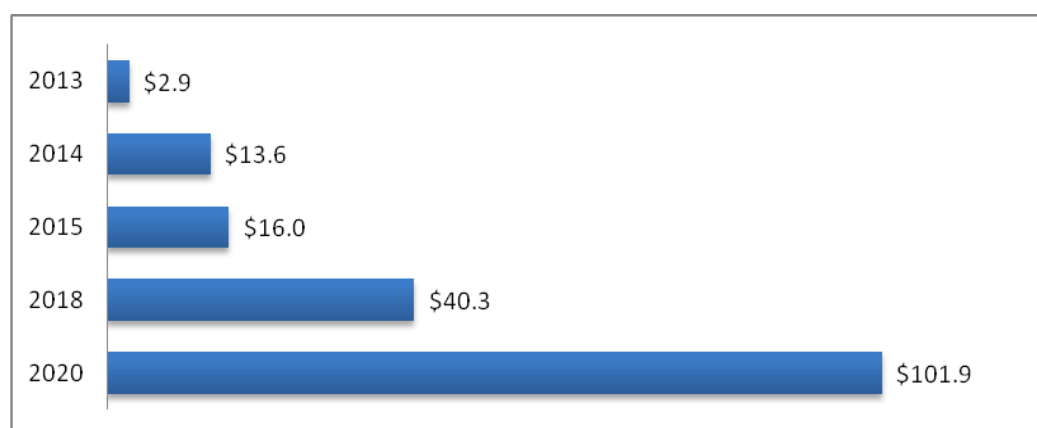
Source：http://www.mofcom.gov.cn/article/i/jyjl/j/201604/20160401307000.shtml
Figure.17 E-commerce size ($ billions) in India

In the past decade, India's e-commerce showed exponential growth, the main reasons are more and more consumers use technology products, the number of Internet users has increased significantly, the birth and application of new technology, business model innovation, and the emergence of new payment options. In addition, India is expected to see rapid growth in the next few years, due to the continuous reduction of marketing and distribution costs and time saved in the delivery of products from the channel to the consumers.

(2) Main e-commerce platforms

Major sectors of e-commerce in India include electronics, information technology,

mobile technology, household, architecture, retail, pharmaceuticals, cosmetics, textiles, food, and engineering. Compared to B2C, the development of B2B is slow because of the higher threshold of market access. B2B business enterprises must have a strong business model. This not only requires adequate arrangements for long distance delivery by rail, road and port logistics, but also needs to strictly abide by the laws and regulations and the existing tax system.

With an aim to tap the huge potential in the B2B e-commerce market in India, apart from B2B companies, leading B2C companies have also started to build their own platforms for small business owners and traders. The Government has allowed 100% FDI in B2B e-commerce which has enabled global successful B2B e-commerce companies such as Alibaba to enter India's B2B e-commerce industry.

Table 6. Main e-commerce platforms in India

Name	Main Business
Amazon(India)	Its focus is to provide small businesses including small stores, pharmacies, mobile retailers, small offices, nursing homes and restaurants a convenient online shopping experience that saves them time and money.
Shopmatic（India）	Singapore-based; works by removing the complexities of setting up an e-commerce business.
KartRocket	E-commerce software platform，empowers SMEs, small retailers and entrepreneurs to start their own online businesses.
Bizongo	It helps with simplifying the sourcing and easy searching of right products.
Industrybuying	A platform for industrial goods and supplies, maintains fully catalogued collections from brands across global geographies and the purchasing process is quite straightforward.
Tolexo	A platform for the SMEs; provides largest collection of products for businesses, factories, offices and laboratories.

Snapdeal	Online e-commerce platform which claims to have an assortment of 15 million plus products across 500 plus categories from regional, national and international brands and retailers. In its journey, Snapdeal has partnered with investors and individuals such as Soft Bank, Black Rock, Temasek, eBay Inc., Premji Invest, Intel Capital, Bessemer Venture Partners and Ratan Tata, among others.

(3) Investment, mergers and acquisitions are active in e-commerce field

Private Equity and Venture Fund investments reached an all-time high in 2015 at US$ 20 billion in India. The key sectors were Information Technology with 666 deals of value US$ 4.49 billion, followed by consumer goods with 280 deals worth US$ 4.69 billion. The majority of these investments have been concentrated in e-tailing (70% of investment), followed by online classifieds (17%) and lastly online travel and taxi (9%).

India's e-commerce business has also experienced integration over the past two or three years. Large-scale e-commerce enterprises diversify their business scope through the acquisition of small e-commerce enterprises. Such mergers and acquisitions are mainly concentrated in logistics, payment, digital advertising and other fields.

3.3.3 Development status of cross-border e-commerce

The Last decade has witnessed remarkable developments in the e-commerce space creating unprecedented opportunities for cross-border trade.

Over the past decade, the Internet has allowed MSMEs to enter the global market. Acapture (2014) research shows that the export opportunities of MSMEs that use e-commerce platform are five times higher than traditional enterprises, while the top five cross-border e-commerce businesses accounted for more than 90% of the market share.
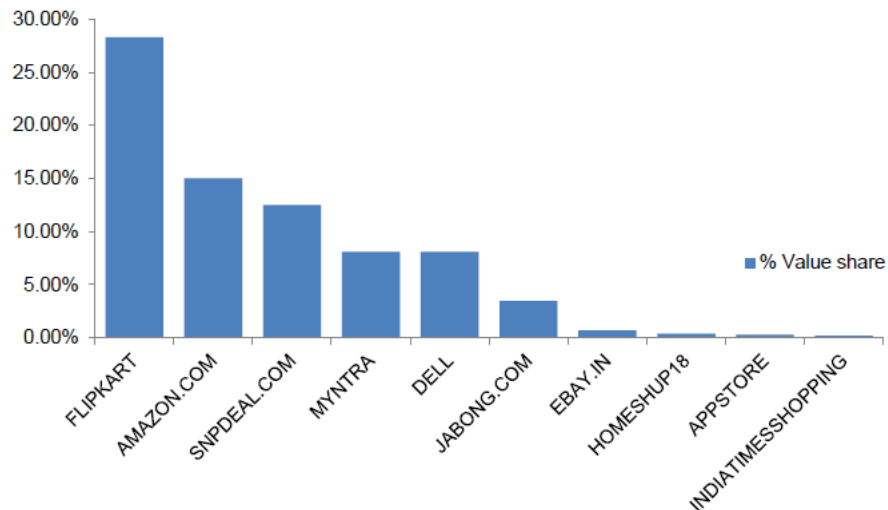
Figure.18 India's main e-commerce giant and its market share

E-commerce sectors have been facing multiple challenges in their business operations like taxation issues, incidents of fraud, and issues with cyber security, intense competition and preference for payment in cash (COD) by customers, inadequate infrastructure and low digital literacy. There is no uniform tax structure across various states and there is ambiguity with respect to categorization of 'goods' or 'services'. Guidelines on taxation of transactions like e-wallets, cash on delivery and gift vouchers are not clearly defined. Related issues exist in cross-border e-commerce and are more complex.

3.3.4　Management institutions and policies

（1）Government Organizations:

The Government of India has promoted E-Portals or Websites for e-commerce including compulsory online reservation, applications, payments, auctions, and public-procurement. A few examples of such portals are:

- http://www.ebiz.gov.in is India's Government to Business E-portal. The services include industrial license, company affairs, PAN and other CBDT (Central Board of Direct Taxes) related services, importer-exporter code, and state services like application of several industrial and other business establishment NOCs, MSME registration, and allotment of scarce raw-materials like coal.

- www.gem.gov.in is a government e-marketplace for public procurement of products and services by state and central governments, and state and central

49

public sector undertakings, central purchasing department, department of electronics and information technology, Digital India.

- http://www.mca.gov.in is India's corporate affairs online platform. It provides online service for incorporation and other compliances for ROC (Registrar of Companies) registered companies and firms.

- https://eauction.gov.in Nodal e-Auction platform used by the state and central governments of India, and state and central public sector undertakings.

- http://onlineservices.tin.egov-nsdl.com/etaxnew/tdsnontds.jsp for online payment of 'Tax Deducted at Source'.

（2）Government Flagship Initiatives

The Government has undertaken several initiatives to boost the e-commerce sector. It has been leveraging e-commerce digital platforms to organize traditionally offline markets for agricultural produce. Amongst others, it has launched an E-market platform to connect farmers with various states to sell agro-commodities online.

The government's flagship initiatives include Digital India, Start-up India, Make in India and Skill India

- **Digital India:** One of the highly ambitious and biggest ever conceived projects is 'Digital India' which focuses on transforming India into a digitally empowered and knowledge economy. The key areas are: (1) Build digital infrastructure as a core utility; (2) Service to government and the people; and (3) Enable digital empowerment of citizens

- **Start-up India**: This programme intends to build a strong eco-system for nurturing "innovation" and "exponential Start-ups". The government of India has taken steps such as providing funding support through a "Fund of Funds" with a corpus of INR 100 billion; a US$ 1.5 billion 'Start-up India hub' which would serve as a single point contact for the start-up ecosystem, tax exemptions for the initial three years and faster exit for start-ups.

- **Make in India:** Aimed at India's industrial development, the key steps taken by the Government of India are improving the business environment in the country and enabling manufacturing, and allowing FDI in key sectors. Key pillars of this programme are 'research and innovation' and 'conducive business environment'

- **Skill India:** To bridge the shortage of skilled manpower, the Government of India has set a target to train 400 million people under the new 'National Policy for Skill Development' by 2022.

3.3.5   Case study：Makemytrip use e-commerce to expand global market

- Introduction

Makemytrip is an online Travel Company based in Khalifa, Hala in India. It is a successful example illustrating use of e-commerce to develop the tourist market. The company aims to provide online travel services, including airfare, domestic and international holiday packages, hotel reservations, and rail and bus tickets. Makemytrip was launched in the US market in 2000 and started its business in September 2005. The company also offers holiday packages, hotel reservations and non-aeronautical services such as rail reservations. In August 2010, Makemytrip was listed on the NASDAQ. On the Makemytrip website, consumers can search and compare more than 13,000 hotels and guesthouses.

- Occupy online travel market: bigger first, then stronger

In 2011, the company entered the mobile Internet market, developing Apps to adapt to various types of mobile devices. Makemytrip successfully launched App for IOS Android and Blackberry in 2012, providing flight and bus reservations, hotel reservations and vacation packages and other services. It also meets other requirements after purchase, such as generating e-tickets, canceling orders, tracking refund status, and other travel alerts. The travel itinerary on Apps can be shared on Facebook and Twitter. In 2011, Makemytrip finished three acquisitions including Luxury Tours and Travel Private Limited Company (Singapore), Le Travenues Technology Private Limited (Gurgaon, India) and My Guest House Accommodation (New Delhi, India), increasing availability of cheap rooms and low-level market. In 2012, the acquisition of ITC Group (ITC Group) and Hotel Travel Group (HT Group) enabled Makemytrip to successfully enter the Southeast Asian market. With the acquisition of easytobook.com, Makemytrip now has access to more than 184,000 hotels outside India.

- Reconstruct customer loyalty on multi-channel

September 19, 2011, Makemytrip launched a repeat customer loyalty programme "My Travel Award" jointly with India's largest multi-partner loyalty programme PAYBACK. The programme is designed to encourage customer engagement and provide incentives for customer involvement in order to develop loyalty. The Makemytrip loyalty programme is designed to provide customers with more benefits and enhance their experience. My travel reward clients can earn points and redeem bonuses with special offers and deals. PAYBACK extends the alliance platform to a variety of retail categories online and offline. Card users can use the card for daily shopping and trading on the Internet. PAYBACK points can also be redeemed, which can buy Makemytrip coupons to buy Makemytrip products.

- Social media strategy

The company founder, Deep Kalra believes that customer information search and purchase behaviour needs strong social media presence, creativity and innovation. Social media is widely used to develop customer relationship, spreading loyalty programs via activities and competitions. Companies try to interact with the target audience of Facebook, Twitter, YouTube, Google + and Pinterest, conducting tailor made activities and games. With these incentives and opportunities, these projects will be integrated into the loyalty rewards.

Facebook's Makemytrip page has 1.5 million fans. Makemytrip organizes activities and themes in a variety of ways. These events and competitions highlight specific offers or destinations that help attract more viewers and persuade them to consume. Makemytrip also has a similar content strategy on Twitter. A modified and adjusted content copy is posted on Twitter. Although the number of followers on Twitter is small, Makemytrip has a high response rate on Twitter. For example, the Bhutan Discover Competition has received an overwhelming response on Twitter and is widely popular in India. In addition to the parallel game on Makemytrip official Facebook page, the brand is also a game on Twitter. Makemytrip's official channel has 842 subscribers in YouTube including 11 videos. They register 516 videos to the brand. The YouTube channel includes all TV ads that show videos of travel destinations, hotels and lodging. Makemytrip has 37 sections on Pinterest, covering tourist destinations, food and beverages, beaches, music festivals, unique places, museums and art all over the world, including specific destinations such as Kashmir, Rajasthan, Goa, and Hong Kong.

- Competitive advantage

Makemytrip adapts to different target audiences by posting content related to the needs of potential clients and other demand related things. Makemytrip is more flexible and active in customer relationship management and response to user-generated posts. They respond to almost half of customer inquiries and complaints.

3.4 China

3.4.1 Development status of SMEs

（1） The number of SMEs has steadily increased

China's four government entities, the Ministry of Industry and Information Technology，the National Bureau of Statistics, the National Development and Reform

Commission and the Ministry of Finance, jointly issued the *Standards for Small and Medium Enterprises* in June 2011. According to the standards, Chinese enterprises are classified into four types: large-sized enterprises, medium-sized enterprises, small-sized enterprises and micro-enterprises. The identification of specific enterprise depends on its operating receipts, number of employees and its total assets, as well as its industry sector. Different sectors share different standards (see Table 7).

Table 7. Classification Criteria for Enterprises in Statistics

Sector	Index	Unit	Large	Medium	Small	Micro
agriculture, forestry, animal husbandry, fishery	operating receipt (Y)	10 thousand yuan	Y≥200000	5000≤Y ＜ 200000	500≤Y ＜ 5000	Y＜500
industry	employee(X)	person	X≥1000	300≤X ＜ 1000	20≤X ＜ 300	X＜20
	operating receipt(Y)	10 thousand yuan	Y≥400000	20000≤Y ＜ 400000	3000≤Y ＜ 20000	Y＜3000
construction industry	operating receipt(Y)	10 thousand yuan	Y≥800000	60000≤Y ＜ 800000	3000≤Y ＜ 60000	Y＜3000
	general assets (Z)	thousand yuan	Z≥800000	50000≤Z ＜ 800000	3000≤Z ＜ 50000	Z＜3000
wholesale business	employee(X)	person	X≥200	20≤X＜200	5≤X＜20	X＜5
	operating receipt(Y)	10 thousand yuan	Y≥400000	50000≤Y ＜ 400000	10000≤Y ＜ 50000	Y＜10000
retailing	employee(X)	person	X≥300	50≤X＜300	10≤X＜50	X＜10
	operating receipt(Y)	10 thousand yuan	Y≥200000	5000≤Y ＜ 200000	1000≤Y ＜ 5000	Y＜1000
transportation industry	employee(X)	person	X≥1000	300≤X ＜ 1000	20≤X ＜ 300	X＜20
	operating receipt(Y)	10 thousand yuan	Y≥300000	30000≤Y ＜ 300000	2000≤Y＜ 30000	Y＜2000
warehousing industry	employee(X)	person	X≥200	100≤X＜200	20≤X ＜ 100	X＜20
	operating receipt(Y)	10 thousand yuan	Y≥300000	10000≤Y ＜ 300000	1000≤Y ＜ 10000	Y＜1000
post industry	employee(X)	person	X≥1000	300≤X ＜	20≤X ＜	X＜20

					1000	300	
	operating receipt(Y)	10 thousand yuan	Y≥300000	20000≤Y＜300000	1000≤Y＜20000	Y＜1000
lodging industry	employee(X)	person	X≥300	100≤X＜300	10≤X＜100	X＜10
	operating receipt(Y)	10 thousand yuan	Y≥100000	20000≤Y＜100000	1000≤Y＜20000	Y＜1000
catering industry	employee(X)	person	X≥300	100≤X＜300	10≤X＜100	X＜10
	operating receipt(Y)	10 thousand yuan	Y≥100000	20000≤Y＜100000	1000≤Y＜20000	Y＜1000
transmission of information industry	employee(X)	person	X≥2000	100≤X＜2000	10≤X＜100	X＜10
	operating receipt(Y)	10 thousand yuan	Y≥1000000	10000≤Y＜1000000	1000≤Y＜10000	Y＜1000
software and information technology services	employee(X)	person	X≥300	100≤X＜300	10≤X＜100	X＜10
	operating receipt(Y)	10 thousand yuan	Y≥100000	10000≤Y＜100000	500≤Y＜10000	Y＜500
real estate exploitation and management	operating receipt(Y)	10 thousand yuan	Y≥2000000	10000≤Y＜2000000	1000≤Y＜10000	Y＜1000
	general assets (Z)	10 thousand yuan	Z≥100000	50000≤Z＜100000	20000≤Z＜50000	Z＜20000
estate management	employee(X)	person	X≥1000	300≤X＜1000	100≤X＜300	X＜100
	operating receipt(Y)	10 thousand yuan	Y≥50000	10000≤Y＜50000	5000≤Y＜10000	Y＜5000
tenancy and business services	employee(X)	person	X≥300	100≤X＜300	10≤X＜100	X＜10
	general assets (Z)	10 thousand yuan	Z≥1200000	80000≤Z＜1200000	1000≤Z＜80000	Z＜1000
others	employee(X)	person	X≥300	100≤X＜300	10≤X＜100	X＜10

In recent years, China's SMEs have increased rapidly in number. According to the *"Program to Promote the Development of SMEs (2016-2020)"* issued by Ministry of Industry and Information Technology in June 2016, the number of SMEs exceeded 20 million while the number of self-employed entities reached over 54 million by 2015.

Number of Legal Body of Enterprises（million）
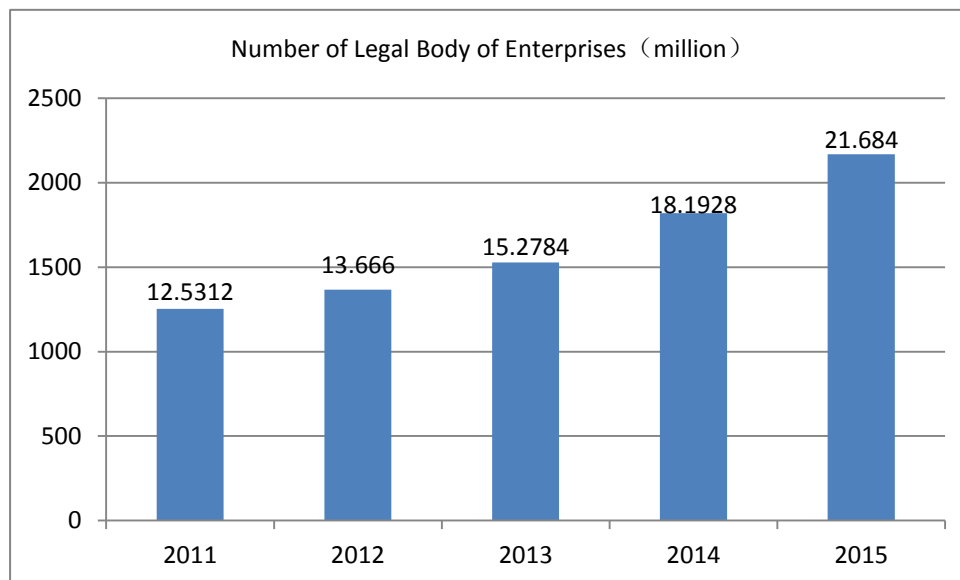
Data was issued by the Ministry of Industry and Information Technology of the PRC

Fig. 19.Changes in Number of the Legal Body of SMEs

Developmental strength increased significantly while growth index fluctuated in low area:

In China the designated size industrial enterprise is an entity whose annual prime operating revenue is over 20 million yuan. Taking the industry sector as an example, there were 365,000 industrial SMEs above designated size[18] by 2015, accounting for 97.4% of total industrial enterprises above the designated size. In 2015, these SMEs payed taxes of 2.5 trillion yuan and earned profits of 4.1 trillion yuan in total, accounting for 49.2% of total taxes and 64.5% of total profit. SMEs have become the main channel to create jobs because 80% of jobs are provided by SMEs, in the cities. During the period of 12th Five-Year Plan (2011-2015), the pilot project of Intellectual Property Rights has achieved success; patent applications in SME convergent areas in 32 pilot cities increased 53% while licensing of patents increased by 30% annually. SMEs play an increasingly important role in industry and innovation. The project of promoting information communication technologies of SMEs has achieved remarkable results; ICT applications like e-commerce expanded further and software related to research, production, finance and management have been used increasingly

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[18] Designated size industrial enterprise is the entity whose annual prime operating revenue is over 20 million yuan.

by SMEs.

Due to the decline in the growth rate of economy, the SME Development Index has a low value. In accordance with the data provided by China Association of Small and Medium Enterprises, China's SMEs' Development Index (SMEDI) was 92.8 in the first quarter of 2017, increasing 0.3 points compared to previous quarter. It is predicted that SMEDI will increase gradually with the recovery of the macro economy. SMEs, especially the small and micro enterprises, are in a weak position vis-a-vis market competition and this situation is expected to continue.
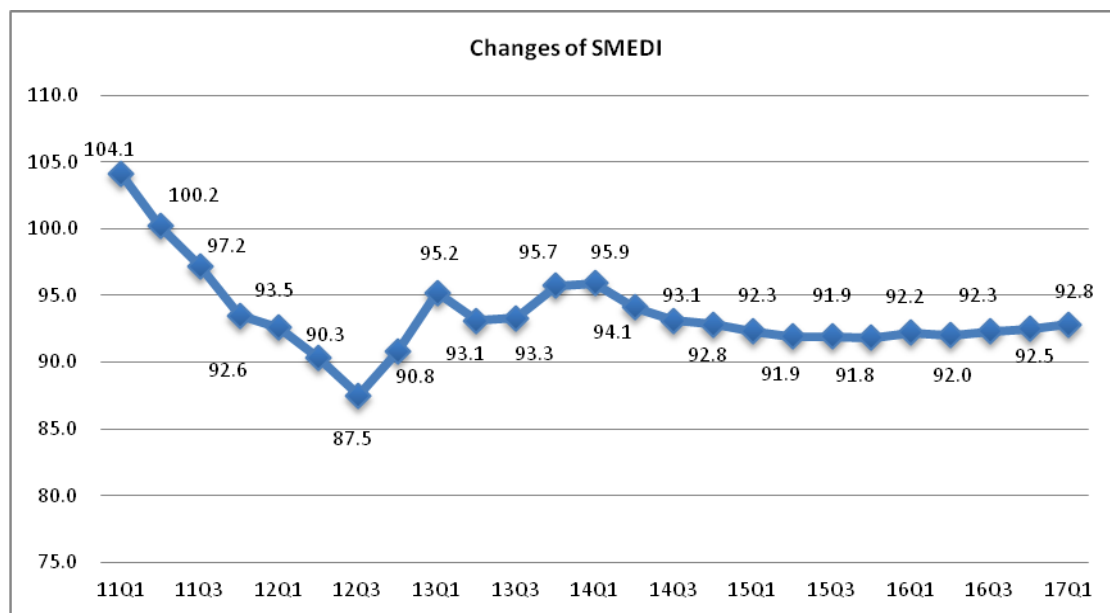
Data source: China Association of Small and Medium Enterprises
(http://www.ca-sme.org/content/Content/index/id/13422)
Fig 20. SMEs' Development Index of China

（2） The information service system of SMEs is improving day by day

The *Program to Promote the Development of SMEs (2016-2020)* points out that nationwide SMEs information service system took shape in 2015. There are about 6000 branches of large-scale information service providing companies equipped with nearly 100,000 professional staff. About 600,000 software developers and information service providers carry out tens of thousands of publicity, training and application promotion activities every year, covering tens of millions of people online and offline. As for the service system, China has built a public service network for SMEs, which covers thirty provinces and five cities specifically designated in the state plan. Five hundred and eleven national SMEs public service platforms were identified as the national demonstration platforms. China International SME Fair and APEC Small & Medium Enterprises Technology Conference and Fair have an important place in international cooperation. There are about 230 German companies in the

China-Germany (Taicang) SME Cooperation Demonstration Area and the development of demonstration area has achieved great success. Based on the "Belt and Road Initiative", cooperation and communication between SMEs in the countries and regions along the land and maritime Silk Roads is increasing day by day.

3.4.2 General situation of China's e-commerce development

E-commerce has a growing influence on China's economic development in the period of 12th Five-Year Plan. China's total e-commerce transaction volume has an average annual growth of 35%, accounting for 65% of China's GDP. China has already achieved the goal of quadrupling the total amount of e-commerce transactions. In 2015, the total e-commerce transaction value reached 20.8 trillion yuan, over fulfilling 15.6% of the target set forth in the *12th Five-Year Development Plan of e-commerce*. Online retail value has reached 3.88 trillion yuan and has a growth of 33.3% compared with last year. Online retail value accounted for 10.8% of total retail sales of consumer goods and China continues to maintain the position of the world's largest online retail market. E-commerce plays an increasingly important role in promoting consumption.

（1） The scale of e-commerce continues to grow while growth

Although China's e-commerce transaction value has continuously increased, according to China's e-commerce Report of 2015, growth rates have declined over time. The year-on-year growth rate declined from 57.7% in 2014 to 27% in 2015.
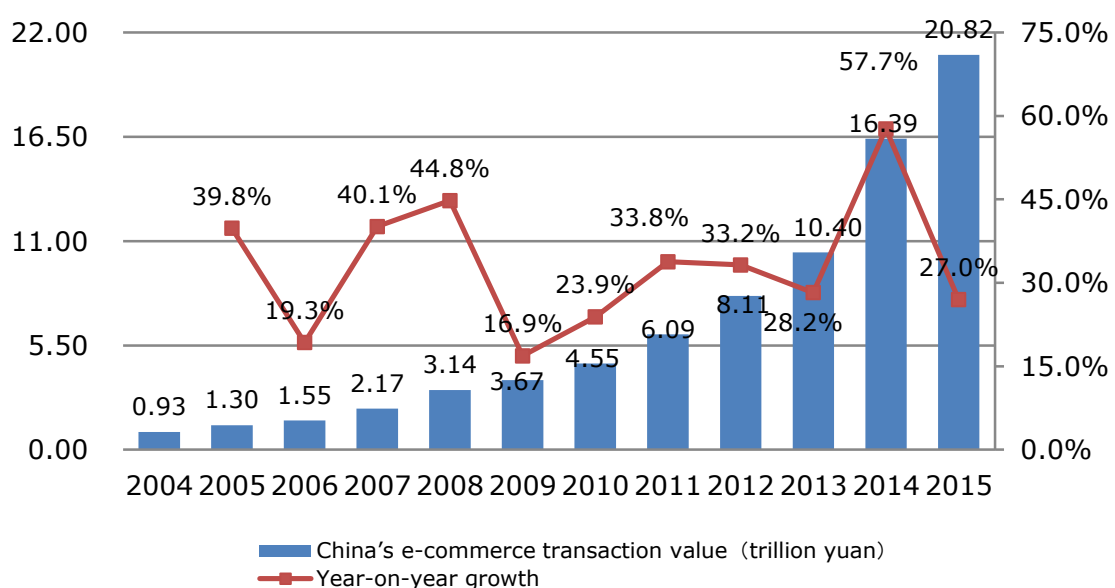
Source: *China's e-commerce Report (2015)*

Fig 21.China's e-commerce Transaction Value

57

(2) B2B still plays the most important role in e-commerce while sharing a slow growth

In terms of the structure of e-commerce market in 2016, B2B occupied over 70% of the e-commerce market. There is a little growth in market share of B2B, online shopping and online tourism transaction compared with 2015.
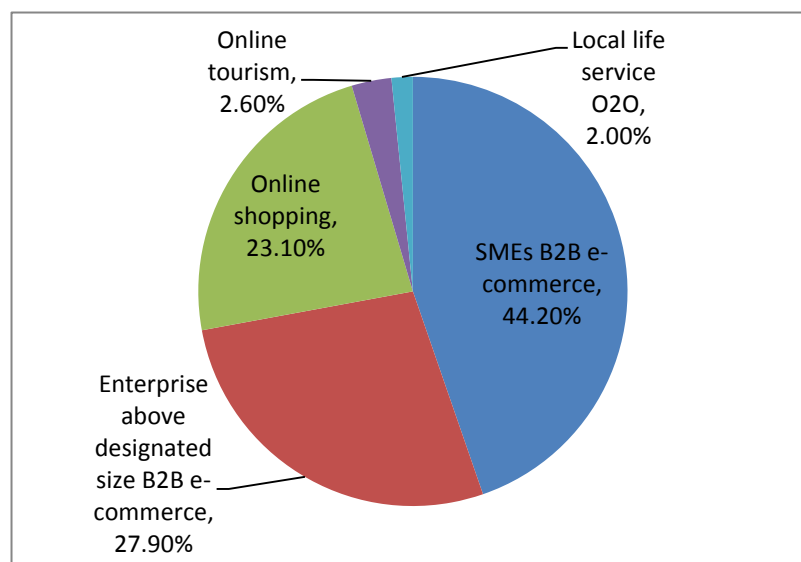
Data source：*2016China B2B e-commerce Research Report* issued by iResearch Consulting.

Fig 22. Sector Breakdown of China's e-commerce Market in 2016

According to transaction data of China's e-commerce market provided by iResearch Consulting, the total transaction value of B2B reached 11.8 trillion yuan, up 18% YOY, which is lower than the figure of 22% and 23% in 2014 and 2013 respectively.
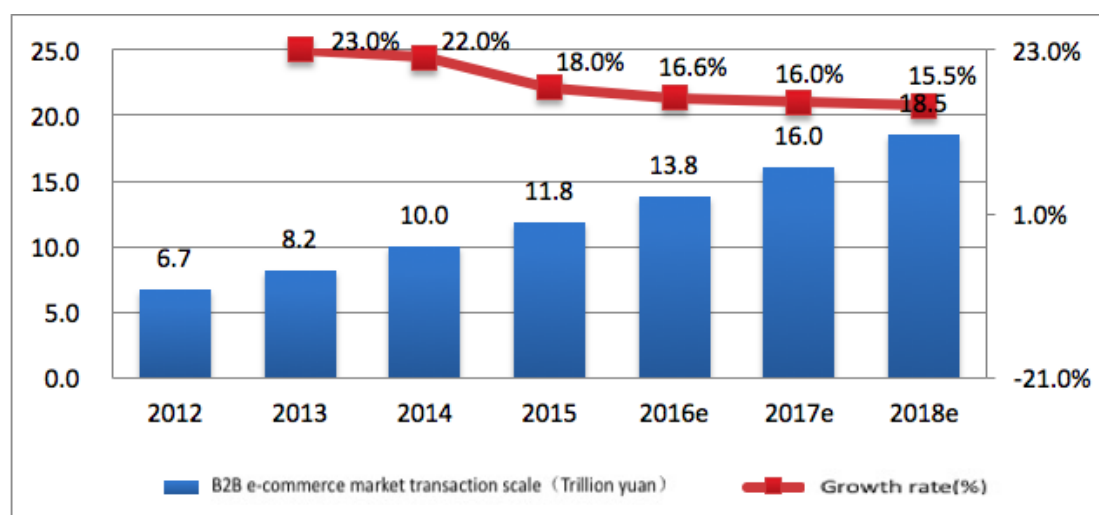
Data source: 2016 China B2B e-commerce Research Report

Fig 23. Growth of the Total Transaction Value of China's B2B e-commerce Market

(3) B2C, represented by online shopping, has grown rapidly

China's total volume of online retail was 782.6 billion yuan in 201. The retail online transaction volume reached over three trillion yuan in 2015, which marks a 33.3% increase from 2014 to 2015. The online retail sales of physical goods amounted to 3.2424 trillion yuan, up 31.6% YOY, which is 20.9 percentage points higher than the YOY growth rate of total retail sales of consumer goods in the same period. The online retail sales of physical goods contributed 10.8% of total retail sales of consumer goods, which reached 30.0931 trillion yuan in 2015. On the other hand, the online retail value of virtual goods was 634.9 billion yuan in 2015, up 42.4% YOY.
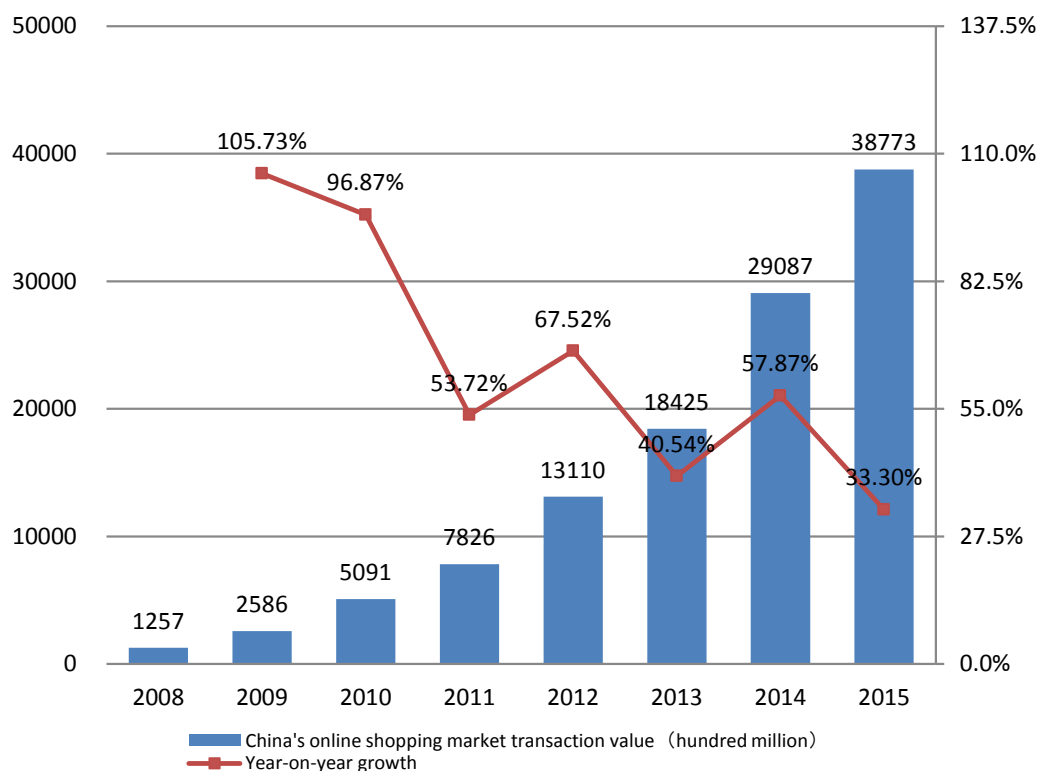
Source: *China Online Shopping Market Research Report 2015* issued by China Internet Network Information Center

Fig 24.Transaction Volume Growth in China's Online Retail Market

The reason for the dramatic increase of online retail sales is the rapid growth in the size of Internet users and online shoppers. China's Internet users reached 688 million and Internet penetration rate was 50.3% by the end of 2015. Online shoppers reached 413 million in 2015, with an addition of 51.83 million shoppers between 2014 and 2015, marking a YOY growth rate of 14.3%. Online mobile shoppers are continuing to increase and reached 340 million with a YOY growth rate of 43.9% in 2015. The proportion of mobile Internet shopping volume rose from 42.4% to 54.8%.

Fig 25.Growth of China's Online Shopping Users

(4) E-commerce investment has increased substantially

According to the Plan for the Development of Electronic Commerce in 13th Five-Year Period issued by Ministry of Commerce, Office of the Central Leading Group for Cyberspace Affairs and National Development and Reform Commission in 2016, the annual venture capital of Internet represented by physical goods, online services and digital products transactions, amounted to $15.362 billion, contributing 28.5% of total venture investment in China. The investment in e-commerce infrastructure is very active. There are more than 1000 e-commerce zones and more than 40 million square meters of commercial warehousing space in China. In 2016, 169 B2B companies received financial support of 15 billion yuan.

3.4.3   E-commerce development status of SMEs

(1) B2B transaction volume continues to grow

According to data from iResearch Consulting, SMEs' B2B transaction volume of e-commerce reached 7.2 trillion yuan with a 17.1% YOY growth, accounting for 44.2% of total e-commerce transaction value. The transaction volume of B2B market above designated size was 4.6 trillion yuan, up 19.5% YOY.

SMEs B2B E-commerce transaction scale from 2012 to 2018

Proportion of SMEs B2B and designed size enterprise B2B transaction from 2012 to 2018
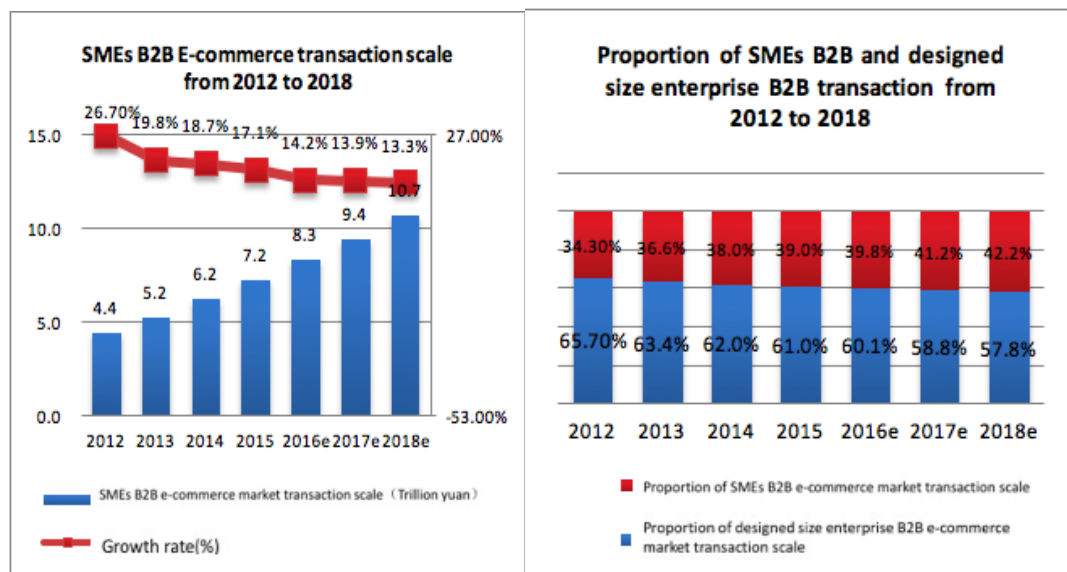
Data source: *2016 China B2B e-commerce Research Report*

Fig 26. Increasing Status of SMEs' B2B e-commerce Transaction Value

SMEs develop their B2B e-commerce through several platforms in China. Alibaba is in the leading position with 50.1% of total operating receipt nationwide. Nine key e-commerce platforms have a 73% market share and the top three companies are Alibaba, Global Sources and JQW, accounting for 50.1%, 5.1% and 4.6% of the whole market share respectively. The three companies account for more than 59% of B2B market in total.
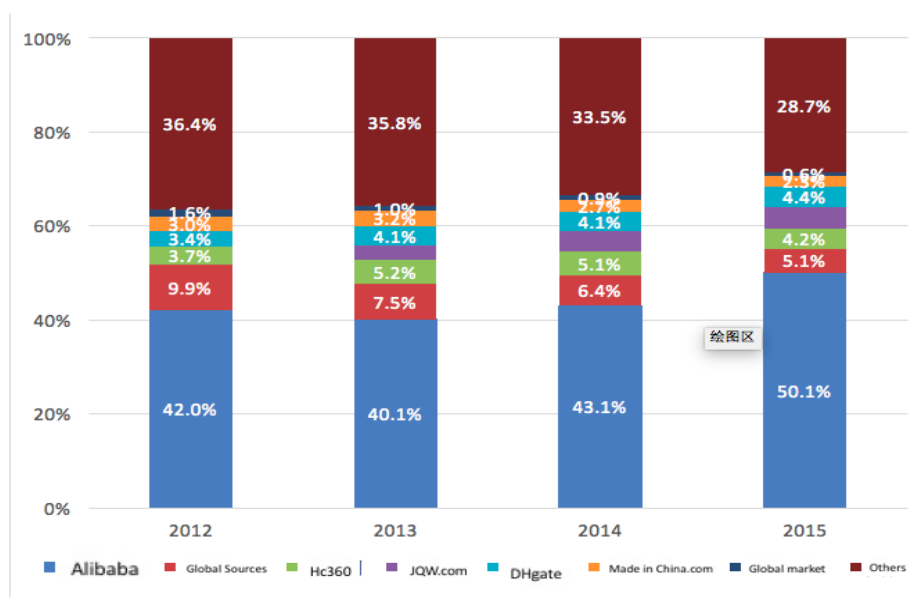
Data source：iResearch Consulting (http://report.iresearch.cn/content/2016/05/260787.shtml)

Fig 27. 2012-2015 Market Share of China's Main B2B e-commerce Platform

(2) After an explosive growth, growth of online shopping has slowed down

The online shopping market includes both B2C transactions and C2C transactions. After an explosive growth from 2012 to 2015, the online shopping sector is maturing and growth is slowing. In addition to diversification of product categories, optimization of logistics and after-sales services, every e-commerce enterprise is actively developing its cross-border and rural e-commerce business. Based on the existing market pattern of e-commerce, some enterprises target a wide range of products including baby products, medical equipment and pharmaceuticals, home decoration and other areas.

Data source：http://mt.sohu.com/business/d20170503/138043529_499067.shtml

Fig 28. Transaction Scale of China's Online Shopping Market 2012－2019

In the B2C sector, Tmall has already taken first place in market share while JD's market share increased little in the past several years. In 2016, the market shares of JD, SUNING and VIPSHOP all increased compared with 2015. In terms of growth rate, JD, SUNING and VIPSHOP all enjoyed a higher growth rate than the average growth rate of 31.6% of the whole B2C sector in 2016.

Market share of transaction scale of China's B2C shopping website in 2016

Amazon China 0.8%
YHD.com 1.1%
Dangdang 0.7%
Gome 1.2%
Vipshop 3.5%
Suning 4.3%
JD 24.7%
Jumei 0.5%
Others 6.7%
Tmall 56.5%
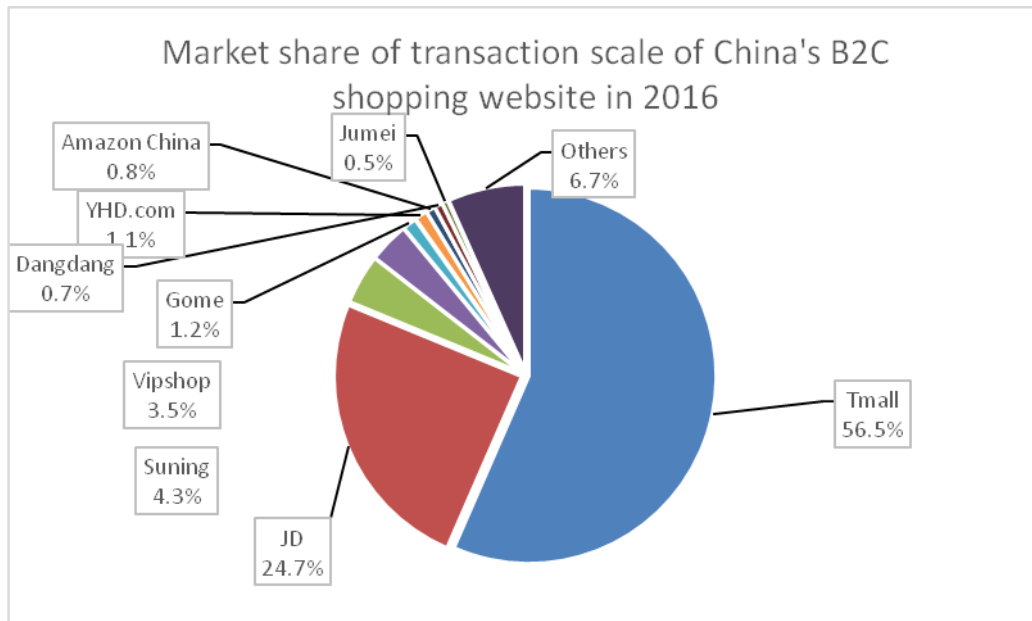
Explanatory note：

1. Data collected from online retail companies that have both online and offline markets in B2C models

2. Alibaba's statistical GMV only includes sales in China's market, not including the automobile and real estate transaction over 500 thousand yuan, services and products over 100 thousand yuan and the orders exceeding 100 thousand yuan in one day.

3. JD's statistical GMV does not include the orders over 2000 yuan which are not sold and delivered finally in B2C platform.

4. All the statistical data is collected from the public information provided by companies themselves and from expert interviews; the final data is estimated by iResearch statistical model.

Data source: http://mt.sohu.com/business/d20170503/138043529_499067.shtml

Fig 29. 2016 Market Share Distribution of B2C Transactions in China

In addition to the business ecosystem dominated by several big e-commerce platforms, many medium and small sized e-commerce enterprises have emerged.

（3） Cluster effect is obvious

From the perspective of regional distribution, China's e-commerce is concentrated in the coastal cities. Zhejiang, Beijing, Shanghai, Guangdong and Fujian are the top five provinces/cities in development of e-commerce service industries. Guangdong

province has the maximum number of service providers while Beijing and Shanghai have the highest density of service providers, and the service providers in Zhejiang province have the best average market performance. Moreover, Chengdu, Wuhan, Xiamen, Suzhou, Jinhua, Xi'an, Nanjing, Ji'nan, Zhengzhou and Shijiazhuang have also attracted e-commerce service providers which have facilitated e-commerce development in these regions. In developed regions, there are many e-commerce industrial zones, which have promoted further development of e-commerce. These industrial zones have led to many derivative business formats. By the end of March 2015, there were more than 510 e-commerce industrial zones in China and over 20 zones referring to cross-border e-commerce. These zones can be found in more than 110 cities and 29 provinces of China; most located in Zhejiang, Guangdong, Jiangsu, Fujian and Shandong provinces. These five provinces share more than 70% of all e-commerce industrial zones. The first five cities in the number of e-commerce industrial zones are Hangzhou, Jinhua, Guangzhou, Wenzhou and Taizhou. Derivative service industries have clustered together in e-commerce industrial zones, enriching the business ecosystem day by day; this includes industries such as photography, training, consulting and other basic service industries like government service, and specialized service industries such as finance, human resources, data and supply chain. At the same time, a large number of traditional wholesale markets and industrial parks are turning into e-commerce industrial zones, which indicate a new development trend of diversification.

（4）Contribution to economic development

SMEs and e-commerce industry have become an important source of employment in China. SMEs offer more than 80% of jobs in cities and towns while the e-commerce sector creates many new jobs and has become a strong factor for promoting overall employment. *According to the 13th e-commerce Development Plan,* by the end of the 12th e-commerce Development period, the size of Chinese e-commerce services market reached 1.98 trillion yuan and number of employees hired in e-commerce services reached 26.9 million people. E-commerce has become the preferred field of innovation and entrepreneurship and has provided a strong support to promote employment, start-ups and training in management. .

E-commerce has become an important driving force in the development of China's new economy. There are four Chinese enterprises listed in the world's top ten Internet companies and a number of e-commerce enterprises has developed rapidly. E-commerce has increasing influence on society and has become the new driving force for transformation of social system and innovation of business models. E-commerce in rural areas is a catalyst for the development of rural economy. Due to

government efforts geared towards promotion of e-commerce in rural areas, market and logistics infrastructure has improved rapidly.

A series of policies of e-commerce were issued in 2015 by *Opinions of the State Council on Vigorously Developing e-commerce and Speeding up the Cultivation of New Economic Power*. E-commerce will play an important role in fully realizing the goal of a well-off society, improving efficiency of resource allocation, creating new economic power, promoting transformation and upgrade of traditional industries, and making China a leading country in innovation and international trade.

3.4.4 Development status of cross-border e-commerce

(1) Rapid growth of cross-border e-commerce transactions

Cross-border e-commerce has become an important channel for China's import and export trade. According to AliResearch's data, China's cross-border e-commerce transaction value reached 4.8 trillion yuan with a 28% YOY growth in 2015, and also contributed 19.5% to total export-import volume. In accordance with the *Monitoring Report of China's e-commerce Market Data in 2016* issued by China's e-commerce Research Center (CECRC), China's cross-border e-commerce transaction value reached 6.7 trillion yuan with a 24% YOY growth in 2016, while export volume of cross-border e-commerce amounted to 5.5 trillion yuan and import volume of cross-border e-commerce amounted to 1.2 trillion yuan.
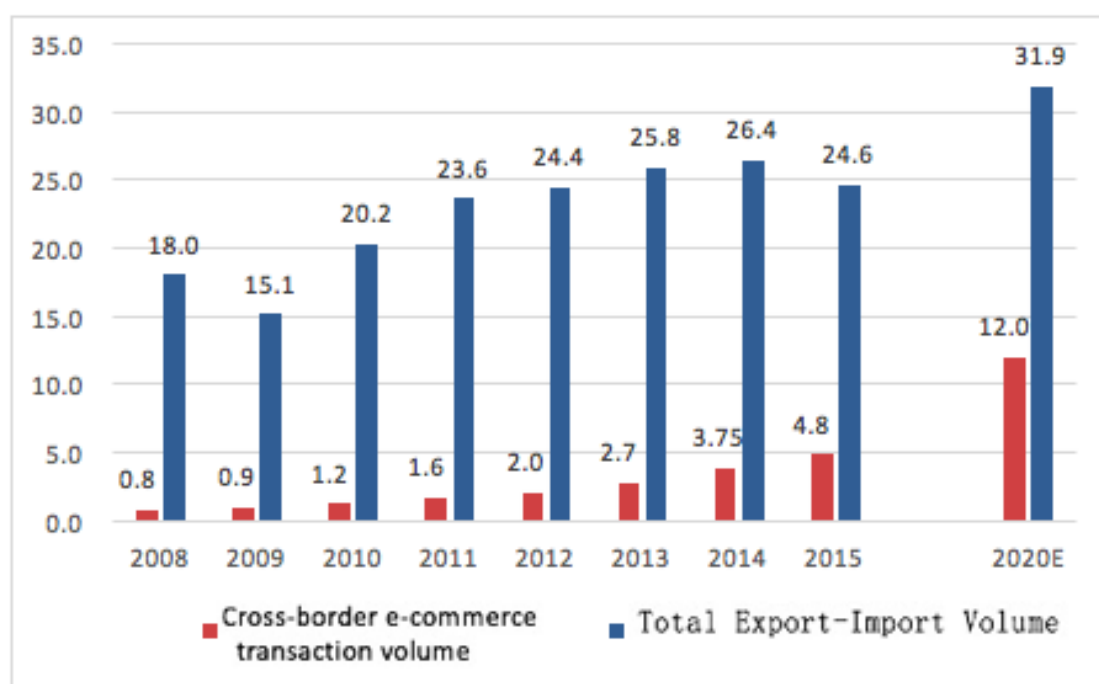
Resource：AliResearch, *2016China's Cross-Border e-commerce Development Report*

Fig 30. Changes of China's Total Export-Import Volume and Cross-Border e-commerce Transaction Volume

Exports are the main part of China's cross-border e-commerce transactions. In 2015, export volumes of cross-border e-commerce amounted to 83.1% of total cross-border e-commerce transaction volume while import volume accounted for 16.9%. China's cross-border e-commerce is dominantly B2B; cross-border B2B transactions account for 84.3% of total cross-border e-commerce transaction volume while cross-border retail accounts for 15.7%.

Fig 31. Proportion of Retail & B2B in Cross-Border e-commerce Volume

Retail volumes have increased rapidly in recent years regardless of its low proportion in total cross-border e-commerce volume. The retail volume of cross-border e-commerce reached 751.2 billion yuan with a 69% YOY growth in 2015, of which exports amounted to 503.2 billion yuan with a 60% YOY growth and imports amounted to 248 billion yuan with a 92% YOY growth.
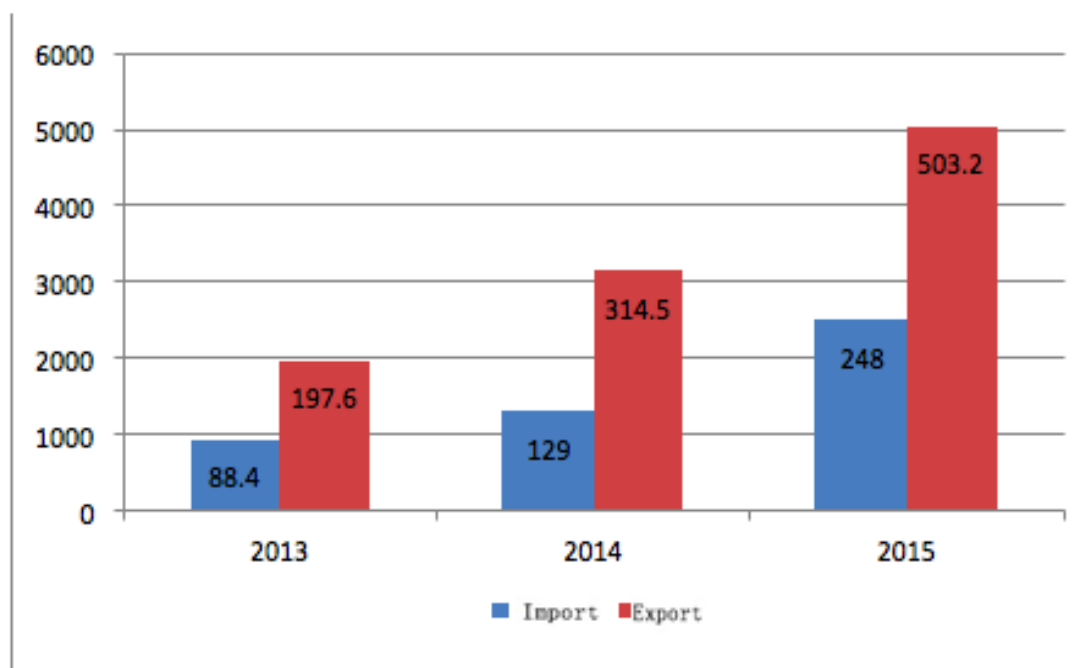
Fig 32. Retail Growth of China's Cross-Border e-commerce (billion yuan)

On the one hand, China's cross-border e-commerce is developing rapidly, and on the other hand, it is still facing challengers of underdeveloped logistics, weak credit system, insecure payment systems, unfavourable regulations, and slowdown of international trade. As an example, although China's cross-border B2B trade started quite early, it still developed slowly due to the absence of credit insurance system in the past and the situation remained unchanged till 2015. China's cross-border e-commerce platforms represented by Alibaba started their transformation and up graded information service platforms to transaction service platforms in 2015, based on the gradual buildup of a database of e-commerce enterprises. Cross-border e-commerce platforms require real transaction data of enterprises though the services of clearance, inspection and quarantine, tax and foreign exchange settlement provided by comprehensive service platforms for foreign trade, help enterprises establish their own global credit worthiness to gain more trust and orders from international buyers.

(2) Clear definition of comprehensive pilot zones for cross-border e-commerce

In March 2015, the Chinese government established China (Hangzhou) Cross-Border e-commerce Comprehensive Pilot Area to pilot cross-border e-commerce transactions in terms of regulatory models, business process, information construction and technical standards referring to trading agreement, payment, logistics, clearance, tax, and exchange settlement. Relying on system innovation, management innovation,

service innovation and synergetic development, the central government wants to solve the deep-seated contradictions and institutional problems in cross-border e-commerce development, build complete industrial chain and ecological chain of cross-border e-commerce and gradually form a set of global rules that are adapted to and lead the development of cross-border e-commerce. The pilot area is expected to become a demonstration and to provide available practical experience in promoting the development of China's cross-border e-commerce.

In Jan 2016, the Chinese government set up another twelve cross-border e-commerce comprehensive pilot areas in Tianjin, Shanghai, Chongqing, Hefei, Suzhou, Guangzhou, Dalian, Ningbo, Qingdao, Shenzhen and Suzhou. The central government aims to highlight the local advantages and characteristics of these cities, to pilot B2B cross-border e-commerce transactions in terms of regulatory models, business process, information construction and related technical standards. These pilot areas are also expected to become demonstration areas and provide available practical experience in promoting the development of China's cross-border e-commerce.

Corresponding implementation plans have been introduced in the thirteen comprehensive pilot areas of two batches. The details are listed in Table 8.

Table 8. Main Cross-Border e-commerce Comprehensive Pilot Areas in China

Location	Type	Main Construction Targets
Hangzhou	International	After 3 to 5 years of reform and construction, the zone will be characterized by its online integrated service, cross-border trading and comprehensive service, and will take single window information system, logistics pass – custom channel and financial value-added service as core competence. Services of clearance, tax, exchange settlement, inspection and quarantine, logistics and finance are all integrated together. Combining the online single window services with offline operation of comprehensive zone , we will create a innovation center, service center and big data center for cross-border e-commerce with convenience in investment and trade, high efficiency in regulation and sound environment of legal system. (http://www.china-hzgec.gov.cn)
Shanghai	International	After 2 to 3 years of reform and construction, there will be a set of regulatory system including online transaction, online supervision, online services and offline support. The zone will play a leading role in the development of cross-border e-commerce, and will become an international center of cross-border e-commerce, logistics, finance and innovation with convenience in investment and trade, high efficiency of

		government services, sound market environment, optimized allocation of resources and distinct advantage of industries.
Suzhou	National	It is the first cross-border e-commerce comprehensive pilot area in Jiangsu province. Based on the implementation of Six Systems & Two Platforms project, Suzhou enhances its top design and overall planning, strengthens its comprehensive reform and integrated innovation. The zone is expected to be constructed in national cross-border e-commerce as an industry cluster center, big data center, innovation center and supporting services center. The zone will focus on export increment and internationalization of self-owned brands, and will highlight the developing model with Suzhou local characteristics. Suzhou pilot zone will try to solve the institutional problems and to provide available practical experience for other areas in cross-border e-commerce development. (http://www.china-szgec.gov.cn)
Ningbo	National	Through the construction of online cross-border e-commerce comprehensive information service platform, offline service platform in the zone and the logistics service platform of cross-border e-commerce, Ningbo zone improves its services of trusted transactions, quick settlement, convenient business, collaborative logistics, establishes five security systems covering information sharing, risk control, financial support, business starting and talent training. Ningbo government aims to make breakthroughs in six aspects including model innovation of cross-border business, supervision model innovation of cross-border e-commerce, tax and exchange management innovation of cross-border e-commerce, business ecosystem innovation of cross-border e-commerce, channel innovation overseas and innovation of industries' linking mechanism. The main target is to build the zone as a leading area of cross-border e-commerce in China, as an innovation area of supervision service and as a demonstration area of logistics and storage. (http://www.nbzsq.gov.cn)
Hefei	Regional	Drawing on the practicing experience of China(Hangzhou) cross-border e-commerce comprehensive pilot area, Hefei zone shall integrate Anhui (Shushan) cross-border e-commerce park, Hefei comprehensive bonded area, export processing zone and airport economic demonstration area together, focus on B2B cross-border e-commerce, actively promote import in cross-border e-commerce and construct six systems of information sharing, financial service, Intelligent logistics, credit of electricity supplier, statistical monitoring and risk prevention and control. Local government will establish two platforms called online single window service platform and offline comprehensive zone service platform, to

		realize the sharing and mutual recognition of information in different government sectors. This practice gets logistics service, financial service and talents and other comprehensive services together, sets up a new supervision model for cross-border e-commerce by the support of information service, credit service and technical service, creates complete industries chain and ecological chain of cross-border e-commerce, realizes the sound development of cross-border e-commerce. (http://www.hfeport.gov.cn/mainIndexs.html)
Zhengzhou	Regional	Local government will accelerate the construction of new regulatory service mode through information support, logistics development, online and offline integration, cooperation between government departments and one-stop clearance service. Professional cross-border e-commerce services enterprises, foreign trade enterprises, industrial enterprises, small and medium-sized network operators are all welcomed to join in the zone. Third party cross-border e-commerce platforms and self-owned platform complement each other. B2B, B2C, O2O (online to offline) models and other business models are promoted at the same time. Local government will expand exports to promote economic transformation and expand imports to promote consumption. Government sets a series of goals, they will try their best to cultivate 50 provincial training bases of cross-border e-commerce, to set 100 provincial demonstration parks of cross-border e-commerce, to build 100 provincial public warehouses overseas, to support 100 key cross-border e-commerce companies, and to make e-commerce transaction volume of whole province be more than 1.5 trillion yuan and cross-border e-commerce transaction volume be more than 300 billion yuan by the end of 2018. The pilot zone will consist of several parks, which will be run by different agents with different developing models. People expect the pilot zone to get more practice and experience for following pilot zones established in central and western regions of China.
Chengdu	National	Chengdu zone is going to be constructed as a base and a transit station, as well as a driving force for western China's cross-border e-commerce innovation. As a base, Chengdu zone can link all the countries along the silk road, and can also play the role of west gate of China as a transit station to link domestic market with international market. The zone will realize one-stop services with information shared with other government departments all over the country, so Chendu zone can provide all enterprises with the same services including custom service as eastern coastal cities provide in western China. Chendu zone will focus on the basic

		logistics infrastructure and trading rules, to cooperate with cities along silk road economic zone in different countries.
Chongqing	Regional	The Chongqing zone shall give full play to its unique advantages referring to "three in one" platform and "Chongqing-Xinjiang-Europe "international railway. In order to perfect the cross-border e-commerce trading service platform, the zone will apply itself to the construction of e-commerce ecosystem, which includes logistics and storage, certification tests, payment and settlement services. Institutional improvements including supervision services, information sharing, intelligent logistics, credit guarantee, risk prevention and statistical monitoring are all considered at the first place in the decision-making of the zone management committee. Local government will accelerate the coordinated development of cross-border e-commerce with strategic emerging manufacturing and emerging service industries, and will build the zone as a cross-border e-commerce comprehensive test area with characteristics of inland.
Dalian	Regional	Dalian zone is set up to pilot cross-border e-commerce transactions in terms of regulatory models, business processes, information construction and technical standards referring to trading agreement, payment, logistics, clearance, tax, and exchange settlement. Relying on system innovation, management innovation, service innovation and synergetic development, the local government wants to solve the deep-seated contradictions and institutional problems in cross-border e-commerce development, build complete industrial chain and ecological chain of cross-border e-commerce and gradually form a set of global rules that are adapted to and lead the development of cross-border e-commerce. The pilot area is expected to become a demonstration and to provide available practical experience in promoting the development of China's cross-border e-commerce. (http://www.china-dlzsq.gov.cn/)
Qingdao	Regional	Qingdao zone will emphasize the importance of international trade information flow, one-stop services of government and regional cooperation and coordination in cross-border e-commerce development. Taking the B2B transaction as the key pilot field in working plan, local government will build the zone as a model for other cross-border e-commerce pilot zones in the province. (http://www.qd-eport.com/cbec/index.html)
Tianjin	Regional	Tianjin government will fully implement the development strategy of "Internet + foreign trade", their goal is that after 3 to 5 years construction and reform, the

		comprehensive pilot zone will be characterized by its integrated online data, multiple business models, perfect comprehensive service, reliable trades. The core competence of the zone will be convenient clearance for logistics, one-stop information system and financial value-added services. Services of clearance, tax, exchange settlement, inspection and quarantine, logistics and finance are all integrated together. Combining the online single-window services with offline platform of the comprehensive pilot zone, the zone will create an innovation center, financial service demonstration center, logistics and storage center, leading center of economic transformation and a pilot area for starting a business, with convenience in investment and trade, high efficiency in regulation and sound environment of legal system.
Shenzhen	Regional	Relying on Shenzhen's location, its industries' development and its cooperation with Hongkong, Shenzhen pilot zone will set the new institutions and rules for innovation and optimize the implementation of existed policies to explore a new way that e-commerce promotes the transaction of international trades, to form a new pattern of coordinated development between basic services and high-end services. Shenzhen pilot zone is expected to be built as an important carrier for cross-border e-commerce and innovative development of related industries, and it is also expected to create a new situation of international cooperation in e-commerce, and to make new contributions to the Belt and Road initiative.
Guangzhou	National	Guangzhou government will fully implement the development strategy of "Internet + foreign trade" to guide these traditional enterprises who trade with foreign companies upgrade their business through cross-border e-commerce. Relying on the comprehensive reform and integrated innovation, local government coordinates the common development of cross-border e-commerce public service platform and various pilot zones, combines these services of clearance, tax, exchange settlement, inspection and quarantine, logistics and finance in one service window, to create a new regulatory service system to adapt to the development of cross-border e-commerce. After 3 to 5 years of construction, the Guangzhou pilot area will become a pioneer in cross-border e-commerce innovation and development and promote the upgrading of these companies who do trade with foreign enterprises. Guangzhou will be built as the national central city in the field of cross-border e-commerce.

(3) Policies related to cross-border e-commerce are introduced in succession

In order to support the development of cross-border e-commerce and solve system problems, in particular the lack of regulation and the conflict of the existing regulation, existed in the development of cross-border e-commerce, the Ministry of Commerce, General Administration of Customs, the State Administration of Taxation, the General Administration of Quality Supervision, Inspection and Quarantine and other government sectors have issued related policies in succession.

Table 9.Policies Related to Cross-Border e-commerce

Time	Policymaker	Name of the Policy	Significance
Feb. 2013	State Administration of Foreign Exchange	*Guiding Opinions to the Pilot Institutions on Payment Service of Foreign Exchange for Cross-Border e-commerce*	Shanghai, Beijing, Chongqing, Zhejiang and Shenzhen are appointed as the pilot regions in payment service of foreign exchange for cross-border e-commerce
Aug. 2013	Ministry of Commerce and other eight government departments	*Suggestions of Policies for Supporting the Export of Cross-Border e-commerce Retails*	The policy brings the export of cross-border e-commerce retails into custom's statistics, and puts forward six specific measures including inspection, quarantine and foreign exchange settlement to support cross-border e-commerce retails, etc.
Dec. 2013	Ministry of Commerce	*Notice of Tax Policy on the Export of Cross-Border e-commerce Retail*	Retail Export of cross-border e-commerce can get the export tax refund.
Apr. 2014	State Administration of Taxation	*Announcement on Issues Concerning Tax Refund (Exemption) of Export Goods of Foreign Trade Integrated Service Enterprises*	Foreign trade integrated service enterprises can be treated as the entity of tax refund, and the official document also clearly specifies the requirements for the foreign trade comprehensive service enterprises to get tax refund.
Apr.	General	*Notice of piloting cross-border*	The requirements of bonded

2014	Administration of Customs	*e-commerce services concerning bonded import mode of online shopping*	imported goods, including the limited total value of goods, regulate the bonded import operation.
Jul. 2014	General Administration of Customs	*NO.2014(56) Announcement on the Supervision of cargos and products in Cross-Border e-commerce Import and Export*	It distinguishes cargos and products, and the custom will treat them total differently in supervision.
Mar. 2015	State Council	*Approval of the Establishment of China(Hangzhou) Cross-Border e-commerce Comprehensive Pilot Area*	Local government will focus on piloting in all aspects of cross-border e-commerce to build a complete industrial chain and the ecological chain for cross-border e-commerce.
May 2015	General Administration of Quality Supervision, Inspection and Quarantine	*Opinions on Further Promoting the Function of Inspection and Quarantine to Promote the Development of Cross-Border e-commerce*	Some arrangements and measures have been made for the inspection and quarantine of cross-border e-commerce
May 2015	General Administration of Customs	*Circular on Adjustment of Custom's Working Time for Cross-Border e-commerce Trade and on Time Limit of Customs Clearance of Cross-Border e-commerce Trade*	It requires the completion of customs clearance within 24 hours, while there is no day-off for the Customs during the whole year.
Apr. 2016	Ministry of Finance and other ten government departments	*Notice on Import Tax Policy of Cross-Border e-commerce Retail*	The tariff is currently set to 0%. The exemption of import value-added tax and consumption tax will be cancelled and temporarily levied by 70%. The maximum of individual single transaction is 2000 yuan, while the limit of the annual transaction is 20000 yuan.

May 2016	General Administration of Customs	*Circular on the Implementation of New Regulatory Requirements for Import of Cross-Border e-commerce Retails*	It specifies the new regulatory requirements for import of cross-border e-commerce retails during the transitional period. The transitional period will last for 1 year and the expiry date is May 11, 2017 (including May 11).

3.4.5 Regulatory departments and policies

(1) Regulatory departments

The regulatory Chinese governmental departments for SMEs e-commerce include: the National Development and Reform Commission, the Office of the Central Leading Group for Cyberspace Affairs, the Ministry of Commerce, the Ministry of Industry and Information Technology, the Ministry of Finance, the Ministry of Human Resources and Social Security, the People's Bank of China, the General Administration of Customs, the State Administration of Taxation, the General Administration of Quality Supervision, the Inspection and Quarantine, the State Administration of Foreign Exchange, and State Administration for Industry and Commerce.

The Ministry of Commerce is mainly responsible for the formulation of related standards and regulations for e-commerc. Its Department of Electronic Commerce and Informatization is responsible for formulating development plans and policies and implementing China's e-commerce, supporting the APPs of e-commerce in SMEs, and promoting online shopping. The Ministry of Industry and Information Technology is responsible for regulating the Internet industry (including mobile Internet), coordinating the construction of telecommunication network, Internet, and special communication network, formulating the relevant policies to carry out and guide the self-regulation of organizations related to telecommunications and Internet industries.

The industry associations involved in SME e-commerce include the Internet Society of China (ISC) and China Electronic Commerce Association (CECA). ISC was jointly established by more than 70 Internet practitioners in May 2001, including the Internet industry related operators, service providers, equipment manufacturers, systems integrators, scientific research institutions and educational institutions. It is an industrial, national and non-profitable social organization formed by enterprises and institutions related to the Internet industry. ISC has more than 1000 members, is

managed and guided by the Ministry of Industry and Information Technology. The main duties of ISC is to unite enterprises, institutions and social organizations related to the Internet industry, to report the wishes and reasonable requirements of its members to governmental departments, to safeguard the rights and interests of its members, to promote communication and cooperation in the Internet industry, to let the Internet play a positive role in China's economy, culture, society and ecological civilization, and to provide trainings for Internet related workers to improve their professional skills in the fields of the laws, management and technology.

CECA were established in June 2000. It is a national, non-profit organization joined by enterprises, institutions and individuals involved in e-commerce. CECA are committed to the development of e-commerce. Its activities are under the supervision of the Ministry of Industry and Information Technology and the Ministry of Civil Affairs. The main duties of CECA are to assist the decision-making of the government, to promote the development of e-commerce, research related to e-commerce, to assist the government departments to formulate laws and policies, to carry out international exchanges and cooperation in e-commerce, to do e-commerce legislation research, to promote the construction of credit system, and to provide its members with guidance of laws related to e-commerce.

(2) Relevant policies

Since 2011, China's governmental departments at all levels have continued to enhance their support for e-commerce and perfected the commercial infrastructure such as logistics, and online payments. The construction of e-commerce demonstration systems, including national e-commerce demonstration cities, national e-commerce demonstration bases and e-commerce demonstration enterprises, is pushed forward, while other important activities like the construction of cross-border e-commerce pilot cities, the construction of cross-border e-commerce comprehensive pilot areas, the construction of rural comprehensive demonstration counties of e-commerce, the establishment of joint work stations for e-commerce and logistics, and the work of poverty alleviation through e-commerce, are all going well. The inter-ministerial meeting system for discussing e-commerce issues has been established and the working mechanism concerning the coordination of central and local governments for promoting e-commerce development has been set.

Table 10. Chinese Main Policies Related to e-commerce

Time	Policymaker	Name of the Policy	Main Contents
Apr. 2011	Ministry of Commerce	*Service Norms for Third Party*	The policy puts forward the basic service norms for third party e-commerce transaction platform to perfect platforms' running and

		e-commerce Transaction Platform	protect consumers interests and rights
Aug. 2013	Ministry of Commerce and other eight government departments	*Policy for Supporting the Export of Cross-Border e-commerce Retails*	The policy gives a series of supporting measures to cross-border e-commerce export, concerning export supervision, foreign exchange settlement, tax service, payment service and credit system construction.
Mar. 2014	State Administration for Industry & Commerce	*Management Approach for Network Transaction*	Regulate service providers of network transactions through business registration and license system; Protect the rights of returning or exchanging products without any reasons within 7 days for consumers.
Jan. 2015	Ministry of Commerce	*Guiding Opinions on Speeding up the Training of Talents in e-commerce*	It solves the problem of urgent needs of talents in the rapid development of e-commerce in China. The policy requires government sectors to formulate training plan for e-commerce talents, build a complete education system, create a new training mechanism of e-commerce talents, establish a scientific and reasonable educational system, and to enhance the links of production, learning, and research.
Apr. 2015	Ministry of Commerce	*Working Emphasis of e-commerce in 2015*	The policy supports the development of comprehensive e-commerce platforms, and wants to promote traditional companies' links to e-commerce. The policy also puts forward to cultivate a series of professional and elite e-commerce companies, and support SMEs to develop their online marketing to promote the combination of online and offline markets.
May. 2015	State Council	*Opinions on Vigorously Developing the e-commerce and Cultivating the New Economic Driving Force*	The policy puts forward 29 opinions in 8 areas: creating a sound developing environment, promoting employment, upgrading and transformation, perfecting logistics infrastructure, improving the level of opening-up, constructing the safety line and perfecting the supportive system. The policy also sets specific goals for the year of 2020, which is an e-commerce market basically formed with unification, opening, up and competition in order, safety, and reliability. The policy gives some prospective guidance to the development of agriculture, industry and service industry, and points out the way to combine with e-commerce to upgrade.
May. 2015	Ministry of Commerce	*Action Plan of "Internet + Circulation"*	The policy is aimed at promoting the e-commerce development of rural area and the combination of online and offline business. Releasing the consumptive potential and solving the problem of "last 100 meters" in logistics are also the key concerns of the policymakers.
Jun. 2015	State Council	*Guidance on Promoting the Healthy and Rapid*	Speeding up to establish cross-border e-commerce supervising system which is adapt to the development of cross-border e-commerce; clarify the specific measures for optimizing customs supervising

		Development of Cross-Border e-commerce	services, improving the supervision of inspection and quarantine, perfecting the e-commerce payment, providing financial support and cleaning up tax policies.
Jul. 2015	State Council	*Guidance on Actively Promoting the "Internet +" Action*	Emphasize that the combination of e-commerce and other industries should be enhanced further; perfect the production process with network, relevant standards and pubic services; actively develop the e-commerce in rural areas and in different industries; promote the innovation in e-commerce; enhance the international cooperation in e-commerce and expand the developing space for e-commerce.
Sep. 2015	State Council	*Opinions on Promoting the Interaction between Online and Offline Business, and on Accelerating the Transformation and Upgrading of Commercial Circulation*	Firstly, encourage the interaction between online and offline business; secondly, stimulate the vitality of real business development; thirdly, perfect the modern market system; fourth, perfect the policy measures and clarify the responsibility of specific government sectors.

Source: Policies were collected from websites of different government departments.

3.4.6 Practice cases: The road of "Three Squirrels" to IPO

With the development of the "Internet+", a large number of China's SMEs have achieved great success with e-commerce since 2010. Three Squirrels Corporation Limited (TS), which applied for an IPO recently, is a typical SME that has developed rapidly with e-commerce.

● **Background**

In 2012, Mr. Liaoyuan Zhang resigned from Anhui Zhanshi Food Co. Ltd and set up a new company called Three Squirrels (TS) e-commerce Co. Ltd in Wuhu, Anhui province. Now the company employs more than 2000 workers. TS was defined as a brand e-commerce company focusing on snack foods. Its products were sold through Tmall, JD.com and its app and other Internet platforms, as well as offline stores and group buying. The product portfolios cover nuts, dried fruit, scented tea, snacks and other major categories of leisure foods while the company itself does not produce anything. The company's core brand "three squirrels" and three images of squirrels called "squirrel Xiaoku, squirrel Xiaomei and squirrel Xiaojian" respectively, have high visibility. The company spent five years making the total sales volume reach 5.5 billion yuan from the first order in June 2012 to 2016.

● **Stage of pioneering: developing by marketing and supported by venture capital**

Before TS was founded, initiators analyzed TS's development strategy, brand positioning, marketing strategy and pattern of competition. TS was registered in 2012, and received the A round investment of US$ 1.5 million from IDG in March of that year. With financial support, TS began advertising on Taobao website in the first month. A huge amount of advertising brought two benefits. On the one hand, it made TS famous in a short time, which meant TS could win a big market share with low cost. Secdon, it increased the assessed value of TS rapidly, which attracted interest from venture capitalists. TS can get more financing support with less equity sharing, creating a virtuous cycle of "growth performance- growth financing-growth performance". When TS was initially established in 2012, IDG spent $750,000 acquiring a 23% stakes in TS. In 2013, IDG added its investment to TS, but the subscription price increased from $2.51 to $10.97 per share. In September that year, TS got B round investment of $6 million, which was led by Capital Today and followed by IDG. In Apr 2014, IDG and Capital Today added their investment of $16.27 million to TS again and the price rose to $70.64 per share.

Based on the support of risk investment, the traditional idea of "massive advertising + price war + user experience" made TS famous. Take the pecan as an example, the price of TS's pecan was cheap and two bags of 420g just cost 31.9 yuan while the market price was 26 yuan every 500g. In order to increase the user experience, TS was the first company who launched trying-packing[19], wet wipes, sealing clamp, garbage bag and opening device in snacks. As a pioneer in the Chinese snack sector, TS had huge returns and won the praise and reputation of many female consumers. In the creation of the brand, it invested a lot of money. The brand planning department is one of the most important sectors in TS and there are cartoonists, art director, clerical and planning staff in TS, similar to advertising company.

- **Get aboard the high speed train of "Internet +"**

In 2012, Taobao Mall changed its name to Tmall. The Chinese Internet industry developed rapidly in the five years from 2012 to 2017, and TS was set up right in this period. TS has built efficient marketing channels, and connected with consumers closely through the Internet platforms. The main online sales channels of TS include various B2C online shops of third parties and its own app. In terms of the online shops, now TS has joined Tmall, JD, SUNING, YHD, VIPSHOP and DangDang online shops, providing standard and unified services to consumers through its official online shops. TS developed a proprietary mobile phone app and launched it in July 2015, which is convenient for consumers to buy products through the mobile Internet at any time and any place. TS has become a star company in just five years in Tmall, JD and other B2C platforms with annual sales volume of over 5.5 billion yuan and

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[19] Lagnappe

total asset value of more than 2 billion yuan.

According to the founder of TS, Liaoyuan Zhang, branding construction is the main factor for TS to achieve this successful stage. TS has become the leading company in snack industry, and its three images of squirrels enjoy a high reputation in consumer groups. On the one hand, TS enriched the meaning of its brand through upgrading its service, consumer experience and culture to build a close relationship with consumers based on its products, services, brand and culture. On the other hand, TS insisted the brand strategy of personification. Through the vivid cartoon image full of charm, TS shaped the culture of delivering love and happiness and extended the simple relations of sale into one kind of consumption culture, which enhanced consumers' stickiness and loyalty and shaped a strong brand image. TS continuously popularized its brand through advertising in cartoons, TV plays and video platforms from the year of 2015. The two TV plays called *Ode to Joy* and *Love O2O* became massive hits in 2016 and there were many advertisements of TS in the two plays, greatly increasing the company's exposure and sales. In addition, as an important measure of brand building, the company also set up offline experience shops in several cities, highlighting the brand and product experience to establish a zero-distance interaction between consumers and the "three squirrels" brand.

- **Challenges: low threshold, homogenization**

The biggest challenges to the enterprise of leisure food industry are the low barriers to entry and the homogenization of products. Every company can easily join the e-commerce platforms with low threshold, making the products homogeneous. Enterprises' product lines are similar to each other; new competitive advantage coming from new products will not remain for a long time. If a company develops new products, soon rivals can imitate. Purchasing choice is based on consumers' affections and product functions. When two products have the same functions, the connection between consumer and product will influence the purchasing choice. How to enhance consumers' stickiness to products is the challenge all e-commerce enterprises have to face.

- **Response: establish an ecological platform for industrial chain + simultaneous development of online and offline business**

TS's main strategy to face the challenge is to set up an ecological platform for industrial chain, rather than to act as a vertical e-commerce company. The ecological platform links 277 upstream suppliers and 24 million consumers downstream together, based on big data analysis and on the consumer-oriented idea. Consumers' requirements can be fed back to producers through the platform.
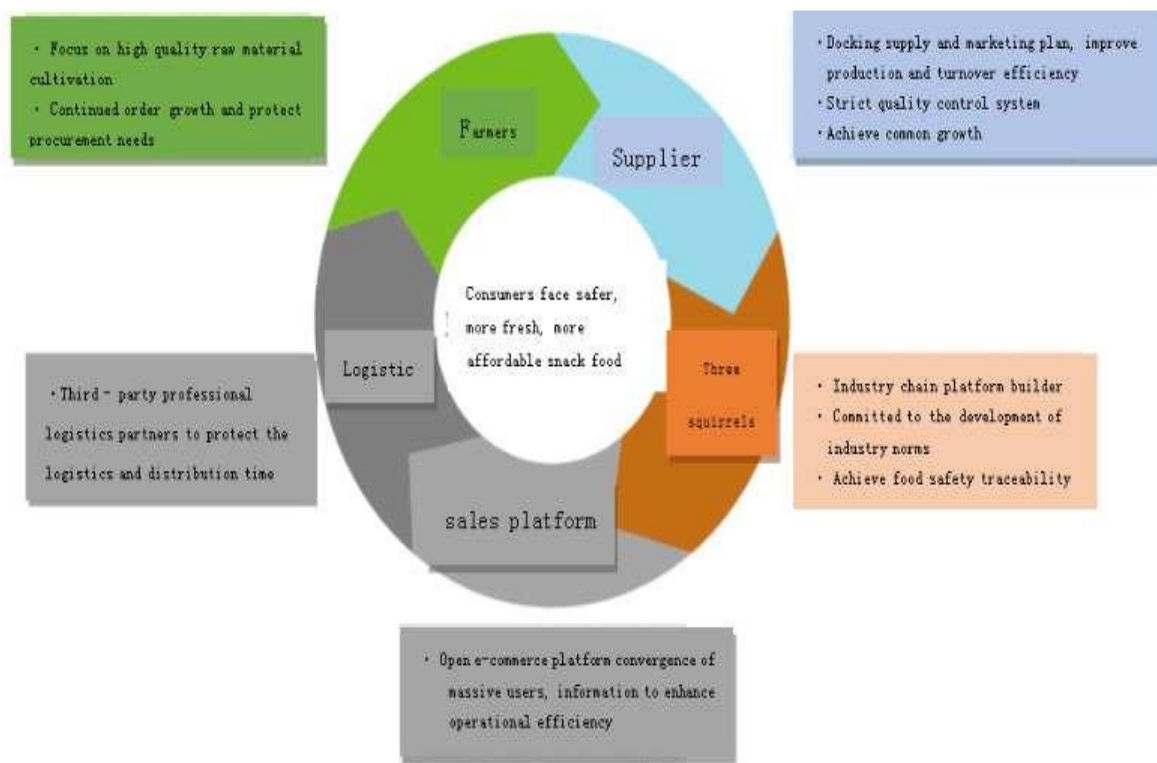
Fig 33 Ecosystem of Three Squirrels Corporation Limited

Competition between snack companies is intensifying with the gradual release of the bonus from "Internet+", and the war burned from online business to offline business. The industry is the combination of online and offline business. The rival called Be & Cherry began to move to offline business while another rival called Yanjin Shop began to move to online business. How to coordinate the online and offline development is the next important problem for this kind of enterprise. TS has also realized the difficult living status for e-commerce companies as well as future trends, taking the viewpoint that the first e-commerce generation that consumption upgrading brings more categories of products, has ended and the new era of entertainment for e-commerce will start. According to TS's plan, they will start up 100 stores in 2 years and set up brand experience shops in 300 cities in 3 to 5 years. In Sep 2016, the first offline shop of TS opened in Wuhu and now there are two offline brand experience shops. Now the third and fourth-tier cities are main choices for TS to locate its offline shops, but it does not rule out first and second-tier cities in the future. TS defines its offline shops as the experience center, highlighting its function of experience for consumers. In addition, they will continuously add their advertisements to hit TV plays and they will also produce cartoon films based on its images of "three squirrels"

to make customers feel the brand in all aspects, so that when anyone mentions nuts, they will think of "three squirrels".

Other strategies include product quality, fast logistics services, sound after-sale services and other issues concerning consumer experience. For example, TS has already set up eight logistics centers, realizing the service of receiving goods within two days in 80% of regions of China.

- **IPO**

Establishing an ecological platform for industrial chain and starting an offline brand experience are the next two developing strategies for TS. In order to carry out the two strategies, TS has to open many offline shops, which will require investment. Under such circumstances, TS started its IPO process in May 2016. The secretary of the board of directors, Daowei Pan said, "The funding gap is at least in the level of one billion yuan, bank loans and venture capital cannot meet our demands and the IPO is the best choice." In fact, the IPO is the last stage for most companies, from which founders can get more financial support and investors can realize their realization of investment.

On April 21, 2017, TS formally submitted its listing prospectus to the Growth Enterprise Market. According to its listing prospectus, TS would issue 40 million shares, and the raised funds would be used in projects called all-channel marketing network construction, supply chain system upgrading and logistics and sub packaging system upgrading. The three projects will cost 1.437 billion yuan. It also revealed that TS had operating receipts of 924 million yuan, 2.043 billion yuan and 4.423 billion yuan in 2014, 2015 and 2016 respectively with a YOY growth rate of more than 100%. In 2015, TS made a profit instead of suffering a loss with the net profit of 8.9739 million yuan, and the net profit increased to 237 million yuan in 2016.

As for this IPO plan, the founder Zhang said, "IPO has never been my dream, and my dream is to create a unique world with squirrels." Zhang thought that it would take at least 15 years to create the squirrel world with unique business models and unique organization culture. Zhang said, "A company who has a long history must have unique business models, there must be something difficult to do but worth to do. Today we just moved the first step and we just have a company with 3000 workers and a certain resources."

- **Conclusion**

The reasons for its success is that TS caught up the rapid development of the Internet and e-commerce and the founder of TS obeyed the developing rules of enterprises,

acquiring the bonus of rapid growth of e-commerce sector. At the same time, the company also received investment that allowed it to develop in the first three years with no profits and stiff competition. With an increasing market share, the scale effect appeared, and it is natural that the company began to have profits and the scale began to expand.
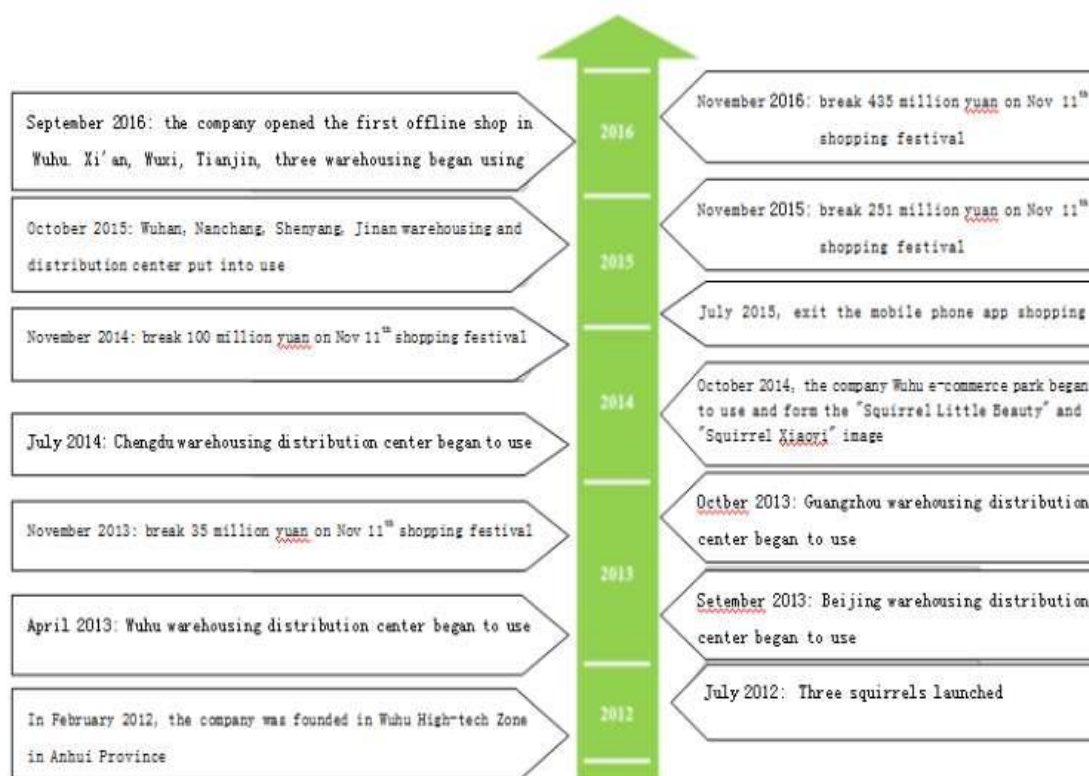
Source: Prospectus of Three Squirrels Corporation Limited

Fig 34 Developing Courses of Three Squirrels Corporation Limited

3.5 South Africa

3.5.1   Overall status of SMEs

The South African national small business act of 1996 (102) defines the industry standard, programme classification, enterprise scale, labour value equal pay, turnover, and industry value of SMMEs.

SMMEs in SA cover a very broad range of firms covering formally registered entities, to informal and non-registered organisations. They include small businesses that range from medium-sized enterprises employing over 100 people, to informal micro-enterprises of a survivalist nature with the self-employed typically drawn from

the poorest sections of the population[20]. Table 11 provides an overview of SMMEs in SA according to selected key indicators.

Table 11 Related Indicators for SMMEs in South Africa

Key indicators	For 2015(Q2)
Number of SMMEs	2 251 821
Number of formal SMMEs	667 433
Number of informal SMMEs	1 497 860
SMMEs as a % of total employment	14%
% operating in trade & accommodation	43%
% operating in community services	14%
% operating in construction	13%
% operating in financial & business services	12%
% contribution to GDP	42%
% black owned formal SMMEs	34%
% operated by income group <R30k pa	7%

Source: The Small, Medium and Micro Enterprises Sector of South Africa – Research Note 2016 No.1; Bureau for Economic Research, January 2016

SMMEs have made a great contribution to national GDP, as well as provide a large number of job opportunities. Therefore, the South African government actively developed relevant policies and planning projects to create a good atmosphere for the development of SMMEs.

Classifications of goods and services provided by South African SMES are as follows:

% of small business owners

Sell something in the same form it was bought	48.8
Buy something to sell, but add value before reselling	10.7
Grow something and sell	5.2
Make something and sell	5.1
Sell by-products of animals	3.7
Rear livestock/poultry and sell	3.1
Sell something that was collected from nature	1.5
Sell something obtained for free	0.6
Render a skilled service e.g. mechanic, plumber, hairdresser	13.2
Render other services e.g. car wash, garden services, transport (taxi services) catering	5.1
Render a professional service e.g. doctor, lawyer, accountant	1.3
Render building/construction services	1.0
Render tourism-related services e.g. accommodation/hotel/B&B/guest house, tour operators	0.6

Retailers 78.7%

Service providers 21.3%

Service Industry 21.3%

Source：2010 Finscope Survey

Figure.35 Nature of South African SMEs

According to the Small Enterprise Development Agency (Seda), the number of SMMEs between 2008 and 2015 are as follows:
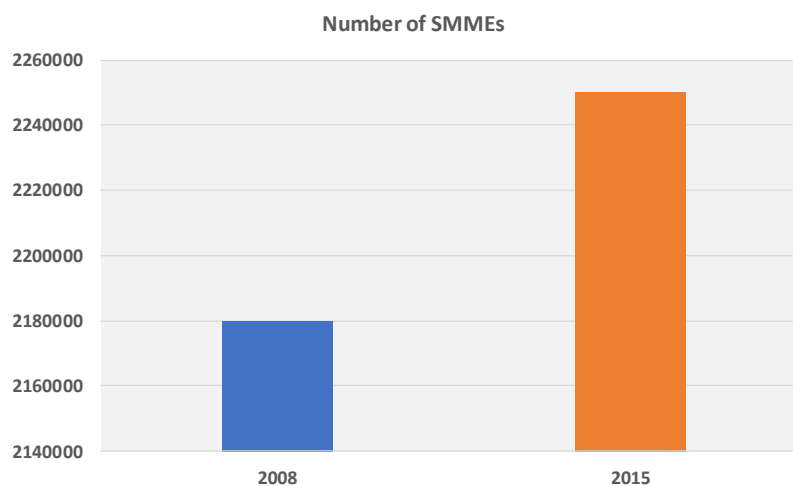
Figure.36 Changes in number of SMMEs between 2008 and 2015

The number of SMMEs was 2.18 million in the first quarter of 2008, while it

increased 3% to 2.25 million in the second quarter of 2015. The growth in GDP over the same period was 14%. Between 2010 Q4 and 2015 Q1, SMMEs' contribution to GDP was estimated to have gone up from 33% to 42% respectively.

3.5.2   Overall status of e-commerce development in South Africa

According to the survey data of World Wide Worx in South Africa, online sales reached 1% of overall sales during 2016. In 2015, the rate of growth of online retail was 26%, allowing it to reach the R7.5-billion mark (According to report "Online sales in South Africa in 2016", World Wide Worx, 2016). The online sales were estimated to double from 2016 to 2020. It is also expected that online would grow to R18bn by 2021, while remaining a very small proportion of the overall market, projected to be R1.5 trillion.

The total number of online shoppers in SA at the beginning of 2015 was 3,225 million. This represented 60.8% of the Internet user base that is ready to shop online. In the remaining 39.2% of Internet users includes people who have the propensity to shop online but have not yet been convert this propensity into actual shopping activity.

Unlike the Western market, which includes online shopping innovation services that provides all kinds of products, the South Africa's e-commerce is relatively under developed. This also shows the great potential for South Africa's emerging business model and all kinds of goods that are not online. The largest e-commerce platform in SA is Gumtree.co.za, accounting for about 23% of the market share; followed by Olx.co.za, accounting for about 11% of the total market share.
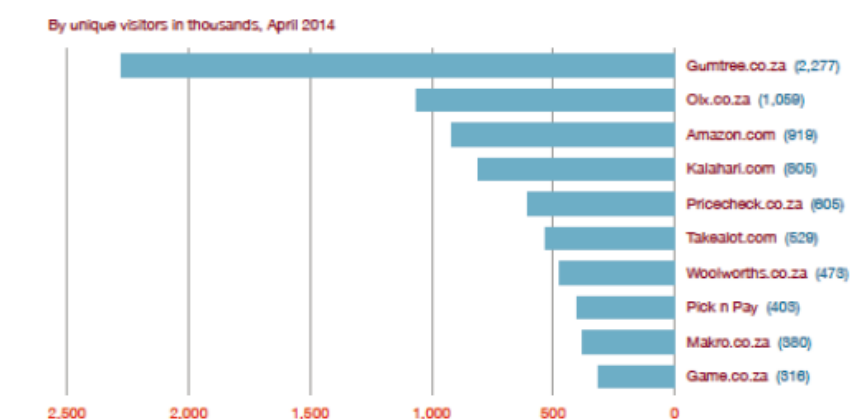
Source: ySats – South Africa B2C E-Commerce Market, 2015.

Figure.37 Number of visitors of South Africa's main e-commerce platform

3.5.3 Development status of SMEs e-commerce

(1) The main features of South Africa's online market

According to a survey[21] conducted in 2015 on the South African online shopping market, South African consumer's online shopping market presents the following characteristics:

● online shoppers were mainly women between 18 to 39 years old

● The majority of South Africans spent between R250 and R1000 per purchase online

● About 33% of the respondent shop online 10 times or more a year.

● About 28% of shoppers make online purchases using their mobile phones. In South Africa, the majority of online shoppers have been surf on the Internet for more than five years. The important factor in decision to purchase online is price, convenience, and delivery time.

The survey showed that large international platforms provide sales channel and payment platform to small businesses. The survey shows that more and more people are becoming familiar with the Internet. The South African Payment Association and banks have also launched network security regulations and measures to prevent the occurrence of online fraud. Security standards of e-commerce have been greatly improved.

（2）Main commodities sold online in South Africa

Typical items purchased online include books, DVD's, games and music, electronics. computers and phones.

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[21] Cross-Border Ecommerce Country Reports, The Paypers, 2015
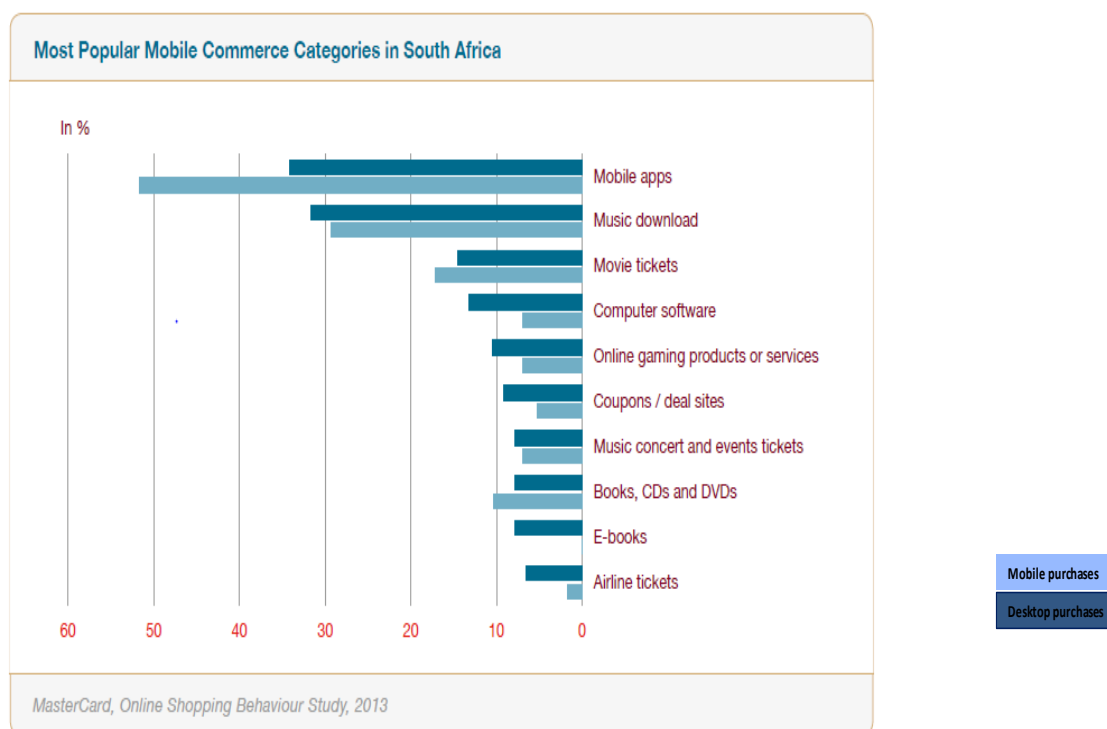
Figue.38 E-commerce Categories in South Africa
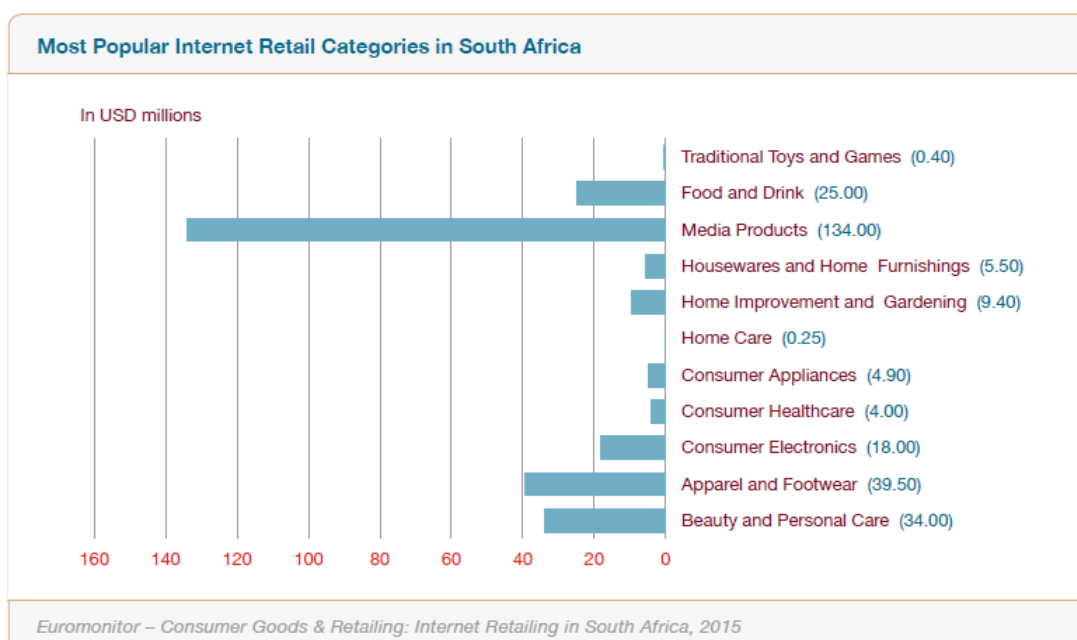
Figure.39 Hottest items e-commerce transactions in South Africa

（3）Contribution of SMMEs e-commerce

According to different metrics, the contribution of SMMEs to the economy varies. In terms of contribution to GDP, an estimated 52% to 57% has been quoted by the Deputy Minister of Trade and Industry, Elizabeth Thabethe, who put the number of

SMMEs in South Africa at 2.8 million and their contribution to employment at 60%[22].

The main growth in the number of SMMEs from 2008 to 2015 was lower than the economic growth rate. However, the contribution of SMMEs to GDP increased over the same period. This might be because most SMMEs are unregistered.

Provinces with larger economic growth have the largest share of formal registered SMEs. While the level of education of SMME owners improved during the last seven years, it did not seem to boost the number providing professional services.

According to the research conducted by FinScope in 2010[23], small businesses in South Africa provided 11,602,292 employment opportunities. Businesses with less than five employees represented 94% of small businesses in South Africa creating 7,935,972 employment opportunities while as 6% of small businesses had five or more employees, creating 3,666,320 employments. Only 8.3% of SMMEs (465,632 enterprises) indicated that they were registered with the Department of Trade and Industry (DTI)

（5）Development status of cross-border e-commerce

South Africa's e-commerce report shows that currently cross-border e-commerce only accounts for a small part of South Africa's e-commerce, mainly to the US and Europe. In the South African e-commerce customer base, 84.3% of transactions were done through South African domestic websites, 27.1% from US websites and 14.6% from Europe. Details are shown in Figure 41:
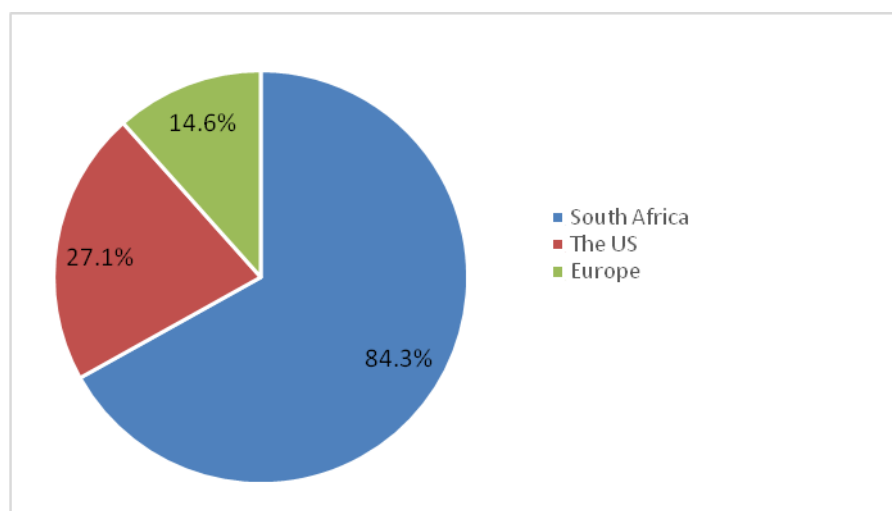
Source：IAB South Africa-South African e-commerce Report 2014

Figure.40 South Africa and cross-border sales situation

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[22] South African Reserve Bank, AHI Conference 2015

[23] http://www.finmark.org.za/wp-content/uploads/2016/01/FS-Small-Business_-reportFNL2.pdf

3.5.4 Management institutions and policies

(1) Management institutions

Government policy in South African SMME development was initially documented in the 1995 White Paper on SMME development[24]. The Integrated Small Business Development Strategy provided an action plan with a focus on increasing financial and non-financial support, creating demand for the products and services provided by the SMMEs, and reducing regulatory constraints. Government agencies related to SMES include:

- *The Small Enterprise Development Agency (SEDA)*:

SEDA was established in December 2004, through the National Small Business Amendment Act (Act 29 of 2004). It is mandated to implement government's small business strategy, design and implement a standard and common national delivery network for small enterprise development, and integrate government-funded small enterprise support agencies across all tiers of government.

- *The Small Enterprise Finance Agency*（**SEFA**）

This entity was merged with the South African Micro-Finance Apex Fund (SAMAF) and Khula Enterprise Finance Limited, to cater for small businesses requiring funding up to a limit of R3 million. SEFA offers bridging finance, revolving loans, term loans, asset finance and funds working capital needs.

- *The National Youth Development Agency*（**NYDA**）

The agency was formed with the purpose of assisting youth between the age of 14 and 35 years to start businesses and to finance existing businesses. In order to enable and support technological innovation, as well as to enhance the global competitiveness of South African businesses, the Department of Science and Technology established Technology Innovation Agency (TIA) by merging seven science and technology related corporates.

- *National Empowerment Fund*（**NEF**）

The NEF was founded with the intention of offering financial and non-financial support to black empowered businesses.

（2）Relevant policies

As early as 2002, South Africa established the *South African electronic communication and exchange act*, designed to specify and promote electronic communication and exchange, speed up the development of national enterprises, promote the further use of electronic communication and exchange, speed up the pace

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[24] The Small, Medium and Micro Enterprises Sector of South Africa, Bureau for Economic Research, 2016

of reform of the small and medium-sized enterprise online sales, accelerate the development of human resources in the field of electronic trading, prevent the abuse of information technology, encourage the development of the electronic government affairs, and foster the development of related areas.

With regard to SMMEs, Part 1 Section 9 of the Act states: The Minister of Communication must, in consultation with the Minister of Trade and Industry, evaluate the existing regime, programmes and infrastructure status. To provide for the utilisation by SMMEs of electronic transactions and, pursuant to such evaluation, may establish or facilitate the establishment of electronic communication centres for SMMEs and facilitate the development of websites or website portals that will enable SMMEs e-commerce development and obtain professional information and advice. The minister is also mandated to remove barriers to electronic communications and transactions and to promote legal certainty and confidence in respect of electronic communications and transactions. It is also the responsibility of the relevant ministry to promote the understanding and, acceptance of and growth in the number of electronic transactions in South Africa with particular emphasis on ensuring compliance with accepted international technical standards in the provision and development of electronic communications and transactions.

- conform to the principle of technology neutrality, to ensure that electronic communication and trading legal is feasible
- ensure that South Africa's electronic trading in accordance with international standard
- this clause does not contain any electronic commerce tax rules

With regard to taxation, in order to capture revenue from e-commerce transactions, the Government has applied a 14% value added tax. South African suppliers of e-commerce related goods and services must accordingly register as VAT vendors, submit returns and pay taxes.

South Africa was among the first African countries to initiate fixed-broadband development programmers 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 5 Mbps to be available to half the population by 2016 and a universal average download speed of 100 Mbps by 2030.

3.5.5 Case study：UAfrica enhance efficiency with the cloud

- **Introduction**

UAfrica is a technology company that offers a cloud based e-commerce service to South African SMEs. UAfrica provides services of centralized inventory and order

management system, which was carried out in cooperation with Shopify, a leading cloud based international e-commerce solutions provider, with products across multiple sales channels, store fronts and social media channels. On the basis of Shopify, shops on UAfrica are able to list their products and synchronize the stock data right after orders. Hence whenever an order is made, the information will be sent immediately to Shopify. With Shopify, the merchant's inventory status on each sales platform can be updated immediately.

- **Reduce cost and increase traffic**

UAfrica also offers built-in shipping service to reduce costs and time of logistics. It also provides automatic updates on the status of their orders with online tracking within the seller's store.

In view of the development of e-commerce in South Africa, online shops cannot guarantee the page views. To solve this problem, UAfrica has launched a multi-channel service; sellers can use multi-channel tools to increase viewership traffic on their online stores. The operating mode of the multi-channel service system is to increase the visibility of the store by increasing the brand awareness by placing the shop product advertising into the high-volume network sales market site. For example, UAfrica links its clients with BidorBuy, which is an online market space that is home to a large number of sellers and buyers visiting the website platform. In that way, UAfrica increases viewership traffic on their online stores and vigorously promoted the turnover of online transactions.

4. Major Issues in the Development of e-commerce among BRICS SMEs

Trade is in essence the combination of three dynamic flows, namely, information, capital and logistics. The difference between e-commerce and traditional commodity trading is that the adoption of information and Internet technology can accelerate the speed of these three flows and reduce costs. Any obstacles to these three dynamic flows can hinder e-commerce development. In the areas of politics, economics, culture and market, BRICS countries face some common problems as well bottlenecks. This chapter intends to summarize the problems and bottlenecks.

4.1 Common Issues in the Development of BRICS SMEs E-commerce

4.1.1 Information communication infrastructure still lags behind

The development of e-commerce produces large amounts of information and data. The use of technology and technology up grading are important for further e-commerce development. Inadequate developments in e-commerce infrastructure have become bottlenecks of e-commerce development in BRICS. According to the report published by China Internet Network Information Center in 2016, Russia ranks 23rd, China ranks 25th, Brazil ranks 41st, South Africa ranks 55th, India ranks 58th in information development.
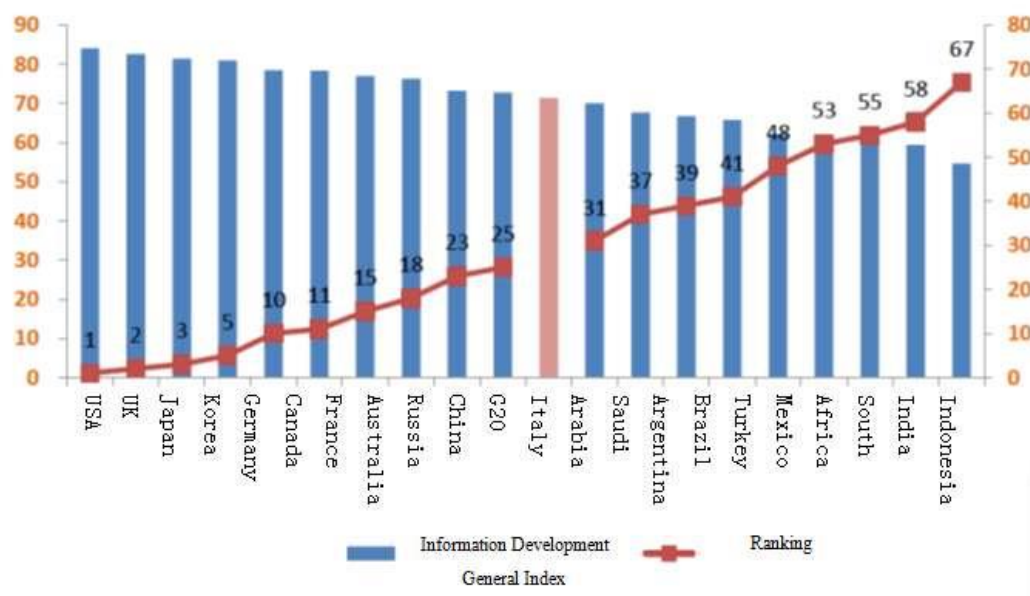
Source: China Internet Network Information Center, Assessment Report on National Information (2016)

Fig 1 Comparison of National Information Level among G20

There is still a gap of information level between BRICS and other developed countries. The first step to promote e-commerce among BRICS SMEs is to improve the information infrastructure. China's 13th Five-Year Plan on e-commerce has clearly proposed to improve the development of information infrastructure and the monitoring platform for e-commerce macro-economic statistics, enhance the integration of multi-channel e-commerce, analyses the data resources of leading e-commerce enterprises, further strengthen the development of public service platform for e-commerce transactions.

However, the relative lagging of the information development level in BRICS also brings advantages of exploring alternate paths of development suitable for each country; China's fast-developed mobile commerce network system serves as a good example. BRICS could adopt innovative e-commerce models and create their own path of development, rather than blindly follow the road of developed countries.

4.1.2 Logistics could not meet the demand of rapidly growing e-commerce

The cost and efficiency of logistics is an important factor, which restricts the e-commerce activities. Compared with the traditional business activity, e-commerce is more convenient. The speed of logistics and the degree of damage to the goods can influence the consumption experience of e-commerce consumers directly. As the cost of logistics increases, the advantages offered by e-commerce decrease.

In some areas where e-commerce is not yet developed, the express business is provided by small enterprises or family companies. The coverage is limited and there is no tracking system for packages, thus leading to lack of trust among the customers. In 2015, Brazil's highway network was even less developed than America's highway network of 1955. Even in countries where e-commerce is relatively developed, like China, logistics and related infrastructure is still the focus of competition among e-commerce platforms. Every e-commerce platform is trying to build a comprehensive, convenient logistics network in order to reduce the costs and improve the competitive advantages.

E-commerce will maintain a rapid speed of development in the future. This means that the overall demand for e-commerce logistics will grow rapidly. According to the report published by Ali Research Institute, *Report on China's Smart Logistics Big Data Development in 2017*, the express delivery business has seen an average annual growth rate of more than 40% from 2012 to 2016. The report predicts that China's online retail sales will exceed 10 trillion yuan. The total retail sale of consumer goods will account for more than 20%. Over the next 5 years, the number of packages is

expected to exceed 100 billion. This means that the existing logistic facilities will not be able to meet the growing demand of e-commerce.
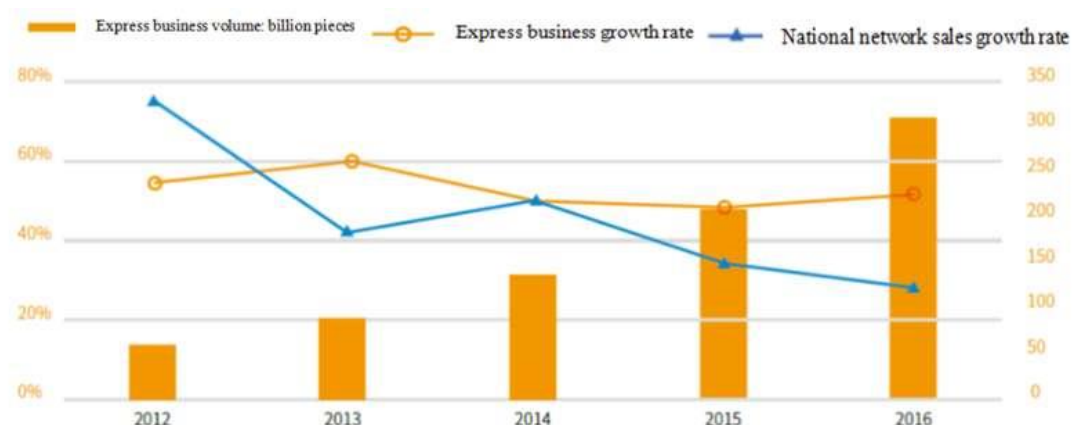
Source: Ali Research Institute, *Report on China's Smart Logistics Big Data Development in 2017*
Fig 2: The Comparison between the Online Retail Sales and Express Delivery Business

4.1.3 Shortage of e-commerce related qualified personnel

With the development of e-commerce, there is a growing shortage of skilled e-commerce related personnel. According to the *Report of China's E-commerce Related Qualified Personnel* published by China e-commerce Research Center (100 EC.CN), 75% of e-commerce enterprises have gaps in talent. Among the surveyed companies, 44% have an urgent need for qualified personnel for e-commerce operations. The traditional universities and vocational schools cannot provide the professionals who can meet the demands of e-commerce business. A lot of companies have to train the employees themselves.

For cross-border e-commerce, there is a shortage of talented staff who have international trade experience and can master English. To develop the market, staff need languages skills that are not widely used such as Portuguese (Brazil), Arabic and Hindi (India). This will enable a better understanding of the international market, the trade rules and regulations in foreign countries, and the requirements and buying habits of the consumers. There is also a shortage of qualified personnel who are familiar with the trade regulations in the target market and have experience in handling trade disputes.
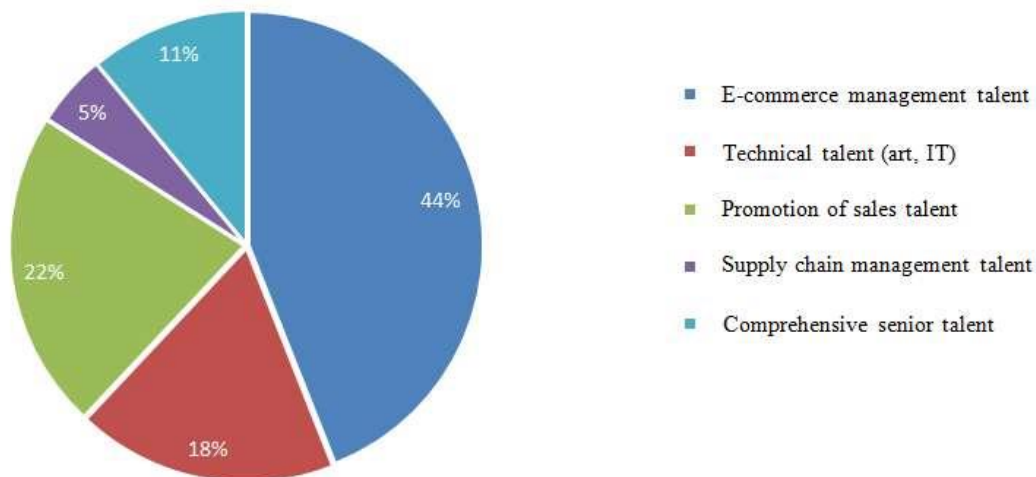
Fig 3: The Urgently Needed Qualified Personnel in the Surveyed e-commerce Enterprises

To tackle the problem of e-commerce qualified personnel，the government should encourage the training in vocational institutions, enterprises and universities covering various channels and methods. Firstly, enterprises could adopt the method of pre-job training, training in vocational schools, salary improvement, and talent selection. Secondly, a large number of vocational training institutions could carry out training of cross-border trade. Lastly, universities need to offer specialized courses and majors in cross-border e-commerce.

4.1.4   Market regulation and credit system need to be strengthened

The gap of information between buyers and sellers in online trade is even greater than in traditional trade. This adds to the difficulties in terms of return of goods, supervision and fake products. In India, for example, some suppliers or distributors sell fake products together with authentic products. Customers buy fake products on many occasions. There are also many violators of law who deceive customers in e-commerce by making use of loopholes in laws and Internet technologies.

On the one hand counterfeits and fake transactions are popular due to the weak government supervision and lack of investigation of illegal activities. E-commerce encompasses a wide range of activities including quality inspection, customs, commerce, tax, law and market. However, there is no unified e-commerce act among BRICS. The responsibilities of concerned government agencies are not clear, thus lacking coordination mechanisms among departments and leading to inefficiency of supervision. Moreover, e-commerce industry associations fail to play an effective role in providing services, reflecting demands and regulating processes. In short, a self-regulated mechanism in the industry has not yet been established.

Moreover, the credit infrastructure of e-commerce is still lagging behind. As a result, it is hard to encourage the sellers and buyers to think in long term and improve their credit rating. Thus, it is hard to promote the sustainable development of a good online environment.

To improve the regulation of e-commerce, technological innovation should be promoted. The technological innovation can contribute to the reform of regulations and monitoring the systems. As an example, Alipay's innovative technological model has solved the problem of information gap between buyers and seller. As a result, the credit card system has been reformed accordingly.

4.1.5   The e-commerce regulatory system need to be further improved

There are many similarities and differences between e-commerce and traditional business activities. In e-commerce, there is lack of regulations in various areas, such as tax collection, quality inspection, cross-border inspection and quarantine and customs declaration. Sometimes the regulations are also contradictory. To be precise, the regulations pertaining to traditional commerce could not adapt to the development of e-commerce. Both existing gaps in regulations and the contradictions thereof hinder e-commerce development.

E-commerce in BRICS is still in the early stages of development. The major issue faced by Russian e-commerce enterprises is that the regulations are not transparent enough and it is hard to operate. The custom clearance procedure is messy and there is lack of adequate guidelines and information.

One of the experiences from China's rapid e-commerce market development is that the government has issued a series of rules and regulations. Regarding the areas of conflict, the government would issue new regulations, rules or "opinions" in order to replace the old ones. However, until now, China has not issued a comprehensive and unified e-commerce act to replace these rules issued by different ministries.

In terms of taxation, the Brazilian government has issued the *Simplified Calculation of Tax Act*. The Act has unified the taxation system in cities and states. The act also deals with the taxation problems in small and micro enterprises. The implementation of this Act has greatly influenced Brazil's economic structure and has improved Brazil's e-commerce development.

4.2 Major Country Specific Issues Faced by SMEs in BRICS

4.2.1   Brazil

(1) Underdeveloped Distribution Infrastructure

Brazil's weak and immature infrastructure has a negative impact on shipping of orders. Brazil is a country with vast territory, but the country's roads are in poor condition, many of them unpaved, affecting safety, delivery time as well as damaging cargo and trucks. Figure 45 shows that the highway network in Brazil in 2015 was far behind that of the United States in 1955. Receiving a delivery package in 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.
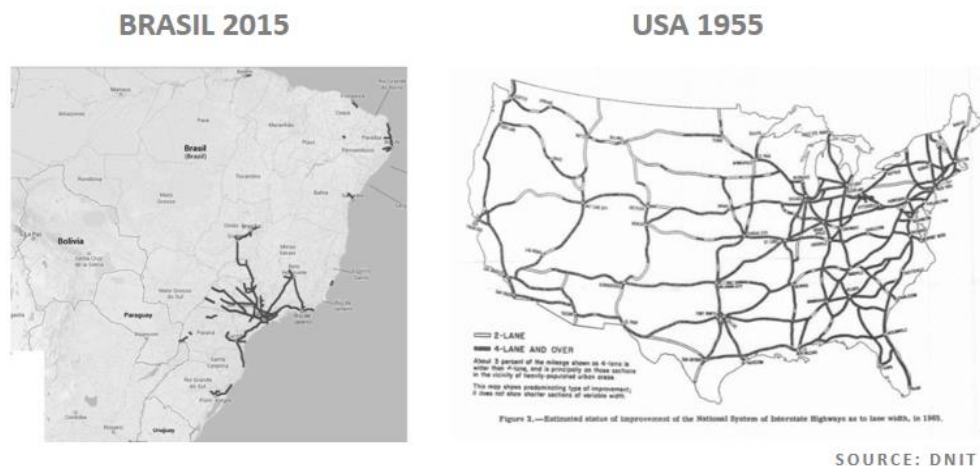
Figure 4.Comparing highway network infrastructure in Brazil,
2015 and UnitedStates, 1955

In Brazil, the majority of delivery services are provided by small, often family owned companies that have limited coverage area and lack parcel tracking systems; thus there is generally inadequate availability of reliable courier services. It is expensive for SMEs involved in e-commerce to engage with the established delivery companies like Total Express and Direct, due to the small-scale of their operations. The government-owned national Post (Correios), does not offer parcel tracking options, which not only increases chance of fraud but also slows down delivery. Moreover, Correios has also recently terminated e-SEDEX, an express mail service available exclusively to e-commerce companies on a contract basis. The e-Sedex service was one of the most commonly used services by SMEs as it provided the convenience of express deliveries at costs 20-30% less than the traditional Sedex. The termination of this service will increase logistics burden on the enterprises.

(2) Insufficient Availability of Talent

Brazil's e-commerce market faces the challenge of finding qualified people. The main reason is the lack of academic training. 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 companies. According to a survey of e-commerce enterprises conducted by ABComm, most respondents (79%) said that professionals did not have the skills needed, while 22% did not know where to find specific portfolios. For 20% of respondents, requested salaries were higher than they could offer and 9% responded that the candidates were already employed in another company. Due to the high turnover rate in the market, companies retain qualified employees by offering higher salaries and adopting a more aggressive bonus policy.

(3) Complicated procedures and high cost of customs formalities

In Brazil, certain commodities need to be registered in the Brazilian local commodity registration department and need to meet local market licence requirements. If you import goods directly through the online platforms without a local partner's help, it will cause complications and problems for overseas companies. This registration requirement makes many international companies prohibitive for the Brazilian market, hindering the healthy development of Brazilian e-commerce.

In addition，imported goods as well as the domestic goods, must undergo repeated taxation and legal procedures. All items 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 cost of freight, and the cost of insurance. In addition to duties, imports are subject to a commodity circulation service tax (ICMS) and 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 fees, air handling fees, airport fees, and declaration fees.

(4) High taxes and complex tax structures

The taxes and fees in Brazilian e-commerce market are high with a wide range, increasing the total cost (all taxes and fees together, according to different product categories, sometimes may double the original commodity price). Among the BRICS countries, Brazil's taxation is the highest. The complex tax structure has pushed up the cost of lawyers and accountants because they have to hire them to solve tax and registration problems and to handle the relevant procedures.

The complex tax structure is also reflected in the fact that there is no uniform tax system nationwide. Taxes in some states are 12%, while in others they are 18%. Due to the technical reasons, it is almost impossible to gauge the exact amounts, and owing to the difference in taxes and fees across states leads to different costs for

orders from different regions. The direct consequence is that consumers from high-tax states have to pay more.

4.2.2 Russia

（1）Backward logistics infrastructure, low efficiency in customs clearance

In recent years, the Russian government has been working to improve its postal capacity. However, due to the vast territory of Russia, the long distances between the regions, the backward transport infrastructure in small and medium-sized cities and remote areas there is a large deviation from the modern industry standards for delivery time, cargo security and other factors of e-commerce.

A survey of major problems in the development of e-commerce for SMEs by the Russian authorities found that the main factors inhibiting the growth of e-commerce relate to delivery and language barriers. People in Moscow are especially sensitive to the cost of delivery, while other regions are more concerned about language barriers. All respondents use Russian Post or EMS to send parcels abroad. Not only are the logistics and transportation costs high, but the speed of delivery as well as the efficiency is low. Table 12 shows the most worrying aspects of e-commerce companies in the survey:

Table 12 Most worrying aspects for SMEs engaging in e-commerce

	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%
Other	16%	15%	17%

In addition, the customs clearance process is confusing and lacks dedicated operating rules. Customs has not made clear provision (or has not specified) on the specific documents and related processes for the delivery or return (referring to the goods returned before customs). However, since small businesses are not engaged in cross border trade, customs issues are not the biggest concerns for them. In contrast, the customs clearance process has a greater impact on medium-sized enterprises.

（2）Language barriers affect cross-border exports

Language barriers (including English and other languages) is the second most important issue for all respondents after logistics. Many of the respondents are very small companies that cannot afford to hire an English speaker to work with foreign clients. Support for languages other than English is even more challenging.

（3）Government policy supporting cross-border trade is lagging behind, and part of the policy is not conducive to cross-border e-commerce cooperation

At present, the Government's policies supporting e-commerce in Russia are seriously lagging behind. For example, when Russian e-commerce enterprises go through the export approval procedures, contracts signed with the importer must be provided first, and foreign warehouses still need to follow the traditional (brick-and-mortar) trade practices, which greatly increases the operating costs and operational risks, restricting the development of cross-border e-commerce activities.

Facing the rapid development of foreign enterprises in Russia, the relevant departments and enterprises in Russia repeatedly demand a "fair" market environment, taking restrictive measures to reduce the threshold of cross-border e-commerce mail tax, the requirement that the server that stores personal information of Russian citizens must be located in Russia and impose duties or excise duties on foreign products of foreign companies that are not taxed in Russia. These proposals, while not yet implemented, have increased the uncertainty of cross-border e-commerce cooperation.

（4）The absence of overseas buyers willing to trust enterprises from Russia

Due to language barriers and backward logistics base and other reasons, many overseas customers display lack of trust in Russian enterprises. For example, some Russian merchants do not register package in order to save costs, which results in communication difficulties between business and customer and increases misunderstanding.

In addition to cost-saving factors, another major problem is that businesses ignore the rules and regulations of logistics companies. This has a direct impact on foreign buyers' shopping experience and reduces trust in Russian enterprises.

In addition, Russia is also facing a serious shortage of relevant e-commerce data. This is not only detrimental to the development of e-commerce research, but also hinders the formulation and implementation of relevant e-commerce policies.

4.2.3　India

Based on feedback received from various stakeholders in the industry, e-commerce companies especially the MSMEs in India have been facing certain problems, which are adversely affecting their growth. One of the major challenges reported is the lack of trust about e-commerce vendors and the issue of disputes resolution. These concerns include counterfeiting, inadequate governance measures and data security.

(1) Consumers' lack of trust for sellers

An information asymmetry exists between the buyers and sellers in e-commerce activities. India still lacks effective information disclosure and information display mechanisms and channels, leading to lack of trust among consumers, restricting SME e-commerce activities. Things such as market reputation, physical verification of the seller's premises, and track record in ensuring product quality, litigation history, and relationship check indicating conflict of interest will affect consumer confidence in the seller and thus affect the process.

Imperfect dispute resolution mechanism for transactions

Due to the lack of high-speed broadband and efficient payment technology, consumers tend to use cash on delivery, which increases the rate of returns to some extent. The imperfect dispute settlement mechanism further damages the relationship between buyers and sellers.

(2) Trading fraud prevailed

Certain suppliers/distributors introduce counterfeit products in the supply chain alongside genuine products, increasing the frequency of transactions involving fake products. Since the onus of ensuring product quality, authenticity and packaging rests on the sellers, the e-commerce companies are often unable to proactively detect counterfeits or inferior/faulty products that may be sold to customers via their networks.

At present, while some of the leading e-commerce marketplaces have already established protocols to know their customers to help identify unscrupulous sellers, at

times, the information obtained from sellers as part of these procedures can be misleading. For instance, you can get the seller's permanent account information, but cannot avoid some businesses to provide dual account.

(3) Lack of mature e-commerce technology

The lack of mature e-commerce technology is particularly prominent in business-to-business (B2B) e-commerce. The B2B e-commerce ecosystem in India currently is highly fragmented with fewer companies due to factors such as the requirement of domain expertise, detailed knowledge of product features and specifications.

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. Many small businesses are not proficient in the use of technology, and need e-commerce technology training.

(4) Government policies needs to be improved

Taking cross-border –e-commerce policy as an example, for foreign direct investment e-commerce enterprises, there are still some disputes in India. Different institutions, trade subject and even government departments have different views on the issue. Some hold the view that small businesses have been largely protected by industry and should not receive foreign direct investment. Others argue that FDI in e-commerce retail will also benefit SMEs to obtain funds from abroad. E-commerce companies have been pushing for foreign direct investment in e-commerce enterprises without restrictions.

The Indian government has recently begun to take measures to allow FDI into the e-commerce market, but only for specific circumstances under a single brand of retail transactions. These policies have had a significant impact on cross-border e-commerce activities.

4.2.4　China

（1）Informatization infrastructure has not developed evenly and needs to be improved

E-commerce is not simply online transactions, but involves use of network information technology to achieve a revolution in traditional transactions. Therefore, the development enterprise information infrastructure is the basis for e-commerce activities, and directly determines the success or failure of enterprises' e-commerce activities. According to the *Assessment Report on National Information (2016)* issued

by the China Internet Network Information Center, the international ranking of Chinese information development increased from 36th in 2012 to 25th, in 2016. Although the Chinese information development has made great progress, there is still a big gap compared with the US, the UK, Japan and other developed countries. Moreover within China, the development level is not balanced. From Chinese eastern coastal areas to the west, the north or the south areas, the level of information development shows a gradually decreasing trend.
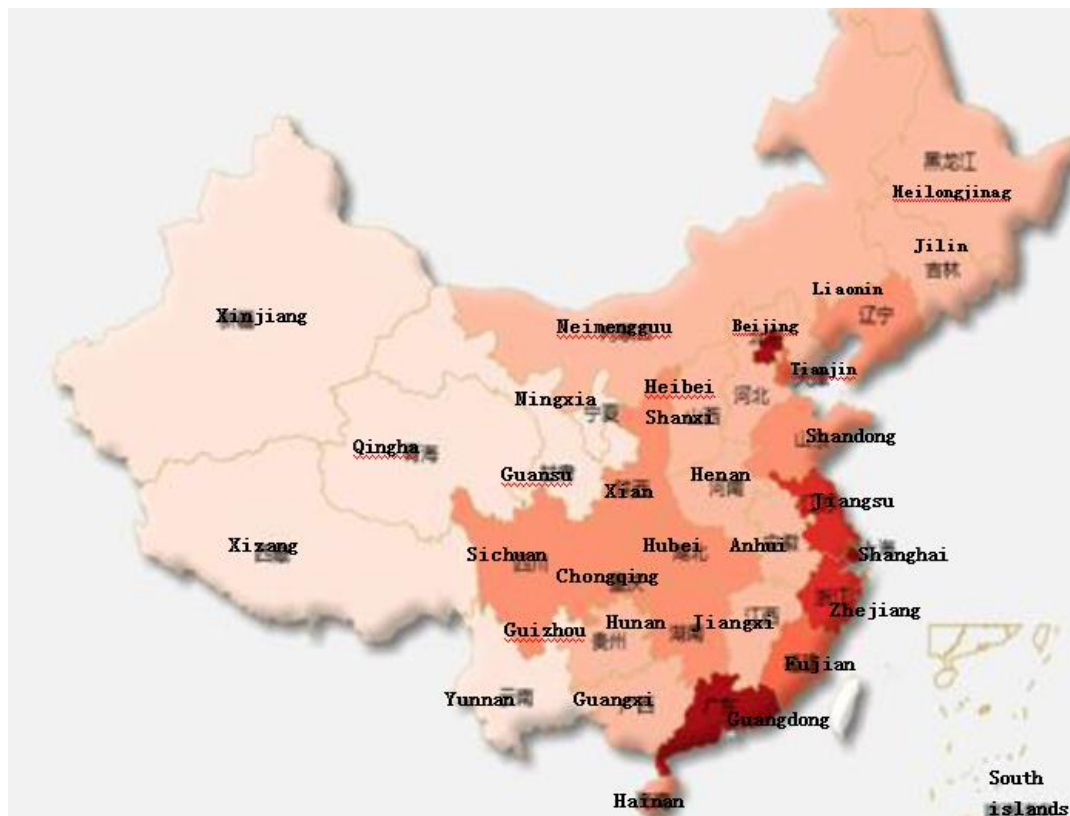
Source: China Internet Network Information Center, Assessment Report on National Information (2016)

Fig 5: China's provincial information level

（2）Smart logistics are still at the early stages of development

The report published by Ali Research Institute, *Report on China's Smart Logistics Big Data Development in 2017*, predicts that China's online retail sales will exceed 10 trillion yuan by 2020. The total retail sale of consumer goods will take more than 20% of the market share. Over the next five years, the number of packages is expected to exceed 100 billion. This means that the existing logistic facilities will not be able to meet the growing demand of e-commerce. The smart logistics based on Internet, big data and cloud calculation will gradually replace traditional logistics.

Smart logistics have attracted increasing attention In 2016. China's general office of the state council and relevant department issued a number of logistics policies. In 2016, the State Council had meetings on the promotion of "Internet +" effective logistics. This symbolized the new stage of development for the smart logistics based on Internet, big data and cloud calculation. However, currently, smart logistics is only at the early stage of development. The development pattern is still uneven in China. For example, the logistics cloud is one of the main points for the development of smart logistics. Through the logistics cloud, enterprises (including big enterprises and SMEs) do not need to develop independent system or buy data equipment separately. This would reduce the cost of information. The report published by Ali Research Institute, *Report on China's Smart Logistics Big Data Development in 2017* points out that the coverage rate of logistics cloud was 5% in January of 2016. The rate has increased to 25.4% in December, the same year.
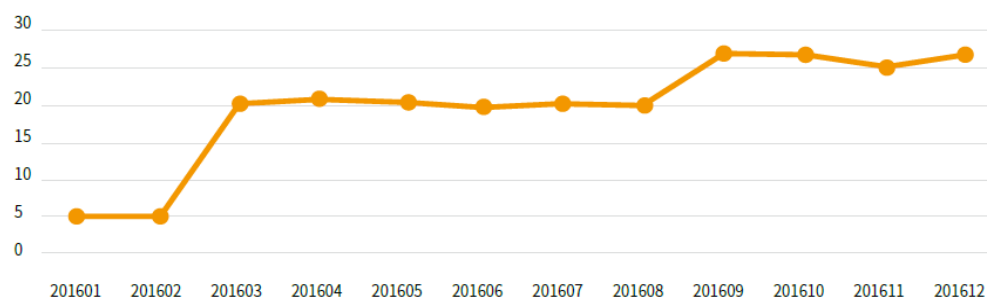
Source: Ali Research Institute, *Report on China's Smart Logistics Big Data Development in 2017*
Fig 6: the Coverage of Logistics Cloud

The 13th five-year plan for e-commerce in China made clear its proposal to strengthen the construction of information infrastructure and further strengthen the construction of the macro-statistical monitoring platform for e-commerce economy. However, more efforts are required to integrate e-commerce information, facilitate better use the information resources, construct e-commerce market, build object database, and create all levels of the information-sharing platform.

（3）Shortage of Talents Specialized in e-commerce

In the process of developing e-commerce among SMEs, one needs to master both network information technology and business rules. However, the general problem is that in the vast majority of SMEs, the people who master the network information technology do not understand management, and the people who are familiar with the

management do not understand network information technology. Professional staff tends to choose larger enterprises. However, due to their inherent limitations, SMEs generally lack patience to train their own personnel.

The *Report of China's E-commerce Related Qualified Personnel in 2015* published by China E-commerce Research Center (100 EC.CN) indicates that 75% of the e-commerce enterprises need professional staff. From the surveyed enterprises, around 44% are in urgent need of operations professionals, 18% need more talent in areas of IT and graphics, 22% need sales professionals, 5% need professionals on supply chain management, and 11% need professionals who have comprehensive background.

The e-commerce industry is still in a period of rapid expansion. The talent gap will be further increased, the cost of human resources will be increased year by year, and the difficulty of human resource management is likely to increase further.

（4）The supporting system and regulatory system need to be further improved

At present, although the government has introduced a variety of laws, regulations and documents in order to encourage e-commerce, there is still no unified e-commerce law. In order to better develop e-commerce among SMEs, the following areas should be further improved: legal acts, technical standards, infrastructure, Internet security, economic supervision, taxation, customs, and inspection. In addition, network credit system and transaction dispute resolution system need further improvement

（5）The cost of online traffic remains high; the profits for online sale are low

Take China's Taobao, as example, the early products and service promotion of taobao.com were mainly based on manpower, so some senior sellers did not have enough awareness of the costs for the online traffic. In the growth process of Taobao, advertising was adopted as one of major methods to attract new customers. Usually, the cost is around 50 yuan per person. The cost for online traffic has always been increasing. The growth rate of cost for promotion has been high.

（6）The problem of credit loss for e-commerce

"Double Eleven" is the largest online shopping festival in China. From the related research and analysis of complaints, the overall credit situation of China's online retail market can be understood.

First, it is noted that the business has experienced failure in building trust. Online shops and e-commerce platforms have encountered most cases of trust loss; e-commerce enterprises account for 28.73% of complaints while as e-commerce platforms account for 27.99% of complaints. The rate of poor logistics service has

risen significantly compared with the "double eleven" in 2015. The rate of complaints in after sale is high in the fields of building materials, home products and electronic products. As for the difficulties for returning products, most cases are concentrated on home electronic equipment, which takes 24.22% of registered complaints.

Second, the main types of trust loss include fake products, false promotion, hard to return products, and failure to fulfill the promise of discount, according to the complaint statistics from China Consumers' Association. The media has exposed the composition of complaints: fake products ranked highest - 20.89%, false promotion - 15.56%, failure to fulfill the promise of discount - 15.14%, online fraud - 11.02%, click farm[25] - 6.59%, followed by other complaints like hard to return products, loss due to logistics, delay of delivery, information leakage which ranked from 6 -10 in percentage terms.

（7）The impact of e-commerce on China's circulation industry

Firstly, e-commerce reduces the distribution function of circulation enterprises. Prior to the information age, based on the limitation of territory and time, circulation enterprises provide commodities for the consumers who lack information. E-commerce eradicates the obstacles of time and space between producers and customers, and makes it possible for both sides to interact at any time. The interaction could lead to negotiation, agreement and eventually to the successful trade. All this decreases the function of circulation enterprises.

Secondly, E-commerce reduces the information superiority of circulation enterprises, such as the information in the market circulation process, information on commercial resources, information on demand, information on price, the information on customers' feedback on commodities. The network technology has removed the information barrier between nations, enterprises, and between the supply side and the demand side. All types of market information are interlinked by networks, resulting in the sharing of information. This optimization of information acquisition and transmission of information over networks makes it easy for production enterprises and customers to get the required information. This results in fewer advantages of circulation enterprises.

Thirdly, opportunities are reduced for the circulation enterprises to act as intermediate agents. Circulation enterprises are mainly engaged in activities such as purchase, sale, storage and transportation of commodities. E-commerce provides convenience for producers and consumers to trade directly. It has been proven that e-commerce could

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[25] A click farm is a form of click fraud, where a large group of low-paid workers are hired to click on paid advertising links.

improve the rate of direct sales, reducing the opportunities that the circulation enterprises act as intermediate agency.

Fourth, e-commerce replaces some links of traditional circulation activities. Compared with traditional trading methods, e-commerce could reduce some links of circulation activities. The following activities could be done on Internet: advertisement, communication of commodity information, search for commodities, and negotiation of commercial trade, contract, and order of products, currency payment, and collecting feedback of consumers. The replacement of such activities by e-commerce processes reduces the business activities of circulation enterprises.

4.2.5 South Africa

(1) The quality of logistics services needs to be improved

South Africa's logistics system in e-commerce has not yet fully matured as most orders are completed by manual sorting and delivery. With the development of e-commerce, the number of orders has increased and errors in the manual sorting and logistics management process have also increased. Faced with increasing demand of logistics services, South Africa has no corresponding automated electronic logistics system. This greatly restricts the development of e-commerce activities.

In addition, South Africa's postal code system is far from perfect. Many areas share the same postal code, but the city postal status and fees are different in different regions. Any problems in the address and zip code will greatly affect the delivery and the shopping experience.

For the cross-border e-commerce transactions there are high cost of logistics and transportation problems. Due to the devaluation of the rand, it is expensive to transport goods from South Africa to the rest of the world. Many SMEs choose cheap transport services, but cheap means that cross-border goods cannot be registered and tracked, which cause heavy losses to the government's customs duties, limiting the development of cross-border electronic transactions.

(2) Internet buyers lack of confidence in e-commerce

Although the site provides a preview of each product, many buyers still don't trust online shopping, doubting the authenticity of the product. Improper logistics infrastructure leads to theft and damage of goods in the process of delivery. Therefore, some customers browse the goods on the website, but do not buy until they go to the store to see the product in person. This lack of confidence has seriously affected the development of e-commerce in South Africa.

On the other hand, many businesses do not understand the specific process of setting up online shops, and lack sufficient information resulting in slow growth in the number of e-commerce enterprises. In this regard, South Africa also lacks relevant education, training and counseling courses.

(3) Backward methods of payment

In South Africa, PayPal accounts operate through the withdrawal of money through one local bank FNB. If the PayPal client does not have an account with FNB, an additional fee is charged. Besides the fee, a full process to verify buyer identification and banking details is done, which can be time consuming. The backward methods of payment hinder the development of e-commerce in South Africa.

Additionally, typical hindrances facing the development of SMEs e-commerce include lack of capital loans，low levels of research and development, onerous labour laws, inadequate educated workforce, low level of labour education, inefficient functioning of concerned government agencies, and lack of access to markets.

5. The Laws, Regulations and Systems of e-commerce in BRICS Countries

The e-commerce regulation and supervision of government are the common problems facing BRICS countries in both the cross-border and domestic business. It is time for cross-border e-commerce to innovate through establishment of new models, policy and rules.

As a new type of international trade, cross-border e-commerce plays a significant role in promoting economic integration of BRICS countries. However, the unequal development of e-commerce among BRICS countries and their differing interests make e-commerce rules difficult to unify at the international level. Therefore, as an important part of the BRICS framework for trade and investment cooperation, BRICS countries could launch initiatives to form the cross-border e-commerce trade rules by governance cooperation. Governments could coordinate to formulate new rules for cross-border e-commerce. The customs, trade, transportation and logistics of e-commerce should be included synthetically in the reform of government regulation. At the same time, the public sector, private sector, community, experts, international organizations should jointly participate in creating transparent and fair trade rules in the era of digital economies.

Historically, there has been a lack of large-scale coordination of e-commerce businesses and relevant departments involved in BRICS countries. There is a need to explore new ideas for supervision of cross-border e-commerce trade. Cross-border e-commerce transaction involves different countries and regions, while involves different consumer habits, tax and other policies. Cross-border collaborative supervision is the first problem that needs to be solved in cross-border e-commerce. The first step to deal with the problem is to combine, summarize and compare the current policies and regulations of BRICS countries.

5.1 The Status of Laws, Regulations, Standards, and Systems in BRICS Countries.

5.1.1 The laws and regulatory rules of e-commerce

This section introduces the laws and regulatory rules of e-commerce in BRICS countries. China has implemented laws to regulate e-commerce which includes the laws of e-commerce transactions, laws of e-commerce trading environment as well as the laws pertaining to the logistics regulation. The e-commerce legislation in Russia began in 1995 with the implementation of the *Russia Information and Protection Law*.

As one of the world's first information laws, though it had some shortcomings, it could be a good guide to Russia's information legislation in the past two decades. India launched its e-commerce law in 1998 named the *E-commerce Support Law.* The development of e-commerce in Brazil follows the *Decree No. 7962* which is the earliest e-commerce bill released in 2013. South Africa's e-commerce laws include *the South African Telecommunications Act and Trading Act,* and the latest *Electronic Communications Act.*

China		
Laws of e-commerce transactions body	*Administrative Measures on Network Transactions* issued by the State Administration for Industry and Commerce on January 26, 2014	Adhere to the real name system principle of personal online shop. The person who requires the online transaction should submit the true identity information such as his name, address, valid identity certificate and effective contact to the third party trading platform. It is also required to register according to the law of the department of industrial and commercial. The operator should follow in the course of online transaction, such as offer the business address, contact information, merchandise or service, price or expense, fulfillment period and manner, payment form, return method, safety precautions and risk warning, after-sales service, civil liability and other information to the customers. The invoice and other purchase documents or service documents should be issued to customers. In the after-sales service, the consumer has the right to return the goods within 7days from receipt without reasons. The commodity operator shall return the payment to the consumer within 7 days from the date of receiving the good. However, custom-made goods, fresh and alive goods can't be returned. The payment of shipping should be paid by consumers.
Laws of	*Payment Agency Business*	Improve the level of comprehensive protection of

e-commerce payment environment	Risk Prevention Guidelines	payment agencies such as clearing the registration review, service agreement, identity authentication, account and transaction monitoring, account information security, education services.
	Payment agency cross - border e - commerce foreign exchange payment business pilot guidance	Standardize small cross-border e-commerce network payment services, including foreign exchange funds collection, payment and settlement services
	Measures for the Administration of RMB Settlement of Cross - border Trade	The Chinese government has made a positive attitude towards cross-border payments with the necessary norms. They pay attention to the hidden problems of customer funds, information security, criminal and financial risks such as money laundering. In order to support the development of cross-border e-commerce, China set some pilot cities to further practice cross-border payment supervision
	Electronic payment guidelines	Define responsibility for loss
	Non - financial institutions to pay service management approach	Only the institution that obtains the license of payment business could engage in network payments, payment prepaid card, bank card and other business in accordance with the law
Laws of e-commerce Logistics	On accelerating the development of e-commerce in the field of views issued by MOFCOM	Cross-border e-commerce logistics should be market-oriented, enterprise-guide, information-driven and speed up the promotion of e-commerce in the field of circulation links and logistics.
	The supervision and control of goods on the import and export in cross-border e-commerce trade issued by the General Administration of Customs of China	Put forward many supervision requirements to the enterprises or individuals engaged in cross-border e-commerce and to the goods in import and export,

Russia		
Russia Information and Protection Law in 1995		It was be used in the situation as follow: using the information resources on the basis of the establishment, collection, processing, storage, preservation, search and dissemination; using the information technology and its safeguards; protecting the rights of information of the main body
The Law of International Information Exchange in 1996		To determine how to protect the interests of states, legal persons and natural persons in information exchange
The Law of Russian Federal Electronic Commerce Actin2001		It was a rule to regulate the obligation the main business of e-commerce, legal responsibility, the establishment of electronic contract procedures, e-commerce activities in the electronic document certificate, e-commerce information management.
The Law of Electronic Digital Signature Method in 2001		To stipulate that electronic signature should be used on national documents, legal persons and natural persons and clear the effectiveness of electronic signatures
Planning of E - commerce Development Goals in Russian Federation from 2001 to 2006		To take a series of measures to encourage the development of e-commerce including developing e-commerce pilot, developing e-commerce system model, establishing an e-commerce network in various parts of Russian Federation, encourage national procurement by e-commerce, amend the information protection law as well as establishing national e-commerce

	consulting center.
Russian State Payment System Act in 2011	It makes clear the business of electronic money management. The central bank of Russia is responsible for the regulation to electronic money operators, third-party payment operators and electronic payment infrastructure providers like business centers, clearing centers. It also provides for the validity, confirmation, retention and management of electronic signatures
India	
E-commerce Support Law in 1998	It amends *the Indian Penal Code of (1860), the Indian Evidence Act(1872), the Contract Law (1872), the Indian Telegraph Act (1885), the Law on Bank Account Evidence (1891), the General Provisions Act (1897), the Indian Deposit Bank Act (1934)* for promoting e-commerce development. The main work is to settle the contradictions between e-commerce and traditional law.
E-commerce Tax Policy in 1998	Payments made by Indian companies to US companies in the outside are treated as royalties from India and levied withholding tax, which marks India becoming one of the first countries to tax e-commerce
Brazil	
Brazil's central bank, the Ministry of Justice Economic Law Bureau, the Ministry of Finance Economic Supervision Bureau jointly launched five measures to implement the reform in the field	Cancel the exclusive use of the POS terminal network; Clear the openness of the service purchase contract in the signing process, the consistency of the allocation. Strengthen the national payment system construction and the transparency in cross-line fee settlement

of credit card industry in 2009	
Decree No. 7962 in 2013	
Broadband Internet Development Plan and Global IT Program in 2013	Mainly used to promote software products especially for e-commerce platform and software product development, to promote the Brazilian online shopping platform processes and make operations more unified.
South Africa	
South African Telecommunications Act in 1996	It encouraged investment and innovation in the field of telecommunications，promoted the development of telecommunications in South Africa particularly in terms of investment in telecommunications infrastructure.
*Trading Act*in 2002	It is the first regulations to provide legal framework for electronic transactions, cybercrime definition and protection of privacy.
*Electronic Communications Act*in 2006	To monitor the technological development in ICT industry

5.1.2　E-commerce trade and investment policy

As the path to transform and upgrade country's foreign trade, cross-border e-commerce needs to be vigorously promoted by BRICS governments. These governments are devoted to create a good e-commerce trade investment and development environment by launching policies to promote e-commerce development. The traditional trade policies in the fields of taxation, customs, commodity inspection, foreign exchange and others are being refined to support e-commerce coupled with governmental support and guidance.

China attaches great importance to the development of foreign trade, and this is reflected in policy documents. Cross-border e-commerce is included in the relevant documents issued from the Chinese State Council since 2013, which means that cross-border e-commerce is an established norm. Russia developed a series of industrial policies and fiscal policies to promote their own cross-border e-commerce

development. India is the world's first country to implement tax in the field of e-commerce. In term of trade policy, Indian customs implements a strict supervision to e-commerce products. In term of investment policy, Indian gradually opened up the policy environment to support foreign e-commerce. Brazil controls the foreign e-commerce business entering by trade protection policy, high tariffs and postage tax as well as payment system. South Africa launched the report on *National Comprehensive ICT Policy*, which is the country's first e-commerce industry development support policy.

China		
Policy of Central government	*The Views on Accelerating the Development of e-commerce to Promote New Economy* (State Council [2015] No .24)	There is gold that the development of e-commerce should be based on reforming and take the initiative to adapt the new normal. The main task is to solve the deep-seated contradictions and major issues in the development of e-commerce.
		There are three principles. One is actively promoting. To coordinate and solve all kinds of contradictions in the development of e-commerce; to increase services in government resources, network security, investment and financing support, infrastructure and credit system construction. Second one is gradually standardized. Only the law authorized government departments could take part in the business. To minimize the administrative intervention in the field of e-commerce. The last one is to strengthen the guide. Strengthen the research of subjects about forward-looking, emergence as well as tendency issues. Pay more attention to the guiding of business model innovation, key technology, and international market development and so on.
		There are seven initiatives. There are creating a free development environment, promoting employment and entrepreneurship, promoting the transformation and upgrading, improving the logistics infrastructure, enhancing the level of opening up, building a security line, improving the support system
	Guiding Opinions on Promoting the Healthy and Rapid Development of	It linked the four departments about customs, inspection and quarantine, finance and taxation, foreign trade on the import and export and required those issuing corresponding policies in the field

	Cross-border E-commerce (State Council [2015] No. 46)	of cross-border e-commerce.
		It encouraged three kinds platform to develop, which are public platform, foreign trade comprehensive service platform and self-built platform.
		It encouraged to establish the cross-border e-commerce integrated test area and cross-strait e-commerce economic cooperation experimental zone
Policy of Regulatory Department	*Opinions on the Implementation Policy Advice On Supporting Retail Exports of Cross - Border E–commerce* (MOFCOM,[2013])	It does work for the classification of e-commerce export business, the establishment of e-commerce exports to adapt the new customs supervision and statistics, the establishment of supervision mode to encourage banks and payment agencies, the implementation of appropriate tax policies, and the establishment of e-commerce export credit system.
	Opinions on the Further Development of Inspection and Quarantine Functions to Promote the Development of Cross-border e-commerce (General (Administration of Quality Supervision, Inspection and Quarantine of China,2015)	Speeding up the establishment of the inspection and quarantine work system and mechanism;
		Establishing a cross - border e - commerce inventory management system
		Building cross - border e - commerce risk monitoring and quality traceability system;
		Innovating the inspection and quarantine supervision mode for cross-border e-commerce. Implementing the full management of the cross-border-commerce products. For the goods out of the country, focus on centralized handling procedures. For the goods enter the country, focus on centralized reporting, verification release.
		Implementing the record management of cross-border e-commerce and strengthen the information construction for e-commerce.
	Guiding Opinions on Strengthening the Supervision of Import	It aims to further enhance the quality and safety level of China's cross-border e-commerce goods to protect the health and safety of consumers and to promote the healthy development of cross-border

	and Export of Consumer Goods in Cross - border E – commerce (General Administration of Quality Supervision, 2015)	e-commerce (especially for the goods of textile and electronic products)
	Opinions on Supporting the Development of China (Hangzhou) Cross - Border E - commerce Comprehensive Pilot Area. (Administration of Quality Supervision, Inspection and Quarantine of China, 2015)	It encourages exploring the comprehensive examination area, further decentralization, promoting the credit system construction, implementing more convenient customs integration, establishing import and export cross-border e-commerce supervision mode, establishing import and export cross-border e-commerce negative list, supporting electricity business norms certification and "single window" construction.
	The Food Safety Supervision Management Rules of Online Shopping Bonded model for Cross-border E-commerce (Draft)	It gave the definition of online shopping bonded imports and created the electronic tags introduction to meet the new law on the Chinese label
	Code of Practice for the Management of Commodity and Commodity in Cross - border E - commerce	To further clarify the significance of cross-border e-commerce to implement a negative list of goods with the development of inspection and quarantine system. To establish cross-border e-commerce risk monitoring and quality traceability system. To carry out cross-border e-commerce record management for strengthening information construction
Russia		
Russian Federation E-commerce Development Plan (2001-2006), 2001	The Russian government has adopted a series of measures to promote the development of e-commerce, including e-commerce pilot, the development of exemplary e-commerce system, research government procurement, the establishment of local e-commerce consulting center.	

Electronic Russia Federal Special Program (2002 - 2010) ,2002		Ministry of Communications in Russian and Mass Media are the lead units for the program and the main tasks are adapting the trend of the world information technology, promoting domestic e-commerce, and e-government development with international standards as soon as possible.
Government Procurement Law, 2006		Allowing e-commerce platform for government procurement and promoting the rapid development of B2G market
Russia and Kazakhstan Customs Union, 2012		It required that government procurement should use a unified e-commerce platform, which could wake up the vitality for B2G market development.
Rules of General Administration of Customs of the Russian Federation, 2016		It advised that the government need reduce duty-free imports from € 1,000 per month to € 22, but which has not yet been approved by the Russian Ministry of Economic Development
New Russian tax regulations, 2017		It rules that foreign IT companies who provided services to Russian through the internet are required to submit sales information in Russia and pay 18% VAT. This rule does increase the difficulty of overseas enterprises operating in the Russian market
India		
Tax policy	Taxes on e-commerce began in 1999	Turnover tax-based is the main type in India. As a net importer of e-commerce, e-commerce development will result in a large loss of their turnover tax and making further expand its economy gap with developed countries.
Trade policy	Customs implement strict supervision to cross-border e-commerce products.	The shipper must declare the goods according to the following information：1) Information on personal, office or commercial correspondence is no commercial value, which could be declared as a document；2) Gifts, products or other commodities containing certain value shall be declared on the commercial invoice and be declared as a non-document package. There are highly punishment if declared worry
Investment policy	Unloose the environment to the foreign	In 2014, foreign companies with manufacturing bases are allowed to set up an online sales platform to provide online purchases directly to Indian consumers.
		In 2016, the Indian Agency for Industrial Policy and Promotion allowed foreign

	e-commerce in the local a step by step	investors to hold 100% of the Indian public e-commerce platform, but still limit foreign investment in self-operated electricity companies.
		Foreign direct investment currently cannot to the field of B2C
Brazil		
Trade policy		In order to protect their local industrial development, the government takes protection tax policy to the foreign company. The government will also develop various types of economic protection policies to set up high taxes and restrictions on i cheap goods.
Customs policy		Brazil is one of the most stringent countries in the international customs inspection. the inspection rate for the package are up to 100%
Market policy		It also restricts Brazilian consumers to use credit cards and debit cards in the country, which could restrict overseas businessmen to enter by payment system.
South Africa		
Report on National Integrated ICT Policy was firstly published in 2014		It is the first national e-commerce development support policy. As one of the most basic policy objectives, It promotes investment in the ICT industry. The government is committed to building an appropriate policy environment including formulating appropriate investment policies and regulations, fostering the establishment of research and development, as well as promoting innovation.

5.1.3 Data and security regulations for e-commerce

With the use of internet, e-commerce security has being increasingly important. An important feature of e-commerce is the use of information technology to transfer and process business information. Therefore, how to protect the e-commerce information confidentiality, integrity, authenticity, and enforceability is the basic prerequisite for legitimate rights and interests of all parties. For the BRICS countries, strengthening the network information protection and speeding up the development of network security are needed to form laws and regulations. However, it is still facing serious challenges in BRICS countries.

China

Maintain data security	*Network Transaction Management Approach*	The third party platform should review the goods published on its platform and save the information. Save the identity information of the platform operator or individual for at least two years. Transaction records and other information backup should save completed at least two years. Platform need take electronic signatures, data backup and other technical means to ensure the network transaction data integrity and security.
Protect information security	*Network Transaction Management Approach*	The network management shall follow the principles of lawful, fitness and necessary to collect the information of consumers and operators. They need to express the purpose and manner of collection and get the consent of the owner.; The personal information and trading secrets collected must be kept strictly confidential；The operator shall take the necessary measures to ensure the safety of information and shall be promptly remedy in the event of disclosure and loss；if the network operator wants to send commercial advertising information to the consumer should be agreed with the consumers firstly.
	E-commerce law (draft)	The certification service provider shall keep the relevant information for a period of at least five years after the expiry of the certificate. The electronic signer should inform the parties concerned when the electronic signature is lost. If not promptly informed the other party or did not stop using, the signer should bear the compensation. It should be punished when using fake, theft electronic signature.
	The Decision on Maintenance Internet Security	There are criminal acts like using the internet to promote or sell fake products, damaging other people's business reputation and intellectual property rights, tampering with others e-mail or data, exposing personal privacy.
Russia	N/A	
India	N/A	
Brazil	N/A	

South Africa	N/A	

5.1.4 Protection of consumer rights, interests in e-commerce and protection of intellectual property rights

E-commerce, as a new consumption model, provides consumers with a more convenient way of consumption. However, false, fraud sales, poor after-sales service and other consumer infringement appear quite often especially under the situation of inadequate legal protection in BRICS. Due to the characteristics of e-commerce, the consumer infringement is of peculiar nature as consumers cannot easily foresee that their rights have been infringed. In addition, illegal information disseminates freely and widely through the network making it difficult to eliminate this problem. It is difficult to obtain evidence of illegal acts due to the fact that online shopping spans across countries and time zones, which increase the difficulty in protecting the rights of consumers. How to protect the legitimate rights and interests of consumers in e-commerce has become a vital problem in the wake of rapid development of e-commerce.

China has laws such as the *Network Transaction Management Approach*, *Trademark Law*, *Enterprise Registration Management Regulations*, *Anti-Unfair Competition Law*, and *Tort Liability Law.* Russia launched *The Responsibility Bill of Network Platform Sales Staff* in 2017. India issued a business guidebook of operators of e-commerce in 2017. Brazil implemented the *Consumer Protection Code (Código de Defesa do Consumidor, CDC)* in 1991, which applies to physical stores and e-commerce providers, for protecting the consumers. *South Africa's Electronic Communications and Trading Act (ECTA)* have cited special sections on consumer protection.

China	
Network Transaction Management Approach	Network operators, service providers should abide by the *Trademark Law*, *Enterprise Registration Management Regulations* and cannot infringe on other trademarks, business names.
Anti-Unfair Competition Law	Do not use the network to do the following：Unauthorized use of a well-known site-specific domain name, name, or website; Without authorization to use forged government departments and social groups of electronic identification for false propaganda
Tort Liability Law	Third party platform should take the necessary means to protect the registered trademark for online transactions. It is necessary to report the infringement of the

	platform operators to relevant departments and seek for relevant legal.
"Thirteen Five" National Strategic Emerging Industry Development Plan	It is need to promote *patent law* and *copyright law*. Tracking new technology, new format, new model and innovation. Strengthening the internet, e-commerce, large data and other areas of intellectual property protection. Improving the business model of intellectual property protection, trade secret protection and other relevant laws and regulations. Improving the rapid mechanism of intellectual property rights protection and establishing some new rights centers. Intentional infringement should be considered into the social credit records. Establishing punishment mechanism for intellectual property and according to the law to crack down on infringement of intellectual property rights. Increasing customs protection of intellectual property rights and boosts the limit of infringement statutory cash indemnity.
Russia	
The Responsibility Bill of Network Platform Sales Staff in 2017	
India	
Business Guidebook of Operators of E-commerce in 2017by FSSAI	There are seven specific requirements：the registration and licensing of electrician food enterprises, supply chain compliance, product details and information, operator responsibility, consumer complaint handling and recall liability.
Brazil	
Consumer Protection Code（Código de Defesa do Consumidor，CDC）in 1991	Establishing of consumer e-commerce protection mechanism to regulate the electronic sales. Determining the network operators standard and requiring enterprises to display their company name, address and taxpayer identification number
*Code of E - commerce Transactions*in2010	To ensure the transparency of e-commerce, to ensure the same level of protection with traditional transactions including prohibit misleading or unclear advertising and ensuring consumers could get the terms of the contract before trading

Decree 7962 in 2013	Consumers in e-commerce could get the clear information of products, services and suppliers they are buying and access to the availability of after-sales service. The main purpose of the decree is to provide consumers with a channel of information and respect consumers to purchase goods.
New Regulations in Consumer Protection Code in 2016	It requires the business company illustrating the company's ownership, location, and prohibiting the shop to send promotional mail to consumers who do not choose this service.
South Africa	
ECTA Bill	It emphasizes that the e-commerce service provider is obliged to provide the information as following: the full name and legal status of the merchant, the physical address and the telephone number, the safety procedures, t the code of the business and the full payment price of the goods or services, fees, taxes and any other fees or charges.
	It allows consumers to check the details of the goods correct the error or even close the transaction. If the provider does not comply with this obligation, the consumer could cancel the transaction within 14 days of receipt the goods. Under the terms, consumers are also entitled to the "cooling-off period" and could return the goods within seven days of the date of receipt the goods.

5.2 The Evaluation and Comparison of the Policy Standards of E-commerce in BRICS

5.2.1 Completeness evaluation: the integrity and systematic nature of legal norms

This section evaluates the integrity of e-commerce laws, regulations and systems in BRICS. The main evaluation criteria for completeness includes: whether there are the laws and regulations in all aspects of e-commerce transactions, whether there are gaps, whether laws are adapted to the highly diversified and complicated features of e-commerce transactions, whether enterprises are monitored sufficiently, whether laws strictly control the establishment, operations and exit of e-commerce enterprises, whether the corresponding legal norms give full play to the regulatory role, in order to promote the healthy development of e-commerce.

		Status Evaluation	Comparison
China		1. China has no shortage of legislation in the field of e-commerce. Since 2004, China has gradually formulated the *Electronic Signature Law, Electronic Certification Service Password Management Measure, Payment and Clearing Organization Management Measures, Electronic Payment Guidelines, Guidance on Online Transactions, e-commerce Model Specification , Online Shopping Service Standards , Online Commodity Trading and Service Behavior Management Interim Measures, Non-financial Institutions to Pay Service Management Approach , Third-Party e-commerce Trading Platform Service Standard*s. They Involve in all aspects of the electrical industry chain. 2. However, the above-mentioned legal norms are scattered, specific and one-sided. It is hard to deal with the rapid, expanded new e-commerce development. 3. Unified norms of *e-commerce law* have not yet introduced. In December 2013, the NPC Financial and Economic Committee held a drafting group of e-commerce law and the first plenary meeting, marking the formal launch of China's e-commerce law legislation, which identified the initial timetable for e-commerce legislation. From December 2014, the special research has been carried out and completed the outline of legislation. From January 2015 to June 2016, the law will be drafted and completed. After three years of intensive research and drafting, the NPC Financial and Economic Commission Legislative Working Group carried out the draft e-commerce law in November 2016. It was reviewed on December 25, 2016 in the twelfth National People's Congress Standing Committee 25th. After that the draft is publishing to the society for improving comments.	3.5
Russia		1. The e-commerce legislations in Russia started earlier. Since 1999, Russia has carried out legal regulation in the areas of Internet development, e-commerce, electronic documents, telematics as well as electronic public information. There are rules that The *Federal Law on the Development and Use of the Internet of the Russian, Electronic Commerce Act, Electronic Digital Signature Act, Electronic Contract Law, Electronic Document Act, Safeguards Act on Management, Federal e-commerce Organization and Legal Standards, Provision of Electronic Financial Services Law , Global Internet to Achieve Banking System of IT, Russian Federation Domain Name Distribution and Regulations , Russian Federation on the Network of Public Information media Rules.* 2. *Russia updates e-commerce*-related laws more timely. In recent years, Russia has amended the relevant laws to meet the needs of information technology development especially for the traditional law such as communication, public information means, labor relations, intellectual property and other fields. It also amended the conflict between the Civil Code and *Information and Information Protection Act.*	4

	Status Evaluation	Comparison
India	1. e-commerce policies in India are not clear enough which easily lead to business confusion. Large e-commerce company Amazon announced in India in 2014, which has been impacted negative. If the government does not make any adjustments, the Amazon may adjust its investment decisions in the Indian market. 2. There are lacks of e-commerce's laws and regulations. The different interests of the parties in India make good policies and laws difficult to carry out and the process is very complicated.	2
Brazil	1. Systemic e-commerce-related legislation is progressing slowly. At present, Brazil's e-commerce regulations are almost dependent on two laws that are *the 1991 CDC (Consumers Production Code)* and *2013 Decree No. 7962*. The Commission of Jurists have submitted more than 500 new e-commerce proposals but the process is slow and difficult[26]; 2. Brazil needs the laws on electronic documents, digital signatures, certification authorities, tax procedures to further strengthen the legal interpretation of e-commerce. There is also a need to amend the existing civil code.	2.5
South Africa	1.Legislation is in one-sided and the existing Electronic Communications and Transactions Act 2002 (ECTA) focuses on the protection of privacy in cybercrime, which is too early to cope with the new trends of e-commerce development 2.It urgently to form legal supplement in the areas of copyright, intellectual property protection, database security, privacy protection, trademarks, anti-unfair competition, information encryption, new forms of cybercrime.	2

5.2.2 Convenience evaluation: support for trade and investment policy

This section evaluates BRICS e-commerce especially in the fields of the cross-border e-commerce, investment, trade, customs, taxation and other policies. The main evaluation criteria include: whether they reduce the domestic and transnational e-commerce tax burden; whether they relax the restrictions on foreign investment access; whether they reduce the complexity in the links of customs clearance, logistics, warehousing, payment and other aspects.

	Status Evaluation	Comparison

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[26] For example, in 2015, the Brazilian Ministry of Justice announced that society could discuss the "Internet Civil Law" and make their own views through networking sites. The Ministry of Justice summarized it and report to the Presidential Palace. The original time for openly discussing was a month. But there are little feedbacks for another extended month. It also the laws that only the draft legislation of the House of Representatives get more than one fifth supporting and the Senate's draft legislation get more than one third, could It be submitted to Parliament for discussion.

China	1. Currently, there are basic norms of support policies in the areas of the customs supervision, inspection and quarantine, tax and settlement payments. 2. The current policies and regulations are issued from departmental notices, which are contradictory or conflict due to the difference of ministries and commissions. 3.There are still some difficult to fully fit the characteristics of cross-border e-commerce. There has not yet formed a unified electricity regulation combined with the trends of cross-border e-commerce to promote the healthy and sustainable development of cross-border e-commerce.	4
Russia	1. At the national level, Russia has been vigorously promoting the development of e-commerce. The government has been committed to economic reform, proposed to accelerate the Russian economic growth and develop innovative economy, which Includes the further promotion of market liberalization, the development of Internet economy, logistics and cross-border trade. In June 2015, many international network giants gathered in St. Petersburg Economic Forum to explore how to promote Russian e-commerce market, including the logistics, payment, as well as complete e-commerce chain. 2. Russia has enacted a series of development policies to promote cross-border e-commerce; 3. An important factor restricting e-commerce development is the lag policy in trade and customs specifically in as following: − Russian enterprises in the process of export must firstly provide a contract with the importer. Overseas warehouses still need to follow the traditional way of trade, which increases the costs and risk. − The Russian Customs has restrictions on the amount of cross-border consumption to domestic consumers. Russian buyers can only accumulate a monthly value of less than 1,000 euros per month, and the weight of less than 31kg. if the package exceeds the amount or weight limit, the buyer needs to bear the resulting tariff − Russia's logistics clearance efficiency is slow. Russia has a vast territory, a long distance between the regions, small and medium-sized cities. The transport infrastructure is still backward in the remote areas. In addition, the Russian customs clearance is slow. − Trade policy is not conducive to cross-border e-commerce cooperation. In the face of the rapid development of foreign enterprises in Russia, the relevant departments repeatedly demanded restrictions on foreign enterprises like reducing the threshold of cross-border e-commerce package taxpayers, requiring the storage information server must be located in Russia, imposing tariffs or consumption tax to foreign enterprises	3
India	1. In the term of fiscal policy, the government imposed a heavy tax burden on e-commerce； 2. In terms of trade policy, the Indian customs rigorously regulates cross-border e-commerce products; 3. In the term of Investment policy, the restrictions on foreign business gradually release, but there are still restrictions on foreign investment in the field of self-operated and B2C business	2

	4、India has a controls on foreign direct investment (FDI) in the online sector India allows 100% foreign direct investment (FDI) in business-to-business (B2B). Also 100% FDI in online retail of goods and services is allowed under the so-called "marketplace model" where marketplaces act as a facilitator between buyers and sellers by providing a technology platform. However, FDI is not allowed in inventory-based models, where the company owns the goods that are being sold through its platform.	
Brazil	1. Trade protection policies and high tariffs are the biggest obstacles to the development of Brazilian e-commerce. 2. Cross-border customs clearance, especially for long-term courier companies are also restricting the development of cross-border e-commerce.[27] 3. The main task for government is to reform the current tax system to adapting the development of e-commerce, which means strengthen the indirect taxation, reduces the change of tax evasion and focuses on tax administration. It is not reasonable to raise taxes by tariffs for protecting domestic industry.	2
South Africa	ICT investment environment is not yet fully open. It highly restricts the foreign investment as well as liberalization. Investment qualification and business license are necessary in South Africa. All of these restrictions were established in 1993 and have not yet been revised.	1.5

5.2.3 Security evaluation: transaction security and consumer protection

This section tries to evaluate the transaction security and consumer protection standards and rules of BRICS e-commerce. The main evaluation criteria for security include: whether there is a strict requirement and format for information disclosure; whether there are rules that protect personal privacy in the network environment; whether the rules effectively constrain fraud and crime on network platform; whether there is an established credit rating and credit record system.

	Status Evaluation	Comparison
China	1.Before the *Electronic Commerce Law,* China's e-commerce mainly relied on external laws and regulations such as *Administrative Measures on Network Transactions, Trademark Law, Regulations on Registration of Enterprise Names, Anti-Unfair Competition Law, Tort Liability Law , The contract law, foreign civil law applicable law* which protected the interests of consumers from fraud, protected the privacy of consumers as well as the intellectual property rights of goods 2、The *Electronic Commerce Law (Draft)*, which is under development, focuses more on the	3.5

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[27] Brazil levies an average 60% of the value of the goods arriving in Brazil through FedEx, United Parcel Service and DHL. But it does not apply tax if the transport arrives by conventional means.

	protection of e-commerce consumers. Many chapters relate encourage consumers to defend their rights, establish mechanism to goods or services for the consumer rights, clearing the responsibility and obligation for third-party platform.	
Russia	1. There is a problem in network security and credit. In the rapid development of cross-border e-commerce, the incidence of online fraud and credit crisis are also increasing. Planet Retail survey data shows that80% of the respondents will not choose online shopping due to credit and network security concerns. In Russia's cross-border e-commerce, lack of credit, cyber fraud, customs and commodity inspection risks, payment loopholes and intellectual property risks have become the major obstacle to online transactions. 2.False sites, fake and shoddy goods, phishing sites, network viruses and hackers, malicious evaluation and return policy always plagued the Russian cross-border e-commerce development. 3. Russia's credit card fraud is particularly prominent in recent years. Even though Russia had introduced a favorable policy to encourage using credit cards, the fraud rate is still rising. FICO data shows that the amount of credit card fraud in Russia raised from 12.8 million euros in 2006 to 90 million euros in 2012. A report from Timeric in 2013 also pointed out that the credit card fraud rate of 28.2% annual growth rate in Russia. 4. The pay systems of Russian Federal Savings Bank, financial institutions and airlines are suffered hacker attacks and phishing attacks frequently in the past years.	3
India	1. It cannot ensure the openness of the network based on existing industry standards. In India, the total spectrum to mobile communications is 288 MHz (far lower than China's 630 MHz), which makes low acceptance of enterprises, especially small and medium-sized enterprises to digital technology. There are large gap between government, enterprises and residents. 2.India has been promulgated a certain consumer protection laws, which only accesses to the field of food business.	2
Brazil	1. The security issues have not been effectively solved in network. The businesses, financial institutions and even governments are often not trusted by the public in Latin America including Brazil, which comes from long-term institutional corruption and immoral business environment. 2. The security of e-commerce transactions are considered to be one of the most important issues in the development of Brazilian e-commerce. In general, consumers in Latin American are reluctant to provide credit card numbers on the phone or network. Most credit card transactions only are face to face and need identity signature. For those who are willing to use credit card online the most of them also encountered security links and automatic payment system software risk. 3. Many of the Brazilian e-commerce companies employ monitor for transactions. If they only receive credit card number of the purchase, the company staff will manually enter the credit card terminal authorized. 4. Credit card fraud is still widespread. 43.6% of new users do not buy goods online due to worrying paying security. (Prince & Cooke, 2016)	2.5

South Africa	1. The ECTA Act emphasizes the protection for consumer. 2. There are still a lot of legal gaps in the fields of copyright, intellectual property protection, database security, privacy protection, trademark and domain name, anti-unfair competition, and information encryption protection.	2

5.3 The Establishment of Unified Standard for Cross-border e-commerce in BRICS

5.3.1 The significance of unifying the standard of cross-border e-commerce in BRICS countries

Cross-border e-commerce has been developing for 20 years at the global level. However, no unified international rules for e-commerce have been established due to varying interests and viewpoints of BRICS. Moreover, a single definition of cross-border e-commerce has not been agreed. Common cross-border e-commerce rules are available only in some documents of the WTO, individual regional trade agreements, as well as multilateral international agreements. In the absence of unified rules, cross-border e-commerce development is limited and countries engaged in e-commerce are unable to benefit.

The discussion on international rules of cross-border e-commerce began in 1990s. The first WTO Ministerial Conference in 1996 integrated e-commerce into *Ministerial Declaration on Trade in Information Technology Products* whose core task is tariff reductions for information technology products. The Second Ministerial Conference of the WTO was held in 1998 and adopted the *Global E-commerce Declaration*, wherein e-commerce was defined as a transaction through electronic means of production, distribution, marketing, sales and service. During 2001-2003, the WTO General Council held five seminars on e-commerce focusing on the classification of e-commerce, import tax collection, competition, jurisdiction and legal application. The WTO Trade and Services Commission discussed on a range of e-commerce issues including e-commerce transparency, domestic regulations and recognition, competition and privacy protection, market access, national treatment as well as tariffs. The WTO Goods Trade Committee discussed merchandise access to e-commerce, applicability of customs valuation terms, import licensing procedures, customs duties and other taxes, standards and original providers. The WTO Intellectual Property Committee discussed copyright protection, trademark protection and new technologies used in e-commerce. The WTO Trade and Development Committee discussed on the impact of e-commerce on developing countries and small and medium-sized enterprises. All the above-mentioned issues are at the discussion stage

and unified international rules are yet to be formed.

From a multilateral perspective, some BRICS countries are aware of the enormous potential of e-commerce and recognize the need to standardize the international rules of e-commerce as soon as possible. In many multilateral mechanisms, e-commerce has been an important issue and has been a hot spot in WTO and free trade area negotiations.

There are 65 terms relevant to e-commerce out of a total of 269 regional trade clauses reported to WTO in March 2016. Many countries including Brazil have submitted proposals to the WTO about e-commerce rules. In nearly two years, bilateral trade agreements signed in China included cross-border e-commerce provisions. Therefore, the international rules of cross-border e-commerce are in the initial stage of development. A stronger initiative for establishment of unified standards is required to promote cross-border e-commerce in the coming years.

5.3.2 Difficulties in establishing unified standard of cross-border e-commerce in BRICS countries

In recent years, the size of China's net purchase through cross-border e-commerce has become the world's third largest after the US and the European Union. Cross-border e-commerce also became a new engine to drive China's trade. China's government launched the Cross-Border E-commerce Comprehensive Pilot Zone and Cross-Border E-commerce Services Pilot Cities to promote cross-border e-commerce; in this regard, China can share its experience with other BRICS countries.

There are three main difficulties in establishing cross-border e-commerce unified rules and standards. The first is the unclear definition of cross-border e-commerce. Although cross-border e-commerce has been developing for more than 20 years, it is only in the last two years that a concerted effort was made by the agencies to develop a unified definition. This initiative is at the concept stage. The United Nations International Trade Working Group made a clear definition of e-commerce that transacts by electronic form and completes business activities by sharing of business information among suppliers, customers, governments and other participants. The US government also pointed out in the Global E-commerce Outline that e-commerce includes transactions through the Internet for business activities, including advertising, payment, and trading services. In the US, cross-border e-commerce mainly refers to digital trade. In China e-commerce includes trade of digital products as well as trade of physical goods including taxation, payment, logistics, trade facilitation and single window digital ports. Countries have not formed a unified definition of cross-border e-commerce, which makes it difficult to reach a consensus on international rules.

The second concern for cross-border trade is that the interests of different countries are not the same. The views and requirements of international rules are also different among countries. For example, the US submitted a proposal to WTO in July 2016 and expressed the demands of the US in 16 areas that include abolition of tariffs for digital products, non-discrimination principles, cross-border data flow, free Internet, forbidding localization of facilities, prohibition of forced technology transfer, protection of important source code, improvement of certification methods, product encryption, digital trade framework, standard setting, and conformity of customs and assessment procedures for digital trade. Like the US, BRICS have their own perspective of international e-commerce rules and requirements. Therefore, considering varying interests and viewpoints, conflicts are inevitable.

Lastly, the domestic legal regulations of the BRICS are not yet perfect. E-commerce is different from traditional business. It fundamentally subverts the traditional rules in time, space and price. China's cross-border e-commerce resulted in a fundamental change to traditional foreign trade rules, which needs a perfect legal system to protect the interests of consumers and other sellers. The current laws of economics and trade lack the relevant provisions of e-commerce, even in China. The current laws are not equipped to avoid disputes, fake and shoddy online products, unfair competition and many other issues. For instance, in the terms of customs transactions, cross-border e-commerce transactions are generally small. However, China has no relevant regulatory mechanism for handling small transactions. Additionally, online transactions lack proper text for contracts, shopping vouchers or service documents, which results in frequent disputes. In terms of protection, provisions are not clear and cannot cover the rules in developed countries. In addition, many new problems in the fields of customs clearance, commodity inspection, tax rebates, foreign exchange settlement, consumer rights, trade disputes, intellectual property and personal information protection of cross-border e-commerce are arising nowadays. Those problems need to be solved by developing innovative laws and regulations. Credit system, tax system, regulatory system, payment system and other systems of cross-border e-commerce need to be established and improved.

5.3.3 Policy suggestions for establishing standard rules of cross-border e-commerce in BRICS Countries

Cross-border e-commerce is a new business model and a strategic area for emerging industries. At present, China's e-commerce is not only significantly ahead of other BRICS countries, but is also a core strategic industry in the future. The main policy suggestion is to rely on the WTO negotiation platform to grasp accurately the position of the five big economies including Europe, the US, China, Russia and Brazil for

future development, breaking the traditional model through key reforms, and trying best to form reciprocal international rules in the field of cross-border e-commerce.

1. Clear the concept of international rules for cross-border e-commerce.

In 2000, the OECD proposed four objectives for the development of e-commerce rules: efficiency, clarity, fairness and flexibility. BRICS need to be coordinated, open, green as well as sharing, and regard Pratt & Whitney international trade compliance as their final goal. They could put forward basic principles such as technology neutrality, and transparency. It is unlikely to address all interests of all parties due to the different levels of development. However, BRICS should promote some common interests without prejudice to international interests and global economic security.

2. Establishment of multilateral negotiation mechanism for cross-border e-commerce rules

The principle of multilateral negotiation could extract TISA[28] from the perspective of "the largest common denominator". The US submitted an informal position statement to the WTO on digital trade. China signed e-commerce FTA that includes the following:

1) Comply with the basic principles of non-discrimination treatment in WTO;
2) Freedom of cross-border data exchange and a reasonable balance of restrictions;
3) Support SMEs and natural persons engaged in cross-border e-commerce;
4) Coordinate electronic certification and electronic signature regulations;
5) Ensure the protection of consumer rights in cross-border e-commerce;
6) Provide intellectual property protection in cross-border e-commerce activities;
7) Establish a convenient cross-border e-commerce dispute resolution mechanism;
8) Protect the privacy of cross-border e-commerce transactions;
9) Exempt customs duties in cross-border e-commerce;
10) Establish an international coordination mechanism for cross-border e-commerce.

The contents of multilateral negotiations in accordance with cross-border e-commerce transactions can be divided into three levels, online, offline, and O2O. Online business mainly includes data flow, digital, technology, contract, information sharing,

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[28] Trade in Services Agreement

notes, and standards. Offline business mainly includes customs clearance, quality inspection, transportation, overseas warehousing, and related services. O2O business includes registration, certification, supervision, customs, payment, settlement, settlement, finance, taxation, loan, guarantee, credit system, intellectual property, market access, network security, risk prevention and control, transaction dispute handling, and equity protection.

At present, WTO negotiations also maintain the classification of traditional services trade. But from the view of e-commerce, many modern services such as Internet access, logistics cannot belong to the traditional classification. China can propose to expand the classification of services classification to include some e-commerce related services.

The content of the multilateral negotiations may include as following:

1) The concept of cross-border e-commerce: It should be clarified that physical commodities, digital products and services are included in cross-border e-commerce companies. There needs to be a framework to solve cross-border e-commerce issues.

2) Legal framework for cross-border e-commerce: It includes GATS services trade, cross-border delivery, legal issues of foreign consumption, consumer rights and personal privacy, data storage and utilization, online dispute resolution, and return handling.

3) Building government regulatory framework for cross-border e-commerce: It includes the identification of customs department for the cross-border B2C commodity, items and cargo identification, mutual recognition of inspection and quarantine, establishment of a single window platform, and access to investment for cross-border e-commerce.

4) Cross-border e-commerce related standards framework: It includes cross-border e-commerce trade document standards, data transmission standards as well as security standards.

3. Eliminate tariffs and non-tariff barriers between BRICS countries

Cross-border e-commerce development should strive to achieve the whole electronic customs, international logistics, information exchange without barrier, credit system transparency, and to eliminate all kinds of investment tariffs, and policy barriers for expanding the scope of local currency settlement.

First, it is necessary to eliminate cross-border e-commerce policy barriers to enhance trade capacity. Each country has a different policy system of foreign exchange control, commodity definition, and commodity inspection. There are economic issues,

political problems and other variable factors among countries. Cross-border e-commerce, as a new online shopping model, sometimes circumvents the collection of tariff and intermediate taxes, causing an impact to traditional foreign trade. Therefore, some countries protect taxes and traditional trade by raising tax barriers and setting up delivery barriers. For example, Brazil imposed a 60% tariff on more than US$ 50 inbound mail in 2014. Brazilian customs check every package and ask to provide commercial invoices, recipient tax ID, the declaration of goods and other information. Sometimes, even the provision of information may also be considered fraud. In addition, some destination countries lack supporting IT systems and rely on human clearance. The efficiency is low and prolongs the distribution time. Postal service in some countries no longer provides international scanning services for small packages, which cannot therefore be tracked. In some countries customs sign the products on behalf of the customers and no longer send the products to the customers address. BRICS countries need to agree jointly on low tariffs, establishing convenient customs clearance system, payment system as well as logistics system.

Second, there is a need to remove data barriers. BRICS countries have difficulty in the field of data interoperability. Cross-border e-commerce has characteristics like small transactions, frequent transactions, and timeliness. China created customs regulatory measures and resolved the issues of domestic clearance. But China still cannot achieve interoperability with other BRICS countries in customs clearance and reporting. In some countries policy on the cross-border e-commerce changes frequently causing adverse impact to the enterprises. It is suggested that the government departments of the BRICS should coordinate to establish the World Customs Organization (WCO). It works for customs clearance and data interchange mechanism, reducing the cost of cross-border e-commerce enterprises, as well as easing the customs clearance process and exit clearance.

Third, developing a unified policy support mechanism could help SMEs construct foreign bonded warehouses[29]. In the short term, the most direct way to avoid technical barriers of cross-border e-commerce is the layout of foreign insurance warehouse. Enterprises could use the inspection site of the foreign warehouse as a direct delivery of the site or even further set up a local team and subsidiaries for investing and financing in the local companies. But it needs detailed policy support mechanisms and programmes. Therefore, the BRICS countries can establish cross-border e-commerce associations and unified cross-border e-commerce organizations to form a common rules and standards. Cross-border e-commerce enterprises can also organize a number of international associations to solve common problems during the process of

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[29] secured warehouse facility that is covered by customs rules

development. It is the best way to combine government agencies and the business organizations.

Fourth, promoting cross-border e-commerce and eliminating information barriers is required to incorporate e-commerce in traditional international trade, to achieve intelligent multi-language automatic switching, to achieve easy communication among buyers and sellers in different countries, and to achieve timely clearing, ordering, and payment. Elimination of information barriers can reduce the cost of communication. It can also increase information flow, and ensure timely and automatic settlement of different currencies. SMEs could enter the international market based on low threshold of foreign trade.

Fifth, the BRICS countries should jointly address the technical barriers of developed countries. The gaps among the developing countries and the developed countries in e-commerce domain include technology, the laws, regulations and standards, and availability of adequate information. At the same time, the governments in BRICS should be united and should establish effective monitoring mechanism to adopt the latest technology in developed countries. The governments should disseminate relevant information related to technical trade barriers, to e-commerce enterprises.

4. Improve the international cooperation and dispute resolution system

Cross-border e-commerce is a new channel and new model of international trade. But it also needs to follow the rules of international trade. Up to now, the US, the European Union, Singapore, South Korea, Australia and more than 30 countries and regions have developed e-commerce laws, standards as well as relevant safeguards regulation that are established by the United Nations Commission on International Trade Law. It is time to establish a regional information security protection mechanism and monetary settlement mechanism. The multilateral cross-border e-commerce cooperation among countries, sectors, companies should be strengthened by forming dispute resolution mechanism.

5. Enhance exchange and communication about inter-country and cross-border e-commerce rules

The status of China's cross-border e-commerce is gaining prominence at the international level. It has formed a standard system in the fields of electronic certification, online transactions, cross-border payment, cross-border logistics, customs clearance, commodity inspection and other aspects. This could be good reference for BRICS. In addition, China has a relatively complete cross-border e-commerce platform to provide integrated services for SMEs including traditional trade clearance, payment, settlement, logistics and transportation. There are large data

innovation and other value-added services including loans, credit systems, and guarantees and so on. In the future, BRICS could engage in Chinese business platform to strengthen consultation and gradually form the rules recognized by all the parties.

Finally, the government can take the initiative to lead electronic identity and other international mutual recognition, to establish a unified standardized cross-border retail e-commerce commodity customs management system and the "single window" digital port, to promote personal data protection, cross-border data flows, non-localized computing facilities, and so on.

6. Absorb the power from the market

The Electronic World Trade Platform appeared in the G20 conference in 2016. eWTP is a platform dominated by enterprises and includes government agencies, international organizations, think tanks, experts, scholars, various communities and other stakeholders, MSMEs, consumers and other public and private partnerships. The objective of eWTP is incubation of new cross-border e-commerce standards and rules, improvement of infrastructure, sharing of cross-border e-commerce pilot areas and other experiences. Its goals include promoting global cross-border e-commerce and digital economy development, for solving the development problems of SMEs in developing countries.

eWTP China's first digital hub (e-hub) was established in Malaysia on22th March, 2017. It will assume some exploration at four aspects. First is logistics exploration: it provides cross-border trade logistics, warehousing, customs clearance, trade, finance and a series of services for SMEs. Second is rules exploration: it explores the new rules of cross-border e-commerce trade and provides "one-stop" foreign comprehensive services to SMEs. Third is financial exploration: Antgoldservice Company will launch a series of services to provide payment and Pratt & Whitney financial will promote B2B trade. Fourth is ecological exploration: it benefits from Ali cloud and large data technology to support the country's nurturing local companies and e-commerce talent

In May 2017, the Malaysian Digital Economic Corporation (MDEC), the Hangzhou Municipal Government and Alibaba signed three-party cooperation agreement. Two eWTP global digital centers, the Malaysian Digital Free Trade Zone and Hangzhou cross-border e-commerce comprehensive pilot test zone, officially opened district interconnection. Hangzhou - Malaysia, the ancient world trade routes connecting China and World, will soon become the world's first digital road of eWTP. After the official interconnection between Hangzhou and Malaysia, the Malaysian government and Hangzhou will strengthen customs clearance, inspection, licensing and other

aspects of cooperation to explore trade facilitation and policy innovation under the support of Alibaba's Internet technology and big data. This initiative will make it convenient for the SMEs from China and Malaysia SMEs to participate in global trade.

7. Build BRICS information exchange platform for national standard and technical regulations

Relying on the "standard and technical regulations information exchange platform", the BRICS government and enterprises could cooperate in the fields of certification, standard measurement and other aspects of bilateral exchanges as follows:

First, it could provide a unified theoretical support for standardized laws and regulations for BRICS countries unified strategy, and institutional mechanisms for standardization activities.

Second, it could provide technical information services like national laws and regulations, standards, certification, inspection and testing, market access and others

It can also expand the service functions in the future including carrying out research and application of the national financial, and risk monitoring of the BRICS countries, determining the national quality and safety index among the BRICS, establishing third-party enterprise quality and safety, credit rating center by the exchange of information, implementing qualified traders plan, studying social contact links in the BRICS countries, cooperating for improving port facilities, customs procedures, technical regulations, product standards, and preferential rules of origin among BRICS. There are some ways to enhance cross-border service capabilities like researching standards, inspection and testing; establishing investment project databases; and introducing more oversea investment service agencies and platforms.
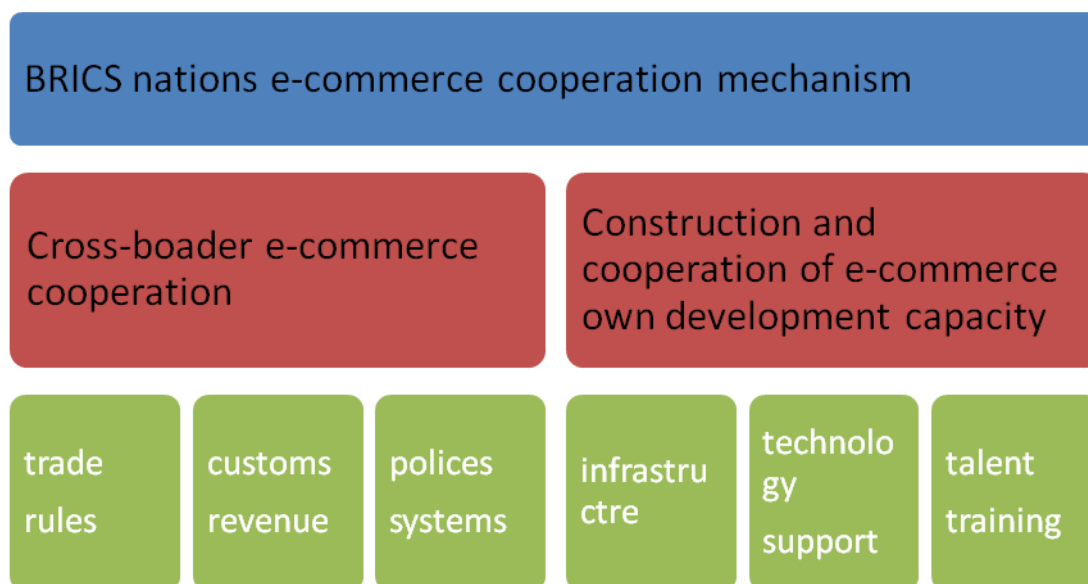
6. Further Strengthen the BRICS National E-commerce Cooperation

6.1 Strategic Framework to Strengthen the E-commerce Cooperation between BRICS

BRICS national e-commerce cooperation is the intrinsic and objective requirements of rapid development of BRICS national economy. There are two dimensions for BRICS' e-commerce cooperation. The first is to develop e-commerce cooperation in their own country and the second is to promote BRICS cross-border e-commerce (see Figure 6.1). It is not only important to promote cooperation within and between BRICS countries, but also to promote and help BRICS countries reach out to the world. The establishment of a common interest mechanism is the core and foundation of BRICS' e-commerce cooperation.

In recent years, the BRICS countries have formed a multi-faceted and multi-level cooperation mechanism, which is marked by meeting of and supplemented with high-level meetings of relevant departments. To strengthen BRICS economic partnership cooperation mechanism, and to fully prepare BRICS for e-commerce, the member states need to establish e-business cooperation mechanism as soon as possible and strengthen capacity-building cooperation, which includes infrastructure, technology, skills and professional training. It is also needed to facilitate the construction of e-commerce alliance, accelerate the establishment of e-commerce access mechanism for SMEs and promote economic growth and employment by undertaking pragmatic cooperation that directly benefits people.

Fig. 6.1 BRICS nations' e-commerce cooperation strategic framework

BRICS nations e-commerce cooperation mechanism

Cross-boader e-commerce cooperation

Construction and cooperation of e-commerce own development capacity

trade rules

customs revenue

polices systems

infrastructre

technology support

talent training

Sources: Shanghai Academy of Social Sciences.

6.2 Continue to Improve the Cooperation Mechanism to Promote BRICS E-commerce Development

With an open, united, inclusive, and cooperative spirit, BRICS are expected to promote pragmatic cooperation for e-commerce development and facilitate the e-commerce SME development. Upholding economic growth and employment growth as its purpose, it is also expected to increasingly deepen and refine BRIC e-commerce development cooperation mechanism.

BRIC countries take complementary advantages of resource endowment and industrial structure to broaden field cooperation, and form the multi-field, multi-level, and all-round cooperation pattern. Today, the BRICS countries have established more than 60 cooperation mechanisms including the formation of e-commerce cooperation framework. In order to promote the in-depth cooperation in key areas, the implementation and driving force of the BRICS governments are the key elements. We need to constantly improve BRICS e-commerce development mechanism to achieve the BRICS national goals.

6.2.1 Strengthen the consensus and vision of e-commerce cooperation

On the whole, after several years, the BRICS cooperation mechanism has gradually

developed from the earlier fragmented, random, short-term, and vague to a more systematic, regular, long-term, and stable and institutionalized mode. Fruitful progress has been achieved but the problems cannot be ignored. Especially for some cooperation topics, the interests and ideas of different countries are different, which affects cooperation and promotion to a certain degree. In order to truly promote the cooperation of e-commerce and make substantial economic progress for SMEs of BRICS countries, BRICS members need to strengthen the consensus of e-commerce cooperation - the development of e-commerce is not only the development of e-commerce enterprises themselves, but also directly related to the development of SMEs. The field of e-commerce as a key area of cooperation and key initiatives of the BRICS countries cooperation has a huge driving effect. Therefore, the BRICS countries should attach importance to the strategic positioning, as far as possible to eliminate differences and be committed to promoting a win-win, healthy and rapid development of e-commerce.

BRICS also need to promote the strategic planning conducive to e-commerce cooperation and development under the present cooperation framework. The strategic planning made by the government has a direct impact on the level of e-commerce development. As a key area of cooperation for BRICS countries, e-commerce should be taken into account and placed in an important position in national planning. In order to promote cooperation in depth, governments should adhere to inclusive and win-win cooperation.

6.2.2 Strengthen the implementation to promote e-commerce

One of the key factors in the effectiveness of a cooperative mechanism is effective implementation. BRICS countries need to overcome the problems and shortcomings of cooperation process as in the past, and seek to establish a framework of mutual recognition, equality and mutual benefit, clear powers, mutual restraint, stable and predictable rules system to balance the rights and responsibilities of different parties and to ensure effectiveness of the cooperation among BRICS.

First, all parties need to set up the rules and regulations about deepening cooperative strategic investment, including the investment and operation of personnel, capital, facilities, cooperative initiatives and system design.

Second, construct the clear short-term and long-term cooperation goals and benefit sharing rules, as well as the implementation of safeguards, evaluation, supervision, rewards and punishments, dispute arbitration mechanism, to avoid the influence of collaboration efficiency due to lack of strict evaluation to the declaration of cooperation.

Third, fully exert the role of strategic guidance and institutional guarantee of government of different countries to ensure that the BRICS countries e-commerce cooperation is in a steady and orderly manner.

Fourth, make full use of international organizations to coordinate the promotion of BRICS e-commerce cooperation. In recent years, the BRICS countries have coordinated their positions and spoken with a common voice with other important international organizations on a series of global governance and other major issues, such as the United Nations, the Group of Twenty (G20), the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank (WB). The United Nations Industrial Development Organization (UNIDO), the WTO, the World Bank and other international organizations, have been carrying out a series of activities and projects on the subject of e-commerce (see Table 6.1). In order to promote the e-commerce cooperation of BRICS countries, BRICS need to continue to give full support to the role of international organizations, strengthen cooperation between SMEs in BRICS countries through e-commerce development, and accelerate the attainment of 2030 sustainable development agenda goals.

Additionally, as pointed out by the Goa Declaration of the eighth meeting of the BRICS National Leaders, "the close cooperation between the BRICS countries in various fields, the Economic and Trade Liaison Group, the Business Council, the New Development Bank and the Interbank Cooperation Mechanism"[30] is also important to strengthen the BRICS economic and trade partnership.

Table 6.1 International organizations that have organized the BRICS National e-business cooperation since 2015

TIME	PLACE	THEME	ORGANIZER
April, 2015	Moscow	BRIC nations expert meeting	BRICS trade mins
October,2016	Shanghai	Seminar on "BRIC e-commerce Cooperation and SME Development")	United Nations Industrial Development Organization ）
September, 2016	Shanghai	"Promote China's Small and Medium Enterprises Development and Cooperation with other BRICS	United Nations Industrial Development Organization

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[30] The eighth meeting of the BRICS National Leaders Goa Declaration, Goa, India, October 16th, 2016, http://news.xinhuanet.com/2016-10/17/c_1119727552.htm

		nations (Russia, Brazil, India, South Africa) through the Development of Electronic Commerce "Project	(UNIDO)
October,2016	India	2nd BRICS Round Table on MSMEs	BRICS
March, 2017	Shanghai	BRIC Expert Group Meeting on e-commerce Cooperation for Small and Medium-sized Enterprises	The United Nations Industrial Development Organization (UNIDO), Shanghai Academy of Social Sciences (SASS)
April , 2017	Geneva	Towardsinclusivee-commerce	United Nations Conference on Trade and Development (UNCTAD)
May, 2017	Beijing	Experts dialogue on BRICS e-commerce cooperation	BRICS trade mins

Sources: Collected and edited by SASS

6.3 Strengthen the BRICS Capacity Building to Promote E-commerce Cooperation

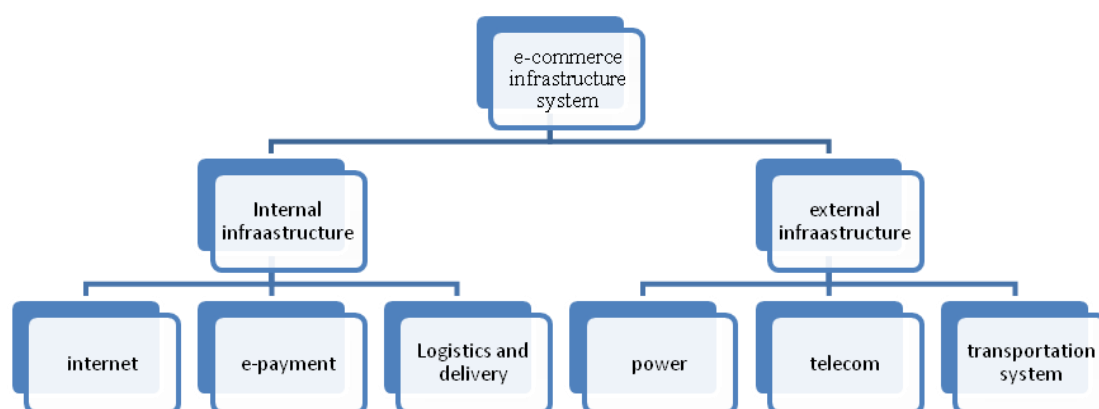### 6.3.1 Cooperation in infrastructure development

The level of e-commerce infrastructure is the foundation for the development of e-commerce. The e-commerce infrastructure system not only includes the intrinsic infrastructure of e-commerce itself, such as Internet, electronic payments, logistics and distribution infrastructure, but also the external infrastructure needed for e-commerce development, such as stable power supply, good communication facilities and services, and convenient and efficient transport network systems (see Figure 6.2). To strengthen the infrastructure capacity building for e-commerce development, the focus is on the following aspects:

The first focus area is to strengthen the capacity of ICT infrastructure. Although there are large differences among the BRICS countries in the development of e-commerce, the capacity building of ICT infrastructure is one of the most common problems that all member countries need to solve or improve (see Chapter 5 of this report). With the

rapid popularization and rapid development of the digital economy, the capacity building of ICT infrastructure is of particular importance[31]. In Brazil and South Africa, for example, the supply of ICT infrastructure is inadequate and needs to be strengthened. In India, SMEs contribute 37% of India's GDP. However, 68% of enterprises do not use the Internet and do not have their own web page[32]. So, improvement of the Internet infrastructure is urgently needed.

To promote market cooperation of BRICS communication networks, especially in the aspects of 3G, 4G and 5G communication networks and telecommunication broadband network development, and database development and big data platform sharing, BRICS countries can fully develop their comparative advantages and support enterprises to cooperate in cross-border, regional and sub-regional information and communications infrastructure development，actively explore new modes of cooperation in the construction and operation of cross-border sea and land cables and carry out in-depth cooperation to promote the cooperation and development of e-commerce.

Fig. 6.2 Components of e-commerce infrastructure system

Sources: SASS.

The second area of focus is strengthening the capacity of logistics and distribution infrastructure. The level of logistics infrastructure and distribution capacity is one of the most common problems facing the development of e-commerce in the world,

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[31] UNCTAD, *INFORMATION ECONOMY REPORT 2015.*

[32] Cheang Ming: *Google wants to get more Indian businesses online*Google (India and South-East Asia) ,http://www.cnbc.com/2017/01/09/google-wants-to-get-more-indian-businesses-online.html
Google and KPMG joint research, *Impact of internet and digitisation on SMBs in India*，9 Jan 2017.

which directly influences and determines the development level of e-commerce. Amazon and JD.com, the leading e-commerce companies in the world, owe their success to their good logistics network and distribution capacity. Alibaba has also stepped up its own logistics system in recent years—Cainiao. The rapid development of e-commerce in BRICS countries needs to focus on and strengthen the supply capacity of logistics and distribution infrastructure, and actively carry out cooperation between logistics enterprises, especially in developed and developing areas, such as the joint construction and sharing of logistics warehouse distribution centers to realize mutual benefit and win-win development.

The third focus area is to strengthen transport capacity. Logistics and distribution capacity depend on local transport infrastructure. Capacity building in transportation, improvement of transport infrastructure, and improvements in accessibility, convenience and timeliness are basic conditions for the rapid economic development of a country and region. BRICS countries need not only to increase their infrastructure and capacity, but also need to enhance cooperation in cross-border transport connectivity. For example, the discussion has begun on the establishment of the BRICS railway research network. That aims to promote railway research and development to promote cost-effective and sustainable economic growth[33].

6.3.2 Cooperation on technical support for e-commerce development

Research conducted by the World Economic Forum shows that the state cannot rely only on the development of information infrastructure to improve competitiveness; only when a country implements a comprehensive modernization infrastructure strategy for the protection of technology, innovation and enterprise development can the advantage of information communication technology be fully release[34]. Therefore, innovation and cooperation of technology related e-commerce development is very important. Under the framework of BRICS countries cooperation, scientific and technological innovation cooperation have been already carried out, and working mechanisms including BRICS ministerial meetings, senior officials' meetings and working group meetings have been established. In 2016, BRICS countries established a working group on the financing of scientific and technological innovation, and signed the "BRICS Science and Technological Innovation Framework Programme" and "Implementation Plan". The BRICS countries have carried out cooperation in ten scientific and technological innovation projects, such as the management of natural disasters, water and pollution control, geospatial technology and its applications, new

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[33] Gao Declaration at the eighth BRICS Summit, Gao, India, October 16, 2016,
http://news.xinhuanet.com/2016-10/17/c_1119727552.htm.
[34] World Economic Forum：GlobalInformationTechnologyReport2014,
http://reports.weforum.org/global-information-technology-report-2014/#.

energy, renewable energy and energy efficiency, astronomy, biological technology and biological medicine (including human health and neuroscience), information technology and high performance computing, marine and polar science and technology, material science, and optoelectronics (see Figure 6.2). On this basis, BRICS should increase and strengthen the cooperation in the field of technical support related e-commerce development, to enhance the technical support level and its service level in BRICS e-commerce.

Fig. 6.2 List of science and technological innovation project cooperation in BRICS countries

No.	Subject field	Brazil	Russia			India	China		South Africa	
		CNPq	FASIE	MON	RFBR	DST	MOST	NSFC	DST	NRF
1	management of natural disasters	▲	▲	▲	▲	▲	▲			▲
2	water and pollution control	▲	▲	▲	▲	▲		▲		▲
3	geospatial technology and its applications	▲	▲	▲	▲	▲	▲			▲
4	new energy, renewable energy and energy efficiency	▲	▲	▲	▲	▲	▲			▲
5	astronomy		▲	▲	▲	▲		▲		▲
6	biological technology and biological medicine (including human health	▲	▲	▲	▲	▲		▲		▲

	and neuroscience)									
7	information technology and high performance computing	▲	▲	▲	▲	▲	▲			▲
8	marine and polar science and technology	▲	▲	▲	▲	▲		▲		▲
9	material science, including nanotechnology		▲	▲	▲	▲		▲		▲
10	optoelectronics		▲	▲	▲	▲	▲			▲

Sources: Ministry of Science and Technology of the PRC，in May 2016, http://www.most.gov.cn/tztg/201605/t20160527_125839.htm

The cooperation in e-commerce technology support needs to focus on the following five aspects:

The first aspect is to strengthen cooperation and innovation in ICT technology in BRICS countries. The wide application of information communication technology is the key driving force to realize sustainable development, maintain international peace and security and guarantee human rights[35]. The BRICS countries, based on the principles of international law[36], including the UN Charter, use and develop information communication technology through multinational and trans-regional cooperation. Strengthening the secure use of ICT technology, tracking criminal and terrorist activities by using ICT, cooperating on R&D, and capacity building of ICT companies and research institutes, striving to take multi-dimensional and inclusive measures, and firm commitment to the elimination of digital and technological gaps between developed and developing countries are key areas of cooperation among BRICS. Promoting and strengthening the development of cooperation under the framework of the information and communication technology cooperation working groups, giving full play to their advantages, and with the joint efforts to diversify the world's software and information technology equipment markets as well as enhancing the network access capability of SMEs in BRICS countries, and enhancing the ability and access quality of SMEs to establish linkages the world, are also some key goals

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[35] Gao Declaration in eighth BRICS Summit, Gao, India, October 16, 2016, http://news.xinhuanet.com/2016-10/17/c_1119727552.htm.

[36] The principles include political independent, territorial integrity, sovereignty equality, settling disputes by peaceful means, non-interference in the internal affairs of other countries, respecting human rights and fundamental freedoms and privacy.

and objectives of BRICS cooperation.

The second aspect is to promote technological innovation and cooperation of IoT technology and artificial intelligence in logistics and distribution. E-commerce requires technological innovation of logistics and distribution system, and the Internet of Things (IoT) technology and artificial intelligence, which are changing the traditional logistics and distribution modes. Some large e-commerce enterprises in BRICS countries have already started leveraging the Internet of Things (IoT) technology, and R&D and the application of artificial intelligence technology, especially in product traceability positioning technology, chain logistics, and goods identification technology. For example, a Chinese company, SF Express is widely using smart sorting, and the import and export processes of China's free trade zone have widely used smart logistics. The products can be tracked in real time via sensor chips from warehouses to transport to outbound destinations. Jd.com, one of the largest e-commerce platforms, has been using drones for distribution in remote areas[37].

The third aspect is to strengthen data exchange of e-commerce logistics information platforms between the BRICS countries, and carry out technical cooperation and innovation. As a typical representative of flux economy, e-commerce development especially needs to share information as well as provision of convenient information service for many SMEs, which is important for the growth and development of SMEs.

The fourth aspect is cooperation and innovation of mobile payment technology. BRICS countries have established investment and technical support, cooperation and innovation among enterprises. For example, Alibaba invested as a holding company in India's ePayment company called Paytm, which set up a network of banks and has become the largest mobile payment platform and e-commerce platform in India. Paytm has rapidly increased its user base to 200 million that includes street vendors. There are currently 68 million items on the Paytm Mall platform, involving 140,000 businesses. Technology cooperation and innovation is making Paytm Mall build an ecosystem of e-commerce, payment, and logistics[38]. In the BRICS countries, China's mobile payment technology and mobile payment application are more mature, but among the BRICS countries there is greater cooperation potential and market value in mobile payment technology innovation and application.

The fifth aspect is to strengthen technology cooperation of Internet use between SMEs. As an effective marketing tool, Apps have become competitive platforms for enterprises targeting sales through mobile terminals. At present, the existence of

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[37] Investigation materials from JD headquarter.

[38] According to data from Paytm company website, https://paytm.com/

diverse operating systems on mobile devices increases the complexity of linkage via Apps and increases the entry cost of SMEs to the Internet; therefore it is important to have the technology innovation for establishing linkage to diverse mobile devices via terminal Apps. Meanwhile, following the trend of combination of mobile e-commerce and social media (see chapter 2), the docking technology and cooperation between terminal app and social media also directly affect the ability of SMEs to link to the Internet and enter the global economy.

6.3.3   Cooperation on e-commerce skill and professional training

The development of e-commerce in BRICS countries requires a professional and skilled workforce. Following the rapid development e-commerce in BRICS countries, countries need to strengthen training and cooperation so as to develop multi-skilled professionals.

Under the existing cooperation framework, BRICS countries should try to create more convenient conditions for the personal exchange and communication among member countries (especially skilled and professional e-commerce staff). It is required to give full play to the role of international organizations to jointly carry out advanced personnel training and exchanges in e-commerce. Through conducting cooperative researches on e-commerce trends, frontier technologies and common problems and so on, BRICS countries and enterprises can gain a better understanding of each other's ecosystems. Strengthening the exchange and cooperation among the BRICS industry associations could promote the rapid development of e-commerce.

6.4 Strengthen cross-border e-commerce cooperation among BRICS countries

In order to adapt to the rapidly increasing cross-border e-commerce among BRICS, strengthening cooperation of e-commerce among BRICS countries is imperative. This will also strengthen BRICS e-commerce at a global level.

To speed up the process of BRICS economic and trade cooperation initiative and to strengthen cross-border trade flows (see Figure 6.3) the key areas of cooperation include: "single window", intellectual property rights, trade promotion, cooperation among micro, small and medium enterprises, skill development and training, standardizing, and strengthening of legislation and policy framework[39].
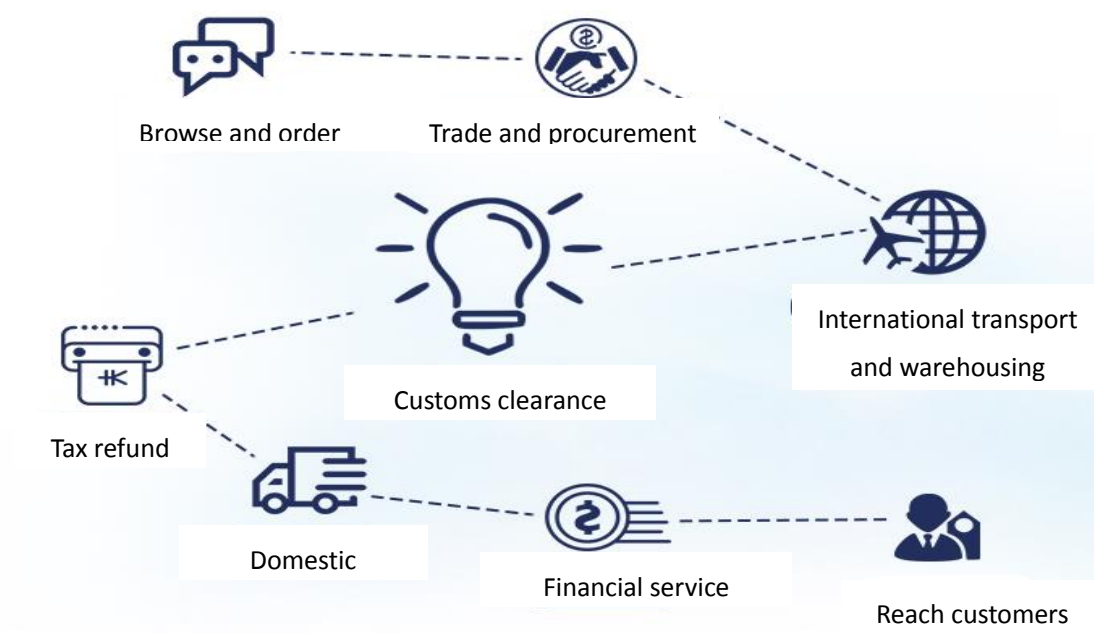
In order to increase e-commerce penetration in target countries and regions, cooperation with local e-commerce enterprises and platforms must be strengthened, especially in cross-border payment, logistics, customs clearance, after-sales and other

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[39] International Trade Centre (ITC)Bringing SMEs onto the e-commerce Highway，Geneva: ITC, 2016.

areas. Through integration of globalization and localization only, it is possible to continuously improve consumer's shopping experience, so as to promote the rapid development of cross-border e-commerce.

Fig. 6.3 Cross-border e-commerce trade flow

Browse and order   Trade and procurement

International transport and warehousing

Tax refund

Customs clearance

Domestic

Financial service

Reach customers

6.4.1 Focus on strengthening the cross-border trade of the dominant BRICS products

Based on their economic development, BRICS countries have unique characteristics and advantages. China has extensive experience in manufacturing and construction of infrastructure. India has advantages in information technology, such as computer applications, and has a cheaper and richer workforce worldwide. Brazil is abundant in natural resources and the development of agriculture is relatively advanced. South Africa's mineral resources are also abundant and it is the world's largest producer of platinum, chromium, vanadium and manganese, and the third largest producer of gold. The BRICS countries should start focusing on cross-border e-commerce trade of dominant products to give impetus to the BRICS e-commerce development.

6.4.2 Promote the development control of cross-border e-commerce and simplification of trade rules

Simple rules mean greater inclusiveness, which greatly reduces the cost of e-commerce. The development of cross-border e-commerce needs to improve the level of trade facilitation. It is recommended to establish principles or standards for BRICS cross-border e-commerce trade as soon as possible (see Chapter 5 of this report), strengthen legislation and policy supervision to ensure the legitimate, orderly and healthy operation of e-commerce activities, including freight transportation, distribution, cross-border payment and quality assurance of commodities.

6.4.3 Strengthen the security, legal cross-border delivery and cooperation of information and data exchange

Different countries have different regulations on data management, consumer rights protection, and online access to information, which have hindered cross-border trade. These constraints have not only created new market barriers, but have also increased the cost of SMEs to enter the global market. In order to be successful in the e-commerce market, the prerequisite is that information and data can be delivered across the board in a free and efficient manner without the constraints of technical barriers or anti-competitive bottlenecks (see Chapter 3 of this report).

6.5 Promote Cooperation and Development of SMEs in BRICS

One of the direct objectives of BRICS cooperation in e-commerce is to drive and promote the development of SMEs, which would in turn promote the economic and employment growth (see the second part of this report). In the context of the rapid development of e-commerce and the Strategic Framework of the BRICS Economic Partnership, the promotion of cooperation and development of SMEs in BRICS has a bright future.

The key to promote cooperation and development of SMEs in BRICS lies in removing the market barriers and institutional barriers, reducing market entry costs of SMEs, market operating costs, and the costs of participating in the global economy[40].

From the current situation and trends of the development of SMEs in BRICS, we can consider promoting cooperation and development of SMEs in the following three aspects:

- Build an information platform for SMEs and e-commerce development in BRICS.

The cross-border, cross regional e-commerce platform for SMEs should be built and

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[40] International Trade Centre (ITC)，Bringing SMEs onto the e-commerce Highway，Geneva: ITC, 2016.

the "effective alliance of SMEs and e-commerce" project[41] should be promoted actively to enable the SMEs to participate in the world's e-commerce supply chain, and better participate in the global economy.

- Provide logistics and distribution platform and sharing services to reduce the cost of e-commerce development of SMEs.

SMEs are more sensitive to logistics and distribution costs because of their small size. Therefore, strengthening strategic cooperation in logistics and distribution infrastructure capabilities, and providing more sharing services for SMEs can not only reduce the operational costs, but can also enhance the efficiency of SMEs through the Internet, which is a better channel for participating in the global economic development.

- Promote the innovation and application of Internet technologies of SMEs for integration of small, medium and micro sized enterprises into regional and global value chains through e-commerce.

Driven by e-commerce, more SMEs have acquired the potential to participate in global value chains and promote economic and social development in an inclusive manner. Small, medium and micro sized enterprises offer a large numbers of jobs at relatively low cost of capital, and create opportunities for self-employed in rural and underdeveloped areas. Development of small and medium-sized enterprises through e-commerce enables a large number of vulnerable groups to obtain employment and income promoting balanced and fair distribution of wealth at the national and global levels.

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[41] UNIDO, 2016.

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