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**Analyze the impact and trend of Chinese e-commerce**

**Diploma Thesis**

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## DIPLOMA THESIS ASSIGNMENT

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**Analyze the Impact and Trend of Chinese e-commerce**

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### Objectives of thesis

The objective of this diploma thesis is to evaluate the interactive factors between Chinese e-commerce and the macro economy, to study the development process of Chinese e-commerce, the current development dilemma and the future adjustment direction. Give suggestions on the future development of Chinese e-commerce.

### Methodology

- Solow Growth Theory;
- Pest analysis;
- Marketing analysis;
- SWOT analysis;

## The proposed extent of the thesis

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## Keywords

E-commerce; B2C; PEST; SWOT; Solow Growth Theory

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- Aghion P, Howitt P. A model of growth through creative destruction[J]. *Econometrica*, 1992, 60 (2) : 323-351.
- Aghion P, Howitt P. *Endogenous growth theory*[M]. MIT Press, 1998.
- A.M. Efendioglu, V.F. Yip, Chinese culture and e-Commerce: an exploratory study, *Interacting with Computers* 16, 2004, pp. 45–62.
- ECLAC. (2002). *Economic Commission for Latin America and the Caribbean ECLAS, Washington Office, Electronic Commerce, International Trade and Employment: Review of The Issues*. UN. pp. 1-30.
- M Subramani, E Walden(2001). The impact of e-commerce announcements on the market value of firms. *Information Systems Research*, 12(2): 135–154.
- Solow, R. (1957). Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics*, 39(3), 312-320.
- Terzi, N. (2011). The impact of e-commerce on international trade and employment. *Procedia Social and Behavioral Sciences*, 24, pp. 745-753.
- Tian, Yan, and Concetta Stewart. "History of e-commerce." *Encyclopedia of e-commerce, e-government, and mobile commerce*. IGI Global, 2006. 559-564.
- Wang, Kuang-cheng. "A process view of SWOT analysis." *Proceedings of the 51st Annual Meeting of the ISSS-2007, Tokyo, Japan*. Vol. 51. No. 2. 2007.
- Xavie Sala2I2Martin. 15 Years of new growth economics: what have we learnt? [ R ]. *Centrals Banks of Chile Working Papers*, 2002, 172
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## **Declaration**

I declare that I have worked on my diploma thesis titled "Analyze the impact and trend of Chinese e-commerce" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 15.11.2021

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## **Abstract**

The thesis chooses China's e-commerce market for economic analysis. With the development of the digital economy, more and more people and businesses around the world go online. As of December 2020, China's Internet users reached 989 million, and the Internet penetration rate reached 70.4%. This has led to the explosive growth of China's e-commerce market, which is now a global leader. This paper is divided into theory part and practice part. The theory section explains the basic concepts, methods and procedures used. We use these methods and procedures to analyze the development and future trend of e-commerce in China in recent years, as well as the factors affecting macroeconomics.

In the practical part, we analyze the factors that affect the development of e-commerce in China, give reasonable suggestions, and analyze the future development trend by analyzing the economic state in the macro environment.

**Keywords:** E-commerce, Solow Growth theory, Endogenous growth theory, Pest, Swot.

## **Abstrakt**

Diplomová práce si zvolila pro ekonomickou analýzu e-commerce trhu v Číně. S rozvojem digitalizace má ve světě stále více lidí a podniků přístup k internetu. V roce 2018, v Číně, dosáhl počet uživatelů internetu přibližně 804,5 milionu. To vedlo k prudkému vzrostu e-commerce trhu v Číně, která je v současné době globálním lídrem. Tato práce je rozdělena na část teoretickou a část praktickou. Teoretická část vysvětluje základní pojmy a metody. Praktická část využívá tyto metody a postupy k analyzování vývoje a budoucích trendů čínského e-commerce byznysu v posledních letech a dále také zkoumá faktory, které ovlivňují makroekonomiku.

V praktické části analyzujeme faktory, které ovlivňují vývoj elektronického obchodu v Číně, poskytujeme rozumné návrhy a analyzujeme budoucí vývojový trend analýzou ekonomického stavu v makroekonomickém prostředí.

Klíčová slova: E-commerce, Solow Growth Theory, Endogenous growth theory, Pest, SWOT, OLS

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## List of abbreviations

CNY----China Yuan

GDP.....Gross domestic product

# 1. Introduction

In China, the current economic form is a combination of the real economy and the network economy. China is not only the largest e-commerce market in the world but undoubtedly the most exciting, innovative and unique market in the world. The continuation and escalation of global trade disputes, the tension of geopolitical relations and the emergence of volatility risks in financial markets have cast a shadow over the future development of the global economy. In this context, e-commerce continues to develop, driven by new technologies and concepts and is also influenced by global trade and regulatory policies. Timely transformation, search for new e-commerce models and overcome bottlenecks are also of great concern to e-commerce representatives.

This paper mainly studies the influence of e-commerce on China's economy and the development trend in the future. According to the current situation of E-commerce development, this paper uses PEST to analyze its influence mechanism on macroeconomic development. Solow model is used to analyze the endogenous and exogenous development factors of e-commerce. At the same time, the SWOT analysis of cross-border e-commerce is conducted to comprehensively explore the development status and trends of cross-border e-commerce.

China's e-commerce is an important part of China's economic development. This thesis will effectively demonstrate the impact of e-commerce on the economy in China, make a reasonable assessment according to its development status, and predict the future trend according to the analysis results.



## **2. Objective of work**

The objective of this thesis is to analyse the development of e-commerce in China, including industry competitiveness, opportunities and threats, to understand the factors influencing the development of e-commerce in China, to analyze the present situation of cross-border e-commerce, and to put forward some suggestions for the future development of e-commerce.

The first part of a diploma thesis is the theoretical part. In this section, the basic explanations and definitions of macroeconomics and its elements will be based on the specialized literature on concepts, functions, methods, formulas, etc. The second part is a practical part that provides calculations, discussion, and analysis based on the following aspects: Statistics. Besides, SWOT, PEST, Solow growth theory and least-squares methods will be used.

### **3. Methodology**

First of all, combined with the **Marketing analysis** framework and the OLS regression model, analyze the strategic development of China's e-commerce in 2000-2019, use **PEST** analysis to analyze the current macro environment of Chinese e-commerce. **SWOT** analysis method to analyze the threat and development possibility of cross-border e-commerce in China.

#### **3.1. Marketing Analysis**

##### **3.1.1. Concept of Marketing analysis**

A market analysis is a quantitative and qualitative assessment of a market. It looks into the size of the market both in volume and in value, the various customer segments and buying patterns, the competition, and the economic environment in terms of barriers to entry and regulation.

##### **3.1.2. Content of the Marketing analysis**

###### **a) Environmental Analysis**

Provides space for environmental (sometimes called situational) analysis. This section will analyze the external factors affecting your business that are not directly controlled, including political, economic, socio-demographic, technical, legal and environmental pressures. This section explains the understanding of the target market and its main characteristics. This process deepens the understanding of the threats and opportunities facing the business and its products or services.

###### **b) Marketing Objectives and Strategies**

Describe marketing objectives and strategies as clearly as possible. Goal-specific, measurable, achievable, realistic and time-bound goals so that progress can be assessed and evaluated.

###### **c) The Marketing Mix**

The marketing mix refers to the key controllable factors at your disposal to effectively target products or services to customers. The marketing mix is often referred to as the four Ps: price, product, promotion, and place(distribution), although some marketers claim to associate the other three with physical evidence, people, and processes. These factors can be used to maximize the attractiveness of the product to the target market. the future planning and development direction.

## **3.2. SWOT**

SWOT is the overall evaluation of a company's strengths, weaknesses, opportunities, and threats. Valentin (2001) said that the SWOT analysis is the conventional approach of searching for insights into ways of realizing the desired alignment. The SWOT analysis is no doubt a valuable tool in the field of business strategy because it invites decision-makers to consider important aspects of their organization's environment and helps them organize their thoughts. [1]

### **3.2.1. Swot analysis and Swot Matrix**

The SWOT analysis is concerned with the analysis of an organization's internal and external environment to identify its internal strengths to take advantage of its external opportunities and avoid its external threats while addressing its weaknesses. This technique is credited to Albert Humphrey, who led a research project at Stanford University in the 1960s and 1970s using data from the Fortune 500 companies.

As a strategic planning tool, the SWOT Analysis is used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or a business venture or any other situation of an organization requiring a decision in pursuit of an objective. It involves monitoring the marketing environment internal and external to the organization or individual. Any SWOT analysis aims to identify the key internal and external factors that are important in achieving the objective. SWOT analysis groups key pieces of information into two main categories:

1. Internal factors: the *strengths* and *weaknesses* internal to the organization.
2. External factors: the *opportunities* and *threats* presented by the external environment.

The SWOT matrix is very useful for generating a series of alternatives for a company or business unit based on particular combinations of the four sets of strategic factors. The SWOT matrix illustrates how the external opportunities and threats facing a firm can be matched with its internal strengths and weaknesses to result in four sets of possible strategic alternatives. It enables managers to create various kinds of growth and retrenchment strategies. [2]

The SWOT matrix includes:

- SO strategies focus on how to use the strengths of a business to take advantage of opportunities.
- ST strategies attempt to utilize the strengths of a company to avoid threats.
- WO strategies aim to eliminate weaknesses to open new opportunities.
- WT strategies are defensive and mainly act to minimize weaknesses and avoid threats.

Table 1 SWOT strategies

		Internal factors	
		Strengthens	Weakness
External factors	Opportunities	SO strategy	WO strategy
	Threats	ST strategy	WT strategy

Source: Chermack, Thomas J., and Bernadette K. Kasshanna. "The use and misuse of SWOT analysis and implications for HRD professionals." Human Resource Development International 10.4 (2007): 383-399.[3]

### **3.3. PEST**

PEST is an acronym for four sources of change: political, economic, social, and technological. PEST analysis is a powerful and widely used tool for understanding strategic risk. It identifies the changes and the effects of the external macro-environment on a firm's competitive position.

The external environment consists of variables that are beyond the control of a firm or industry but require analysis to realign corporate strategy to shifting business environments. Firms operate as part of a larger ecosystem. They are vulnerable to a variety of exogenous factors, which can have a major impact on the firm's competitive positioning. Strategists seek to understand external factors and evaluate how business models will have to evolve to adapt to their environment. The impacts of external factors are mitigated through preemptive strategy, and opportunities are exploited in the wake of new competitive positions that may be created in the process.[4]

#### **3.3.1. Macro environment analysis**

Although the external environment consists of a wide variety of factors and influences, it is possible to group them under 4 broad headings:

- Political factors include not only political factors but also laws. Related to government intervention in the economy. For example, political system, economic system, government regulation, changes in tax laws, industrial policies, investment policies, etc.
- The economic environment mainly includes macro and micro aspects. The macroeconomic environment mainly refers to a country's population and its growth trend, national income, gross national product and its changes, and the level and speed of development of the national economy that can be reflected through these indicators. The microeconomic environment mainly refers to factors such as the income level, consumption preferences, savings, and employment of consumers in

the area where the enterprise is located or served. These factors directly determine the current and future market size of the enterprise.

- The socio-cultural environment includes the education level and cultural level of residents of a country or region, religious beliefs, customs, aesthetic viewpoints, and values. The level of culture will affect the level of demand of residents; and these aspects are very necessary for the analysis of market characteristics.
- In addition to investigating the development and changes of technical means directly related to the activities of enterprises in the technical environment, the technical environment should also be aware of:
  - i. National investment and support focus on scientific and technological development;
  - ii. Technology development trends and total research and development expenses in this field;
  - iii. Speed of technology transfer and technology commercialization;
  - iv. Patent and its protection, etc.

Figure 1 Macro environment analysis



Source: Ghazinoory, Zadeh & Mariani. "Fuzzy SWOT analysis." *Journal of Intelligent and Fuzzy Systems*. (2007).18.99-108.[5]

## 4. Literature Review

ECLAC (2002) pointed out that E-commerce has come to take on two important roles; first, as a more effective and efficient conduit and aggregator of information and second, as a potential mechanism for the replacement of many economic activities once performed within a business enterprise by those that can be done by outside suppliers that compete with each other to execute these activities.[6]

Efendioglu, Alev M., Vincent F. Yip, and William L. Murray (2005) suggested that to overcome infrastructure and cultural impediments, should take a more active role to bring about a broad-based consumer society, encourage the Chinese government to institute reforms that enhance the economic system (legal changes that support business contracts, discourage counterfeiting, and encourage consumer credit and servicing by the banking industry, built telecommunication and transportation infrastructure, etc.).

Given the current stage of China's socio-economic state and prevailing governmental processes, a combination business model (virtual and physical presence) may be the only way for businesses to participate in e-commerce in China.[7]

Tian, Yan, and Concetta Stewart (2006) said that although e-commerce was once looked upon simply as an expressway to wealth, it has transformed the way people conduct business. A historical analysis of e-commerce will provide insights into the evolution of the application of information and communication technologies in the commercial arena. Furthermore, an analysis of the evolution of e-commerce in the past as well as its present state will enable us to project future trends in e-commerce [8].

Lund and McGuire (2005) focused on inputs and development of electronic commerce and economic growth, declaring that e-commerce increased profits for firms and led to the development of countries. Their findings showed that e-commerce was a key force in the integration of LDCs (low development countries) in the multilateral trading system.[9]

One impact for e-commerce is to intensify competition and produce benefits for consumers, with lower prices and more choices (Malkawi, 2007).[10] In other words, the Internet and e-commerce lead to efficiency improvements, better asset utilization, faster time to market, reduction in total order fulfilment times, and enhanced customer service (Terzi, 2011). [11]

The reason why e-Commerce can become a major cause of economic growth is combined by a variety of factors[12-14]. These factors are mainly as followed:

- (1)e-Commerce is closely related to modern advances in information technology,
- (2)Based on the information and Internet constructions,
- (3)as the innovation of traditional business activities,
- (4)has formed an ecosystem chain,
- (5)with strong permeability.

These factors indicate that e-Commerce has become important motivating factors for economic growth.

Following Temple and Wößmann (2006)[15], Ding, Sai, and John Knight found that productivity growth to vary across countries in models of growth in GDP per worker. After extending Temple and Wößmann's cross-section analysis to the dynamic panel data analysis using a robust and consistent system GMM estimator. It showed that the extended version of the augmented Solow model provides a good explanation of China's economic growth.[16]

In short, a good macroeconomic environment is conducive to the smooth development of e-commerce. The so-called good macroeconomic environment refers to the global or national economic system on which e-commerce relies on stability, health, sustainable development, reasonable economic structure, high degree of marketization, and government regulation of macroeconomics. It has high capacity, high efficiency, sufficient employment, relatively stable prices, mature macro-financial



conditions, a large degree of openness to the outside world, and a strong economic system's overall ability to resist risks.

At the same time, pay attention to the investment tendency under the macro economy, social policies, talent recruitment, establishment of company strategy, combined with the internal and external environment and various economic activities, to conduct a comprehensive and effective analysis of the industry's development status and expansion capacity. Adjust strategic strategies promptly, focus on sectors with high investment potential, point out potential threats to industrial development, and make feasible recommendations. The industry can develop better only if it works together under the macro and micro.

## **5. Theoretical Part**

### **5.1. The rise of e-commerce in China**

From the beginning of the 1990s to the present, China's e-commerce has followed the trend of the times and has gone through a development course of more than 20 years. Both quantitative increase and qualitative leap have been profoundly changing people's daily lifestyles, production methods, thinking modes and Management methods. In April 1993, the "Education and Scientific Research Demonstration Network" in the Zhongguancun area of Beijing was connected to the Internet. With network technology and electronic technology as the upper platform, through the double integration of new technical functions and new business concepts, e-commerce has been formed that has a significant impact on social and economic life.

After the dot-com bubble burst, e-commerce technologies and platforms are becoming increasingly sophisticated, the "localization" trend of software and solutions is accelerating, and the initial launch of e-commerce has achieved initial results. Broadband networks replace telephone dial-ups. The marketing value of e-commerce is continuously improved by users, platform attributes, data accumulation, and technology development.

1) User end: The online consumption habits are strengthened and the purchase amount of consumers is increased. The marketing value of platform users is worth constantly being explored.

2) E-commerce: The e-commerce platform integrates media and consumption attributes, and continuously innovates content-based marketing models to achieve product and effect integration for advertisers.

3) Technical side: Marketing-related data and technologies are continuously upgraded, laying a solid foundation for efficient service and precision marketing.

The transaction size of China's online shopping market grew at a compound annual growth rate of 27.4% from 2015 to 2019, far exceeding the 8.1% growth rate of retail

sales of consumer goods over the same period. Even though the traffic growth of the e-commerce platform is relatively slow, consumer purchases are growing at a high speed, driven by the advantages of the e-commerce platform, such as a large number of preferential activities, convenient product selection and delivery, and comprehensive product categories, and consumption habits are further migrating online. Brand owner/merchant marketing based on consumers' shopping preferences also relies more on online consumption channels and takes the e-commerce platform as an important point of marketing.

## **5.2. Regulating the Chinese E-commerce Market**

Developing countries have to set priorities since the available infrastructure does not immediately support wide Internet diffusion. The benefits of the Internet for increasing productivity and competitiveness are associated with business-to-business applications (B2B) rather than business to consumer (B2C). The opportunities for e-commerce for cost reductions are mainly in procurement and online data exchange within value chains. But the Internet also opens windows of opportunity for improving education, government services and social development[17].

To date, there are quite a few government initiatives to promote both the Industrial Internet and e-commerce in China. According to the Action Plan for Industrial Internet Development (2018-2020) enacted by the Ministry of Industry and Information Technology, China will have to tackle the problems arising from the development of the Industrial Internet.[18]

To do this, it will be necessary to research such legal issues as network security, data protection, as well as information protection and government data disclosure, and enact laws and rules relating to the Industrial Internet when necessary.

At the end of 2016, the "Thirteenth Five-Year Plan" of China's e-commerce was released, and it was determined that by 2020, e-commerce transactions will reach 40 trillion U.S. dollars, total online retail sales will reach 10 trillion U.S. dollars, and three development indicators of 50 million relevant practitioners. From the deployment of e-

commerce information infrastructure construction, the cultivation of new industrial forms and new markets, the development of e-commerce factor markets, and the construction of a new order for e-commerce, it has proposed strengthening organizational leadership, perfect designs, promoting pilot demonstrations, and optimizing funding. There are six safeguard measures for establishing a monitoring mechanism and enhancing international cooperation.

In 2018, the "E-Commerce Law" was formally introduced, becoming the starting point in the history of China's e-commerce development. Technological innovations such as artificial intelligence, big data, and the Internet of Things have improved the level of e-commerce operations and supported the rapid development of online and offline integration of new formats. Social e-commerce, content e-commerce, short video and other modes of innovation have effectively met consumer demand.

Cross-border e-commerce has also entered a new stage of upgrade and development. The State Council issued a document promoting retail e-commerce, stabilizing industry development expectations, expanding the scope of pilot projects, driving the transformation and upgrading of key parks and foreign trade industries, and building several overseas warehouses in 40 countries, becoming an important benchmark for a smooth trade.

### **5.3. China's E-commerce globalization**

Economic globalization accelerates the development of e-commerce, and e-commerce also promotes economic globalization, creating a good application platform for economic globalization. Cross-border e-commerce is an international business activity in which transaction parties in different countries use internet channels to complete transactions, perform payment settlement, and deliver goods and complete transactions through cross-border logistics. Cross-border e-commerce is of great significance as the technological basis of promoting economic integration and trade globalization.

### **5.3.1. Cross-border e-commerce classification .**

Cross-border E-commerce usually refers to transactions, payment and logistics in different countries through E-commerce. China's cross-border E-commerce has been gradual emerging since 2008 and is breaking the traditional international entity trade.

Third-party e-commerce service providers refer to third-party service groups that provide brand e-commerce with all or part of e-commerce outsourcing operations services for online stores, including consulting services, store establishment and operation, commodity management, consumer management, marketing promotion, customer service, warehousing logistics, IT services, etc., provide value for the upstream and downstream of the e-commerce industry chain.

In terms of import and export direction, there is import cross-border e-commerce and export cross-border e-commerce. Transaction models are classified into B2B cross-border e-commerce and B2C cross-border e-commerce.

Classification of cross-border B2C import and export e-commerce platforms in China:

1, B2C import cross-border e-commerce: Tmall International, Suning Overseas Purchase, JD Global Purchase, NetEase Koala, Jumei Speed Duty-Free Shop, and VIPS Global Special.

2, B2C export cross-border e-commerce: Amazon, eBay, Express, Wish, Lazada, and Shopee

### **5.3.2. Cross-border e-commerce localization and globalization in China**

Localization and globalization are two paths for business expansion. To expand globally efficiently with the same model, or to do localization in a particular country. The latter need to tailor products, people and systems to different cultures in different countries is bound to slow down global expansion.

Importing goods into China has long been a lengthy and complex customs clearance process that has been costly and limited in foreign exchange costs, deterring many small and medium-sized enterprises.

For physical e-commerce, Amazon did withdraw from the Chinese market. However, this tech company, which was the world's number one by market capitalisation, in 2019, closed its local e-commerce business in China but retained several other businesses: Global Selling (global store opening), Kindle and AWS (cloud business), and Haitao e-commerce. In other words, Amazon will continue to cultivate the Chinese market in other areas. The digital reading terminal Kindle is Amazon's most successful business in China so far. Compared to 2013, the total number of Kindle Chinese users in 2018 increased by 91 times, the number of monthly active users increased by 69 times, and the number of paid users increased by 12 times; cloud computing is Amazon's most optimistic business. Its operating profit of US \$ 2.18 billion accounts for 57.5% of Amazon's total operating profit; cross-border trading business is also Amazon's advantage, and "Amazon global store opening" ranks No. In one camp, the performance is significantly ahead of platforms such as eBay, AliExpress, and Wish in the second camp.

If it's about bringing global goods to China, in 2019, Amazon turned to the global store business to bring Chinese goods to the world. Simply put, Global Store is Amazon's export e-commerce business.

Third-party sellers on Amazon's platform are playing an increasingly important role in the retail business. A recent letter to shareholders revealed that third-party business accounts for more than 60 per cent of the world. No matter what country or where the goods come from, the product can be displayed on Amazon's platform and delivered end-to-end as long as someone places an order on the other side of the world. There have been many Chinese sellers in these third-party sellers around 2011. They register and go online in the United States and bring products made in China to thousands of households via e-commerce. To that end, Amazon has set up a small team in the U.S. to match the Chinese sellers.

But that didn't help expand the business, and Amazon's senior management at its headquarters in Seattle changed its mind and couldn't pull Chinese sellers to register in

the U.S., which couldn't scale. Instead, should use a push model to push Chinese sellers outside the world.

According to a report published by Marketplace Pulse at the end of 2019, there are nearly 3 million active sellers in the global Amazon market, of which 42% are in China, which means that there are millions of Chinese sellers active on Amazon platform.

### **5.3.3. Implications of cross-border e-commerce**

The Internet has built an economical and efficient communication "bridge" between buyers and sellers around the world. The global e-commerce market has grown exponentially with the rise of enabling technologies such as secure payment, order tracking and customer service. Global cross-border e-commerce transactions are expected to grow from \$400 billion in 2016 to \$1.25 trillion in 2021. As a leader of this growth trend, China's cross-border e-commerce market grew from CNY 293.7 billion to CNY128.1 billion from 2012 to 2016. This is mainly due to two points: 1) the sudden release of cross-border consumption demand; 2) The market supervision environment is relatively loose. Developments in online websites, social media and logistics technologies have also played a key role in promoting cross-border e-commerce. Subsequently, the Chinese government has further encouraged the development of cross-border e-commerce by creating free trade zones and promoting the Belt and Road Initiative.

Companies such as Cross-Border, Amazon and Tmall have taken full advantage of policies to gain a foothold in the FTA. Express companies and third-party logistics, which are strategically dominant in the region, are also starting to pick up the pace in an attempt to benefit from the growing trade activity along with the Belt and Road market. However, with the introduction of a series of government regulatory policies and technical controls on channel retail prices, the exponential growth trend of China's cross-border retail will become more rational. Besides, the industry itself is facing several challenges, such as cross-border product quality concerns, inefficient customs clearance processes, and inadequate cross-border dispute resolution mechanisms.

Led by China, cross-border trade will inject new impetus into the future of e-commerce. As the geographic boundaries blur, truly valuable companies will be able to cross borders and face the brutal test of the global market. Companies that get the money will be able to take advantage of the benefits and rewrite the rules of the game; Organizations that come back from difficulties need to restructure their strategies and wait for the opportunity.

## **5.4. Market Segmentation of China's E-Commerce Service Industry**

### **5.4.1. China E-Commerce Agent Operation Service**

E-commerce agent operation services are mainly provided through online channels, including content services, online marketing services, and online distribution services. Thanks to the increasing upsurge of live e-commerce delivery on short video platforms such as TikTok, Pinduoduo, and Kwai, the operating income of the e-commerce agent operation market in China is expanding. According to the China E-Commerce Report 2019, the operating revenue of China's e-commerce agency operating services reached 1,136 billion CNY in 2019, an increase of 18.0% year-on-year.

Specifically, in the e-commerce derivative service industry, e-commerce agency operation services accounted for the bulk. With the development of China's short video and live-streaming industries, the e-commerce marketing service industry continues to present a more diversified monetization model. On the other hand, more and more enterprises pay attention to e-commerce strategic deployment.

As a result, China's e-commerce consulting service industry has been expanding in recent years. With the development of e-commerce, the demand for e-commerce talents is increasing day by day. Therefore, the e-commerce education and training service industry is born. In recent years, the government actively organizes e-commerce training activities, and enterprises set up education colleges and develop talent training programs.



#### **5.4.2. China E-Commerce Consulting Services Market**

With the emergence of new business forms in the e-commerce industry, traditional e-commerce practitioners and channels gradually innovate in new technology applications, which provides new market demand growth points for e-commerce consulting services. According to data from the China Service Outsourcing Research Center, the signing and execution of service outsourcing contracts related to the e-commerce consulting business in China showed an overall growth from 2015 to 2019.

In 2019, the signing and execution of service outsourcing contracts related to the e-commerce consulting business were \$1.43 billion and \$844 million, respectively, increasing compared to 2018.

#### **5.4.3. China E-commerce Education and Training Service Market**

E-commerce education and training service market, as an indispensable link in the derivative service, mainly includes the education related to e-commerce major, various training and continuing education related to e-commerce, as well as the popularization and improvement of e-commerce knowledge.

In recent years, the state has continuously developed its service industry to promote e-commerce education and training at the policy level. For example, in October 2019, the Ministry of Education added cross-border e-commerce majors under the Regulations on the Establishment of Higher Vocational Education (Specialty) Majors in Ordinary Colleges and Universities. Besides, new training for government organizations and enterprises emerged in 2019. It can be seen that China's e-commerce education and training service industry in the government policy and the e-commerce market-driven, its market will continue to be hot.

## **6. Practical Part**

### **6.1. Market analysis of Chinese e-commerce**

Market analysis is a procedure of assessing and identifying various internal and external factors and conditions in a market within a specific niche. Essentially, the key insights that are gained from market analysis related to:

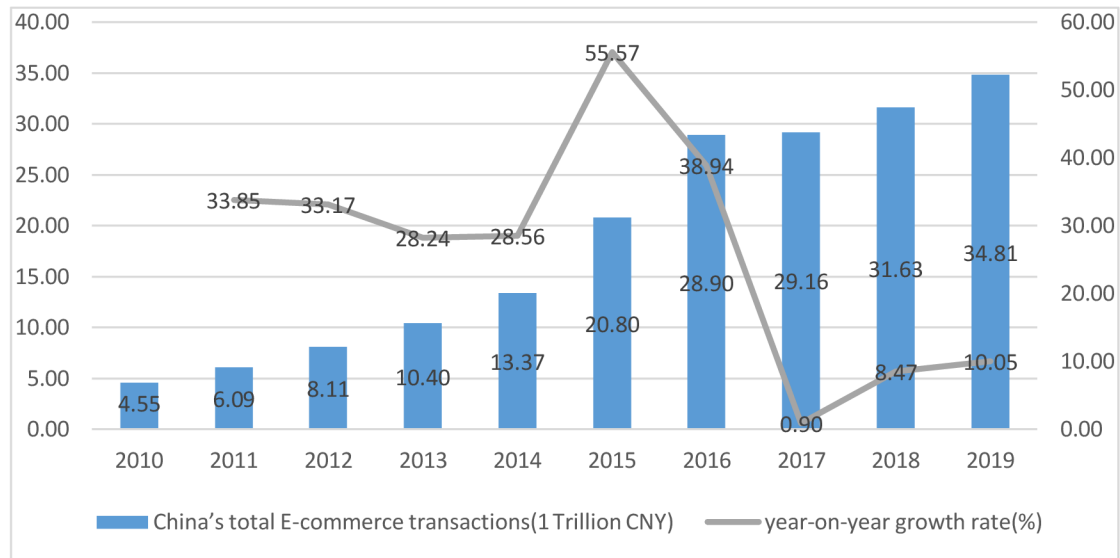
- 1) Evaluating the market size;
- 2) Pinpointing growth trends;
- 3) Defining and learning about the target audience;
- 4) Getting an in-depth look at the competitive landscape;
- 5) Identifying business goals.

#### **6.1.1. E-commerce market transaction scale in China**

With the development of the e-commerce industry in our country, the e-commerce service industry has also been developing rapidly, and the scale of the industry has been expanding, which has become an important part of the service industry in our country. According to the China E-Commerce Report 2019 released by the Ministry of Commerce, the business scale of China's e-commerce service industry continued to grow from 2014 to 2019. In 2019, revenues from China's e-commerce services industry reached RMB4474.1 billion, an increase of 27.2% year-on-year.

China's e-commerce service industry can be divided into three categories: transaction service, support service and derivative service. The derivative service refers to all kinds of professional services with the development of e-commerce application, which has high service level and technical content, such as e-commerce agent operation service, e-commerce brand service, e-commerce consulting service, e-commerce education and training service, and e-commerce security service. The rate in the services sector in 2019. Graph 2 shows the E-commerce service industry market size :

Graph 1 E-commerce service industry market size



Source: Own calculation, data from [www.100EC.CN](http://www.100EC.CN)

### 6.1.2. E-commerce Drives Employment

Various sources suggest a large number of people engage in employment-related to e-commerce.

1, In 2019, the number of e-commerce employees in China reached 51.25565 million, an increase of 8.29% year-on-year. Among them, e-commerce directly attracted 31.1508 million people in employment and start-ups, and e-commerce led to 20,057 million people in information technology, related services and support industries.

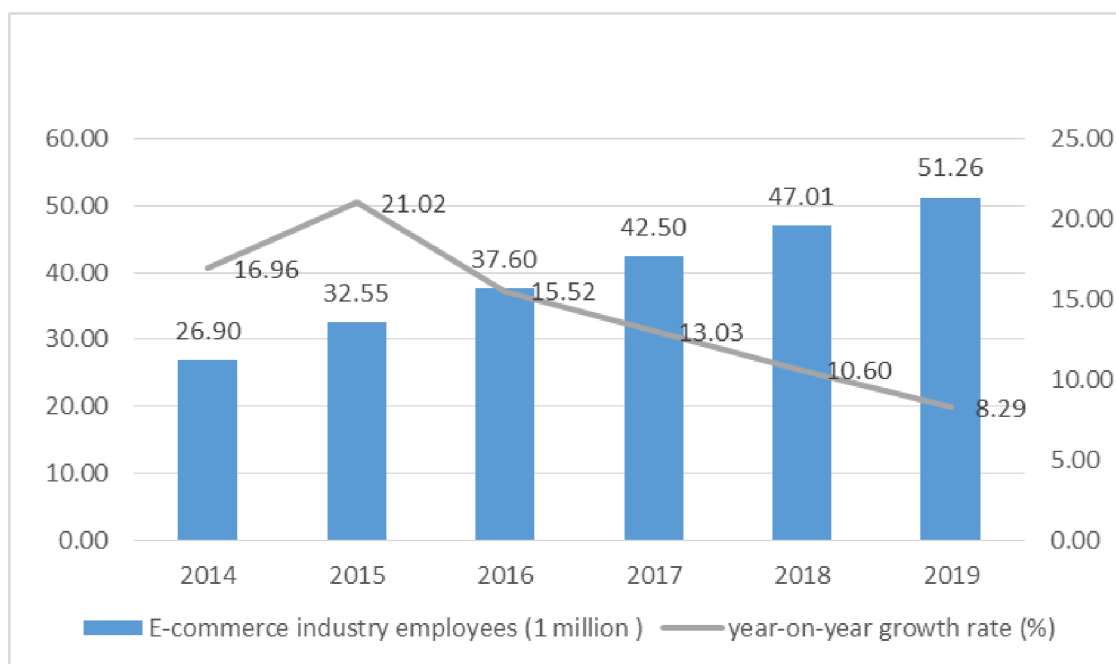
2, A report by Renmin University of China (2019), indicates that e-commerce in China promotes increased employment, both direct and indirect. The channels leading to that increase include stimulating demand, enlarging existing industrial clusters and creating new ones, online and offline integration, and diversifying preference of consumption. The Ministry of Commerce.

3, It is reported that e-commerce has absorbed much surplus rural labour, returning migrants, and veterans, and offers disabled people new opportunities for home-based

work. Employment directly and indirectly driven by rural online stores reached more than 28 million in 2017.

4, Boston Consulting Group (2017), finds that digital jobs in e-commerce, online entertainment, finance, and smart manufacturing have been important sources of new job creation in recent years.

Graph 2 E-commerce industry practitioners



Source: Own calculation, data from [www.100EC.CN](http://www.100EC.CN)

1) In terms of direct employment, with the continuous deepening and penetration of Internet + and e-commerce, the scale of employees has also shown a rising trend. The trend of combining online and offline is obvious, and the scale of employees has also been growing rapidly.

2) In terms of indirect employment, in recent years, with the popularity of short-video e-commerce, new forms such as online celebrity e-commerce and live broadcast e-commerce have created many new jobs and employment opportunities. E-commerce communication methods range from static pictures to dynamic videos, behind which is the transfer of traffic and the acquisition of new traffic.

As of May 5, 2019, a total of 54 domestic e-commerce companies have been listed. Among them, there are 8 B2B e-commerce, 23 B2C e-commerce, 7 cross-border e-commerce, and 16 life service e-commerce. It includes five collections listed in 2019, such as Yunji, Ruhan, Weimeng, New Oriental Online and Maoyan Entertainment.

Table 2 Distribution of Chinese e-commerce listed companies in 2018

<b>Company classification</b>	<b>Amount</b>
Life service e-commerce	16
Cross-border e-commerce	7
B2C	23
B2B	8

Source: Data from [www.100EC.CN](http://www.100EC.CN)

### **6.1.3. Chinese e-commerce consumer groups**

Chinese consumers are famously voracious users of social media. According to our survey, they spend as much as 44 per cent of their time on social media apps, the majority of which, 33 per cent, is spent on social applications such as WeChat and Weibo's microblogging service.

Another 11 per cent of their time is spent watching, sharing, and creating short videos on apps such as the immensely popular Douyin (known as Tik Tok in English) and over-the-top video streaming services like Tencent Video.

### **6.1.4. Localization and Globalization of E-commerce in China**

The e-commerce industry has market globalization. "No one can stop globalization, no one can stop trade," said Jack Ma, Alibaba's founder. Cross-border e-commerce is a powerful example of this. From the perspective of mode, the current third-party e-commerce can be divided into three modes:

On behalf of the operation model: on behalf of the operator to manage the online shop of the brand, and provide the entire process of e-commerce sales services, the marketing and promotion costs of the store are borne by the brand, and on behalf of the

operator mainly bears the labour cost of online store management And get income in the form of basic service fee and sales commission.

Distribution model: Under the distribution model, service providers purchase funds from branded brands and set up stores on the e-commerce platform for sales. The brand side completes the sale as soon as it wholesales the goods to the service provider, and no longer bears the follow-up marketing expenses; it generates revenue from the purchase-sale price difference for the service provider.

Content service mode: Service providers provide services for a certain link of the brand's e-commerce operation, or provide marketing planning solutions for a certain product or activity and help to implement the implementation. Under this mode, the service operator mainly charges service fees for corresponding services.

Table 3 On behalf of the operation market industry size and growth rate

Year	Market	Growth rate(%)
2011	29.5	---
2012	64.1	117.29
2013	121.0	88.77
2014	223.5	84.71
2015	424.8	90.07
2016	601.3	41.55
2017	782.1	30.07
2018	962.3	23.04
2019	1135.5	18.00

Source: Own calculation. Data from *Statistical Communique of the National Economic and Social Development of the People's Republic of China, 2019*

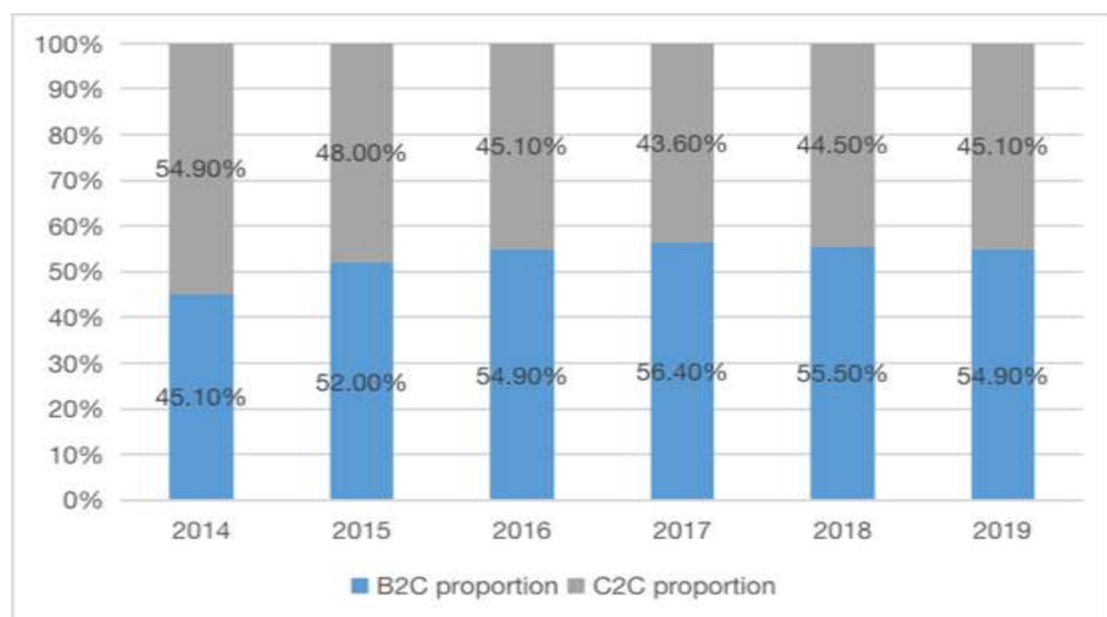
With the continuous expansion of the brand's online sales scale, new online scenarios, new media, and new traffic have put forward new requirements for brand

operations. Brand operations need to be comprehensively reformed in line with the characteristics of online consumption.

The self-built online brand operation team of the brand side also faces pain points such as high investment, unfamiliar management, and high risks. The agency operator can provide the brand side with the characteristics of its long-term deep cultivation of the industry, deep insight into online consumers, and understanding of the rules of e-commerce operations.

Combined with the analysis of the scale of various categories and the capacity of the operating companies, according to the Tmall Eco-Services Conference, the ability of FMCG service providers in China and the United States in the cosmetics and personal care industry is particularly prominent; the capabilities of service providers in the large apparel industry are already at an advanced level, but high-quality services.

Graph 3 Proportion of B2B / C2C e-commerce scale in China 2014-2019



Source: Own calculation. Data from CITIC Securities Research and Development Department,

### 6.1.5. An econometric model of influencing factors of e-commerce

The preceding article analyzes its impact on China's e-commerce in terms of macroeconomics, employment, and third-party e-commerce. Market analysis is not

only an analysis of the status quo but also a judgment on the development trend, so establishing an econometric model is the best way.

**statement of the problem:**

In recent years, with the improvement of people's living standard and the development of network information, the Internet has begun to change people's life, work, thinking and way of existence, and promote the development of the social economy. Based on this, e-commerce has also developed rapidly, using Gretl software tools to study and explore the impact of the National Express Service Business Cost, the size of cross-border e-commerce, China Third-Party Online Payment Platform Market Payment Size, and china advertising revenue.

**Selection of variables and establishment of model:**

**National Express Service Business Cost:**  $X_1$  (100 million). Basis: Support services are an important part of ensuring the normal operation of e-commerce, and logistics can more directly reflect the needs of consumers. And the perfect logistics system can make e-commerce operate better. Therefore, this factor is introduced as one of the variables explaining the level of e-commerce development.

**The market scale of cross-border e-commerce:**  $X_2$  (100 million). Basis: Cross-border electronic commerce, as the technical basis of promoting economic integration and trade globalization, is of great strategic significance to the development of e-commerce.

**China Third-Party Online Payment Platform Market Payment Size:**  $X_3$  (Billion). Basis: The third-party payment platform provides a transaction platform for merchants and consumers, which ensures the smooth completion of transactions and the privacy of users. Third-party payment has become an essential transaction method for e-commerce platform transactions.

**China's advertising revenue:**  $X_4$  (Billion) : According to the retail data of social consumer goods provided by the Bureau of Statistics, online has contributed about 44%



of the total retail sales so far in 2019. Consumers' consumption shift from offline to online is still one of the important drivers for the expansion of the e-commerce market. At the same time, investment in the advertising industry is also one of the driving factors for e-commerce.

**Network penetration rate:**  $X_5$  (%) The expansion of the number of Chinese netizens, the improvement of the network penetration rate, and the high coverage rate of the network have greatly promoted the development of Chinese e-commerce.

Model-specific introduction Regression analysis refers to the correlation between a single variable and one or more variables. It mainly estimates or predicts the overall mean of the explained variables through the explanatory variables. The expression of the model is as follows:

Multiple linear regression model is mainly used to study the relationship between the dependent variable and independent variable. The ordinary least square method (OLS) is one of the most common regression analysis methods. To explain regression estimation effectively, the assumptions of the multiple linear regression model are as follows: 1. Assumption of zero mean 2. Assumption of homo variance 3. Assumption of no autocorrelation 4. Assumption of no multicollinearity.

The multiple linear regression model established is:

$$Y = C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon,$$

where  $Y$  is the e-commerce transaction amount,  $C$  is a constant,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ , are unknown parameters, called regression coefficients, and  $\varepsilon$  is a random error.

### **Selection of Data:**

The data mainly comes from the "China Statistical Yearbook", "Analysis Report on the Development of China's Internet", etc. From 1997 to 2019, China's e-commerce industry experienced 22 years of development, so by screening complete and valid information, the data used in the measurement analysis is from 2001 to 2019, and they are converted into a set of sample data in the form of time series.

Table 4 Data on influencing factors of e-commerce:

Year	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
2001	0.12	2.0	1000	0.16	79.2	3.7
2002	0.19	2.2	1700	0.4	90.3	4.6
2003	0.27	2.5	2500	1.1	107.9	6.2
2004	0.48	2.9	3300	6.0	126.5	7.2
2005	0.74	3.4	4300	16.3	141.6	8.5
2006	1.3	3.8	5000	45.1	157.3	10.5
2007	1.55	4.5	6200	93.5	174.1	16
2008	2.9	5.5	7000	257.8	190	22.6
2009	3.6	6.1	8500	505.1	204.1	28.9
2010	4.55	7.1	11000	1010.5	234.1	34.3
2011	6.09	8.4	17000	2203.8	312.6	38.3
2012	8.11	9.4	21000	3681.4	469.8	42.1
2013	10.4	10.2	31500	5410.5	502.0	45.8
2014	16.39	10.6	42000	8076.7	560.6	47.9
2015	21.79	10.8	54000	12200	597.3	50.3
2016	26.1	11.1	67000	58800	648.9	53.2
2017	29.16	12.1	80600	102100	689.6	55.8
2018	31.63	13.3	90000	171500	799.1	59.6
2019	34.81	14.6	105000	226200	867.4	61.2

Source: Own calculation. Data from CITIC Securities Research and Development Department.

**Regression of the model:**

Using Gretl, OLS regression was performed on the above model, and the preliminary equations were as follows:

Table 5 Coefficient of Model regression

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	-0.475155972	0.305407744	-1.555808527	0.142064824	
X <sub>1</sub>	0.000424008	3.53E-05	12.01135876	9.24E-09	
X <sub>2</sub>	-3.09E-05	7.43E-06	-4.159180272	0.000964168	***
X <sub>3</sub>	-0.001965631	0.005572643	-0.352728758	0.729545831	***
X <sub>4</sub>	0.102507237	0.047445293	2.16053543	0.048554153	
X <sub>5</sub>	-0.475155972	0.305407744	-1.555808527	0.142064824	**
Mean dependent var	10.53578947	S.D. dependent var	12.10182967		
Sum squared resid	5.099787701	S.E. of regression	0.6035483		
R-squared	0.998925282	Adjusted R-squared	0.998065461		
F(3, 4)	2602.533535	P-value(F)	2.94E-20		

Source: Own calculation by Gretl

OLS regression was performed on the above model, and the preliminary equations were as follows:

$$Y = -0.475155972 + 0.000424008X_1 + (-3.09E-05)X_2 - 0.001965631X_3 + 0.102507237X_4 - 0.475155972X_5$$

$R^2 = 0.998925282$ , Adjusted  $R^2 = 0.998065461$ , as  $X_4$  is not significant in the model, so remove the  $X_4$

Using Gretl, OLS regression was performed on the above model, and the preliminary equations were as follows:

Table 6 Coefficient of Model regression

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	1.449214649	0.628668553	2.305212569	0.036982833	**
X <sub>1</sub>	-1.350119641	0.372047333	-3.628892139	0.002737037	***
X <sub>2</sub>	0.000423614	1.61E-05	26.32867449	2.52E-13	***
X <sub>3</sub>	-2.57E-05	5.66E-06	-4.55088289	0.000452934	***
X <sub>5</sub>	0.23621451	0.066688882	3.542037357	0.003251949	***
Mean dependent var	10.53578947		S.D. dependent var		12.10182967
Sum squared resid	5.099787701		S.E. of regression		0.6035483
R-squared	0.998925282		Adjusted R-squared		0.998065461
F(3, 4)	2602.533535		P-value(F)		2.94E-20

Source: Own calculation by Gretl

OLS regression was performed on the above model, and the preliminary equations were as follows:

$$Y=1.449214649-1.350119641X_1+0.000423614X_2(-2.57E-05)X_3+0.23621451X_5$$

$$R^2=0.998925282 \text{ Adjusted } R^2=0.998065461$$

The X<sub>3</sub> coefficient is negative, indicating that an increase in the scale of the third-party payment platform leads to a reduction in the scale of e-commerce, which is not economically meaningful, so it is removed.

Using Gretl, OLS regression was performed on the above model, and the preliminary equations were as follows:

Table 7 Coefficient of Model regression

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	2.280379529	0.915081522	2.491996041	0.024895875	**
X <sub>1</sub>	-2.002036148	0.522323008	-3.832946505	0.001629714	***
X <sub>2</sub>	0.000368763	1.62E-05	22.7443433	4.86E-13	***
X <sub>5</sub>	0.389052538	0.087643892	4.43901484	0.000478092	***
Mean dependent var	10.53578947	S.D. dependent var		12.10182967	
Sum squared resid	9.246632122	S.E. of regression		0.785138294	
R-squared	0.996492409	Adjusted R-squared		0.99579089	
F(3, 4)	1420.479585	P-value(F)		1.25E-18	

Source: Own calculation by Gretl

OLS regression was performed on the above model, and the preliminary equation was as follows:  $Y=0.915081522-2.002036148X_1+0.000368763X_2+0.389052538X_5$

**Model fitting test:**

$R^2 = 0.996492409$ , Adjusted  $R^2 = 0.99579089$ , indicating that the model as a whole fits well. The analysis shows that X<sub>1</sub>, X<sub>2</sub>, X<sub>5</sub> are significant.

The confidence Intervals at  $\alpha=0.01$  ,  $t(15, 0.005) = 2.947$  ,which is fit the model well.

Table 8 confidence Intervals

Variable	Coefficient	99% Confidence	Internal
const	2.28038	-0.416103	4.97686
x1	-2.00204	-3.54117	-0.4629
x2	0.000368763	0.000320987	0.00041654
x5	0.389053	0.130791	0.647314

Source: Own calculation by Gretl

### **Joint Significant Test :**

Test statistic:  $F(3, 15) = 1420.48$ , with  $p\text{-value} = 1.25221e-018$

It is shown that each factor index in the model has a significant influence on the whole model. The  $P < 0.001$  indicates that there is a significant statistical difference, and the original hypothesis is rejected.

### **Save Residuals :**

The mean Value is  $7.5261e-015$  is close to 0 , the model fits well .

### **Conclusion**

1. Under the influence of the economic downturn, cost reduction and efficiency improvement have become an important demand of advertisers. External advertisers hope that all marketing activities can bring visible sales growth. Therefore, e-commerce marketing and live e-commerce marketing are facing development opportunities. Internal enterprises begin to attach importance to "consumer data operation" and "fine-grained marketing operation", which indicates that to achieve digital sales growth and sustainable development of enterprises, the combination of "marketing", "operation", and "sales" strategies will be the focus of enterprises for a long time.

2. The e-commerce transaction amount decreases by CNY 2.002036148 for each CNY 100 million increase in logistics costs. The total e-commerce transaction amount increases by CNY 0.368763 for each CNY 100 million increase in cross-border e-commerce transactions, and the network penetration rate increases by 1%. The e-commerce transaction amount increases by 0.389052538 trillion CNY.

3. It can be seen that the transaction volume of cross-border e-commerce has a huge boost to the total transaction volume of e-commerce. Although cross-border e-commerce is a part of e-commerce, it is still thriving and the market size of cross-border

e-commerce is gradually increasing. This plays a crucial role in the globalization of e-commerce in China,

4. The increase in network penetration, China's network coverage into rural towns and villages, which provides an emerging shopping method for rural residents.

**Suggestion :**

1. Strengthen network infrastructure construction, promote the development of mobile networks, popularize social informatization and family informatization, pay special attention to network construction in remote areas, and promote the informatization development of rural population.

2. Promote the mechanization and informationization of the logistics industry, accelerate the construction of the Internet of Things (IoT), integrate the logistics supply chain, and improve the quality of logistics employees and the rights and interests of consumers.

## **6.2. PEST analysis of Chinese E-commerce**

### **6.2.1. Political factors**

#### **1. China's internal political environment and policies**

Government economic policies and economic activities have a direct impact on the economic benefits of e-commerce, and laws and regulations formulated by the government and their public goods investment behaviour have a normative and guiding role for e-commerce. The higher the degree of opening up of the macroeconomic system, The influence of internationalization of business activities is also greater, and the market scope and market capacity are correspondingly increased. On the contrary, market capacity and scope are limited.

#### **2. "13th Five-Year Plan" of China's e-commerce**

At the end of 2016, the "13th Five-Year Plan for China's e-commerce" was released, which established three development indicators for e-commerce transactions

of 40 trillion yuan, total online retail sales of 10 trillion yuan, and 50 million related practitioners in 2020. 17 special actions were deployed from the aspects of e-commerce information infrastructure construction, new business forms and new market cultivation, e-commerce element market development and new e-commerce order construction, and proposed to strengthen organizational leadership, improve top-level design, promote pilot demonstration, optimization Safeguard measures for six aspects of capital investment, the establishment of a monitoring mechanism and enhancement of international cooperation.

### **3. "E-Commerce Law"**

Despite China's dominance in e-commerce, there is no national law that specifically regulates e-commerce, and the relevant regulations governing online transaction activities are scattered among various departmental laws, such as consumer protection law, product quality law, tort law and Competition law, and lower-level regulations.

The drafting of the "E-Commerce Law" began in 2013, and it took nearly five years to finalize it. Until August 31, 2018, the draft legislation was still being revised a few days before it was promulgated. The legislative process involved 12 ministries and local legislatures, academia, industry associations, and major e-commerce companies. The revised draft had been read four times (usually three times) before being submitted to the NPC Standing Committee for voting. This long process illustrates the cautious attitude adopted by the legislature in regulating the e-commerce industry, and also reflects the intense lobbying of the interest groups behind the process.

### **4. International Political Environment**

With the continuous challenges of a series of cross-border trade, retail, and export industries such as markets, logistics, and languages, the European markets represented by France, Italy, and the West have received increasing recognition and willingness to purchase Chinese products. Many Chinese sellers who are sensitive to smell are gradually turning their vision to this market, and using this as a stronghold to land in



the entire EU market. Martijn Hos, the policy director of the European Union E-Commerce Association, said in Beijing that there are currently three major barriers to the development of cross-border e-commerce in Europe. They are that European laws are not synchronized, and consumer rules, including privacy rights, are different in different countries. One of the obstacles encountered in the development of overseas e-commerce; the tax rates and systems such as VAT (value-added tax) are different. Besides, due to differences in language culture and geographical cognition, the European minority language market has long been a blind spot for Chinese sellers to expand their business.

It is precisely because of the huge potential of the European minority language market that cross-border e-commerce companies such as eBay have managed to help Chinese sellers solve language, logistics, marketing and other difficulties in recent years, so that "Made in China" can more easily enter the European minority language market, Making it possible for Chinese sellers to open up European minority language markets

As more and more Chinese sellers continue to exert their efforts in the new blue ocean represented by France, Italy, and Spain while finding new impetus for the healthy development of the domestic cross-border e-commerce industry, they also provide domestic "Side reform" provides new opportunities for digesting production capacity and optimizing the structure.

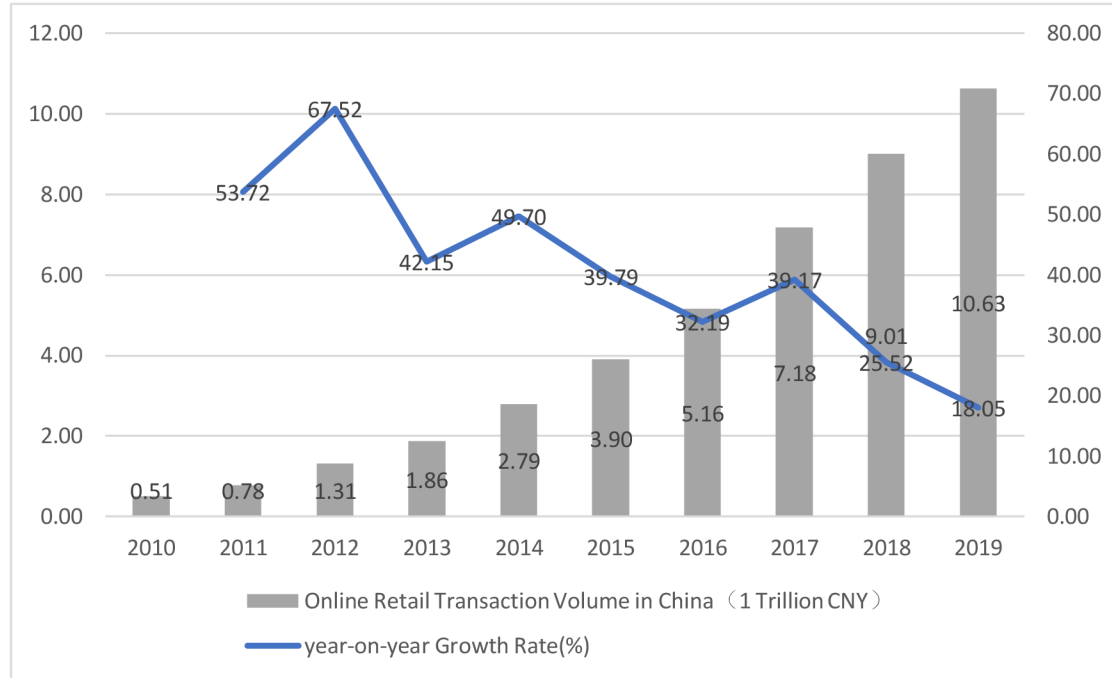
### **6.2.2. Economic factors**

Economic factors are also an important aspect of e-commerce development. Chinese companies are developing Internet marketing, and they have a strong desire to enter the Internet. The expansion of the online consumer group and the improvement of the quality requirements of consumer products and services will drive the continuous and rapid development of the B2C market, and the scale of the online transaction market will gradually expand.

#### **1) China's digital consumption has skyrocketed**

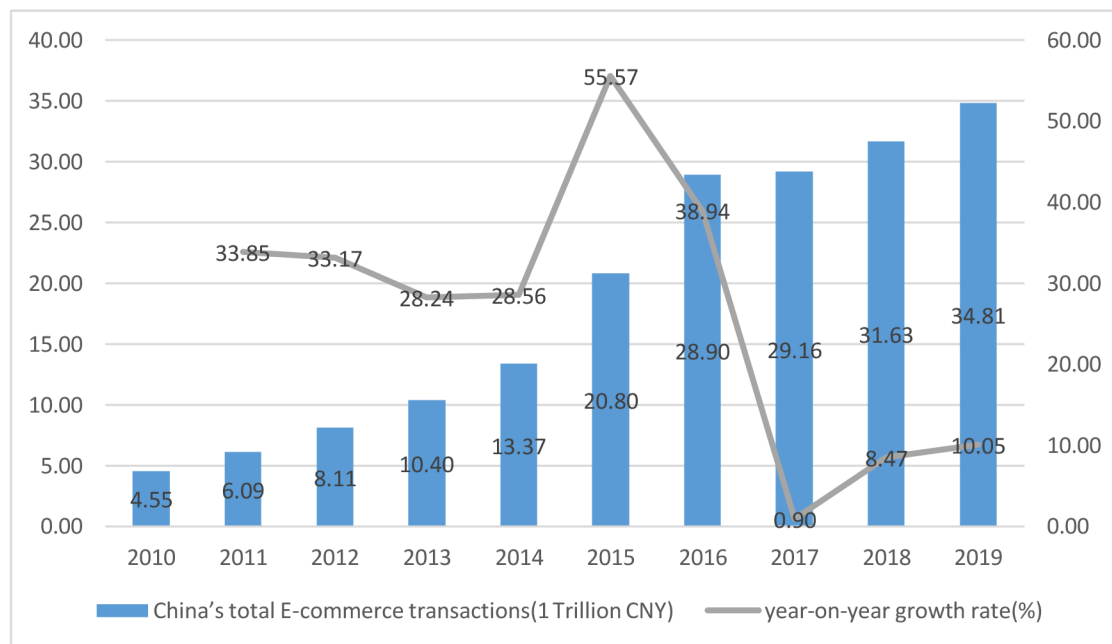
China's digital consumption has led the world by absolute magnitude in terms of number and market size.

Graph 4 China Online retail trade volume from 2010 to 2019



Source: Own calculation, data from China's E-commerce report. 2019 data provided by Ali Research Institute and consolidated by the research group.

Graph 5 China's total E-commerce transactions from 2010 to 2019



Source: Own calculations. Data from China's E-commerce report, Ali Research Institute and Avatar large data processing centre.

## **2) Consumption upgrade**

China is ushering in a new era of consumption upgrading. Digitalization and innovative business models are creating new purchasing power, changing consumer behaviours, and spawning a unique new consumer market.

Consumption has become the main driver of China's economic growth. China's consumer market is highly digitalized, and the market scale and consumers' digital radicalization are leading the world. The number of online shoppers in China and total online retail sales are more than double that of the United States; the proportion of Chinese consumers using mobile payments is more than three times that of any other country.

Accenture's 2018 Digital Consumer Survey found that digitalization is creating new purchasing power and forming new consumption. Nearly 40% of consumers have realized income source through digital part-time jobs; mobile payment has become a means of payment for 70% of consumers; 58% of consumers indicated that impulsive consumption increased because of the convenience of mobile payment. The convenience of consumption brought about by digital part-time job, internet finance and mobile payment has greatly promoted the upgrading of the Chinese consumer market. In the new consumption of residents in 2017, the above three promoters contributed at least 300 billion of purchasing power, accounting for 9% of the total new consumption.

### **6.2.3. Social factors**

Before 2010, paper media, TV and other traditional media have an absolute advantage. After 2010, new media has emerged continuously, and uses social features, characterized by content and interaction, to change the marketing method from "people looking for goods" to "goods looking for people". Behind is the transformation of e-commerce from product thinking to user thinking. Buying, KOL content marketing, live small video and other marketing methods complete the interception of consumers before they generate demand. From 2014 to 2018, the size of China's social e-commerce market increased from 95 billion to 1.26 trillion, with a CAGR of 91%. Under the rapid

development trend of social e-commerce, planting drafts, anchors, small videos, and social grouping has become an important position for brand marketing.

While the marketing methods are diverse, the requirements for precision marketing are further improved, and the platform also provides a large number of Marketing aids, rapid iteration and upgrade of marketing gameplay. Being on the front line of brand operation and strong consumer insight TP can provide the brand with a comprehensive social media marketing plan, which can greatly improve the brand's marketing effect.

Graph 6 China's social e-commerce market size 2013-2019

Year	China's social e-commerce market	Growth rate(%)
2013	50.75	-
2014	95.01	87.20
2015	181.95	91.50
2016	360.73	98.30
2017	683.58	89.50
2018	1139.78	66.73
2019	2060.58	80.79

Source: Own calculation, data from CITIC Securities Investment Research and Development Department

#### **6.2.4. Technological factors**

##### **1. Combine online and offline in the digital age**

After Amazon acquired Whole Foods Market, Western consumers have reacted to this, and Amazon has gradually transformed it into a new generation of digital retail, which China has now realized.

At present, Alibaba and JD.com have quickly opened retail stores all over the country, named "Mr.HIPPO" and "7FRESH" respectively. Both brands provide a wide range of digital shopping services. For example, customers can use their mobile phones

to scan the form of goods in the store to understand the source of the product, nutrition information and price.

One of the reasons why consumers initially chose cross-border e-commerce is that there are certain concerns about product safety, and the guarantee of the new store concept helps to alleviate this concern.

## **2. Intelligent logistics has become an emerging trend, and the logistics equipment segment is expected to maintain high growth**

With the development of the logistics industry, efficient and intelligent logistics equipment is continuously invested to ensure the orderly operation of express logistics, and the explosion of express warehouses is rare. In the next few years, the logistics equipment field is expected to become one of the prosperous sub-industries of the machinery industry: the express delivery giant will be listed in 2019, and the matching funds raised will be mainly used to build sorting centers and equipment purchases, bringing smart investment to logistics equipment. Demand has increased; e-commerce giants have arranged the construction of logistics supply chain systems and established large-scale warehousing and distribution centers nationwide. Typical representatives include Alibaba Network, JD.com Asia First and Suning Yuncang. The development of e-commerce express delivery companies and the growing demand for logistics automation will support the development of the industry. From the perspective of industry development trends, some core equipment manufacturers are currently actively deploying and transforming into integrated intelligent logistics system integrators, and their business scale is expected to continue to expand.

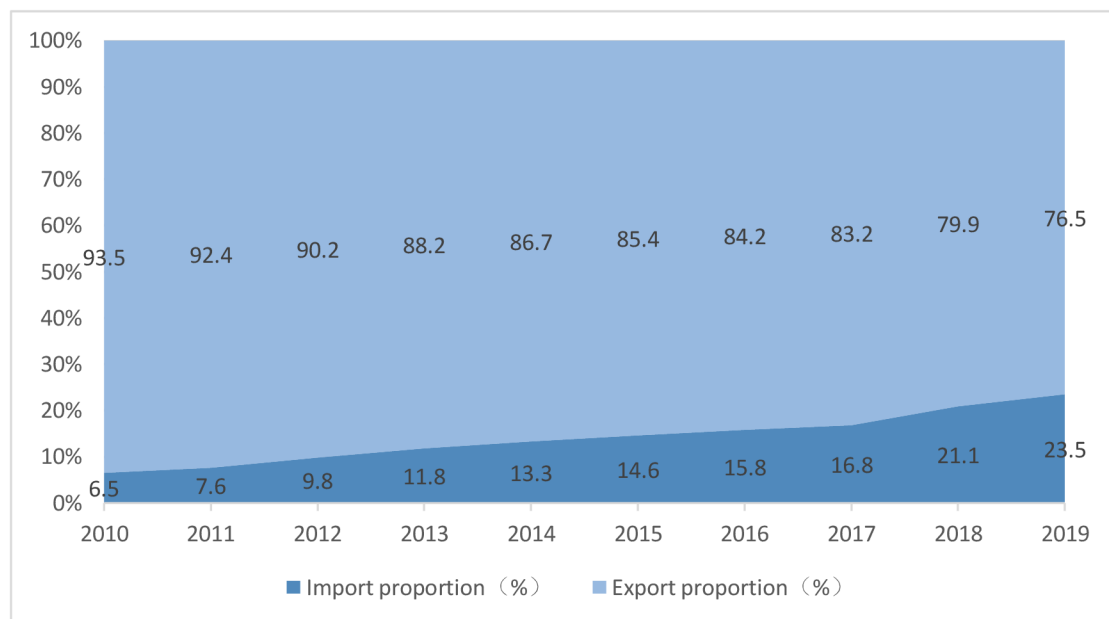
### **6.3. SWOT analysis of the status of cross-border e-commerce in China.**

According to the figure below of import and export ratio, structure distribution and prediction 2010-2019 cross-border e-commerce in 2010-2019, the proportion of

export in 2010 was 93.5%. It is predicted that this proportion will be decreased to 84.4% in 2017.

However undoubtedly, the most trade volume of cross-border e-commerce is contributed by export e-commerce, with a lower proportion of import e-commerce. Yet following the openness and infrastructure improvement of China’s cross-border online shopping market, the proportion of import e-commerce will be gradually increased in the future.

Graph 7 Ratio of China’s Import and Export Cross-border E-commerce



Source: Own calculation. Data from China logistics information centre

In recent years, China's import and retail cross-border e-commerce platforms have been successively established, which has continuously improved the user experience in the fierce competition and has promoted the continuous and steady growth of China's import and retail cross-border e-commerce transactions. The proportion of international e-commerce transactions will continue to increase.

### 6.3.1. Strength

#### 1. Rich manufacturing market

There is a considerable base of traditional trading manufacturers, enterprises or individuals in the country. The existence of these manufacturers can provide a large

number of domestic sources to meet the market needs of different countries and different populations. China is a large manufacturing country with a large number of foreign investments and factories. In the future development of cross-border e-commerce, these manufacturers will be natural overseas storage for foreign manufacturers and enterprises, saving a lot of costs. China has 1.39 billion people, accounting for 20% of the world's population. Of these 1.4 billion people, 900 million are 15-59 years old. These 900 million people have the purchasing power or potential purchasing power of cross-border e-commerce, so China is the world's largest market.

## **2. Rich trading opportunities**

The cross-border e-commerce model itself improves transaction efficiency, reduces transaction costs, and increases trade opportunities; and under the current international economic situation, cross-border e-commerce small-scale, multi-batch, fast-receiving trade methods replace traditional external The high-volume, low-volume trade mode of trade can alleviate the pressure brought by the funds and risks of both parties in the transaction. This new model of cross-border trade has been promoted by multiple factors such as technological progress, industrial support, and related policy formulation.

### **6.3.2. Weakness**

The increase in global Internet penetration and the rapid development of e-commerce in neighbouring countries are key factors for the rapid development of China's cross-border e-commerce. The Chinese government is trying to resolve cross-border e-commerce issues with new laws and regulations. The main problem that remains is the mismatch between traditional business oversight measures and the constantly innovative business model. Cross-border e-commerce involves five stages, including product launch, warehousing and logistics, customs clearance, payment and after-sales service. In general, China's cross-border e-commerce faces problems such as slow customs clearance, complex tax rebate programs, high foreign exchange risks, expensive and inefficient international logistics, unclear government regulation, and

poor after-sales services. The reasons behind these problems are attributed to the following key issues.

### **1. Uneven product quality**

Although a breakthrough in the richness of the manufacturing market has become an advantage of cross-border e-commerce, it has also brought many problems. Due to the low threshold of cross-border e-commerce platforms, coupled with the numerous platforms, some companies and manufacturers have low awareness of intellectual property rights. A large number of counterfeit and shoddy products appeared on the surface of cities. Since the supervision of the e-commerce platform is only targeted at the shipment, payment and transaction process of the goods, not the origin of the goods and the identity of the purchaser, this will prevent some criminals from being identified. Once these products touch the intellectual property rights of foreign manufacturers, they will inevitably cause an impact on the cross-border e-commerce industry.

### **2. Limitations of payment methods**

Nowadays, the payment methods of cross-border e-commerce in the world are diverse and there is no universal payment method. In this case, buyers are often constrained by payment methods when choosing a cross-border e-commerce platform. The emergence of third-party platforms has made it possible to solve such problems. However, at present, third-party payment platforms at home and abroad are complex and diverse, and there is no uniformity.

The payment problems faced by consumers have not yet been solved by SWOT analysis and development strategies of the status of cross-border e-commerce in China. . Amazon in the United States includes almost all online payment methods, including Visa, world fast, and China UnionPay. In 2013, it also opened Alipay, WeChat and other payment methods. Second is eBay, which uses Paypal, the most widely used third-party payment platform in the world. Its advantage is that it can quickly pay and receive 25 major international currencies including USD, Canadian dollar, Euro, British pound, Australian dollar and Japanese yen.



The well-known domestic cross-border e-commerce companies Alibaba and Dunhuang.com include the online payment functions of Alipay, WeChat, Tenpay, and major domestic banks.

However, because domestic third-party payment platforms have not yet fully entered the foreign market, the scope of product selection will be affected to a certain extent, and foreign cross-border e-commerce payment methods are relatively cumbersome.

### **3. High logistics cost and large time and space span**

The high cost of cross-border logistics has always been an important factor restricting the development of cross-border e-commerce. From a spatial point of view, cross-border logistics has more processes of entry, exit and overseas transportation than domestic logistics, and this process will consume a lot of time. The impact of these times on the consumer user experience is ignored. Consumers, either pay more money in exchange for time costs, which will inevitably affect the user experience of some consumers.

### **4. Imperfect Industrial Credit, Absence of Supervision and Difficulty in Solving Transaction Disputes**

It is precisely because of the influence of space and period that another disadvantage of cross-border logistics is also exposed, that is, in the time and space of large spans, logistics supervision faces problems that are difficult to control.

During the long journey, cross-border e-commerce should be monitored in real-time to ensure the safety of the products and feedback the real-time conditions of the logistics process to consumers, sellers and cross-border e-commerce platforms.

However, due to the distant roads and various customs issues brought by cross-border borders, the current cross-border logistics supervision is generally inadequate and there are various risks. Due to the difficult implementation of the regulations, counterfeit and high imitation products are constantly emerging, which makes it difficult for consumers to feel at ease.

### **6.3.3. Opportunity**

#### **1. Gradually open national policies**

In recent years, China has promulgated some laws to gradually regulate and encourage capable large enterprises to develop cross-border e-commerce. Among them, the most concerned is the promulgation of the "E-commerce Law". The E-Commerce Law has established a legal framework for the healthy and standardized development of China's e-commerce, safeguarding the interests of consumers and protecting the interests of enterprises, effectively curbing the momentum of counterfeit and inferior products, and preventing cross-border e-commerce. The long-term development has important significance.

#### **2. Changes in world consumption patterns and perceptions**

Most of the consumers facing cross-border e-commerce are young people who have a strong ability to accept new things. Under the condition that transaction security is guaranteed, they are willing to accept some new things from different regions and countries, such as some foreign ones. Brands, domestic products and some things that are hard to see to satisfy their curiosity, this has promoted the integration of the global economy and culture to a certain extent. With such a group of young people as pioneers, cross-border e-commerce quickly occupied a certain market share. The global nature of cross-border e-commerce, the diversity of commodities, and the intangibility of transactions have greatly adapted to the current market demand and the consumer's changing consumer attitudes.

### **6.3.4. Threat**

#### **1. Human resources issues**

Cross-border e-commerce is a new business model. Due to the complexity, comprehensiveness and difference of cross-border transactions, it is different from domestic e-commerce. Therefore, there is a relative lack of cross-border e-commerce merchants. Practitioners of cross-border e-commerce platforms are required to have

multiple qualities, especially foreign language skills, network information technology knowledge, transnational culture, legal knowledge background, logistics operations and financial foreign exchange knowledge.

For production companies or trading companies participating in cross-border e-commerce, they can use large-scale cross-border e-commerce platforms to conduct transactions, so the education level of employees is generally college students and ordinary college students, and they prefer to specialize in marketing positions and business management positions.

With the development of the company, the company urgently needs high-quality and comprehensive talents. They have a strategic vision for the cross-border e-commerce industry, predict the development trend of cross-border e-commerce, constantly adapt to policy changes and changes in domestic and foreign business environments, and lead the team to lead international cross-border e-commerce, border e-commerce, and predict business development trends.

According to the Research Report on China's Cross-border E-commerce Merchants released by the China Electronic Commerce Research Center, 85.9% of the more than 300 companies surveyed believed that the talent gap of cross-border e-commerce merchants was more serious, and 82.4% of the companies considered recruiting Of people cannot complete work tasks as required, and there is a serious mismatch between school education and corporate needs.

## **2. Competition from overseas service companies**

In the field of international logistics, international express delivery is generally monopolized by large foreign companies, such as UPS, FedEx, DHL, etc. The ability of these companies to apply advanced technology in the field of logistics is difficult for Chinese express delivery companies to match.

At the same time, China's international express delivery time is long and lacks effectiveness, which will reduce consumers' shopping desire.

Graph 8 SWOT analysis

<p><b>Strength</b></p> <p>1, Rich manufacturing market</p> <p>2, Rich trading opportunities</p>	<p><b>Weakness</b></p> <p>1, Uneven product quality</p> <p>2, Limitations of payment methods</p> <p>3, High logistics cost and large time and space span</p> <p>4, Difficult logistics supervision</p>
<p><b>Opportunity</b></p> <p>1, Gradually open national policies</p> <p>2.Changes in world consumption patterns and perceptions</p>	<p><b>Threat</b></p> <p>1.Human resources issues</p> <p>2.Competition from overseas service companies</p>

Source: Own analysis

#### 6.4. Analysis of the Future Development Direction of E-Commerce

Extending from the technical dimension to various industrial chains to drive future e-commerce progress in China. From the beginning of China's e-commerce in the 1990s, China's e-commerce has developed for more than 20 years. It has experienced the development process from the specific application of technology to the formation of related industries and integrated into the various components of the national economy through innovation and co-development.

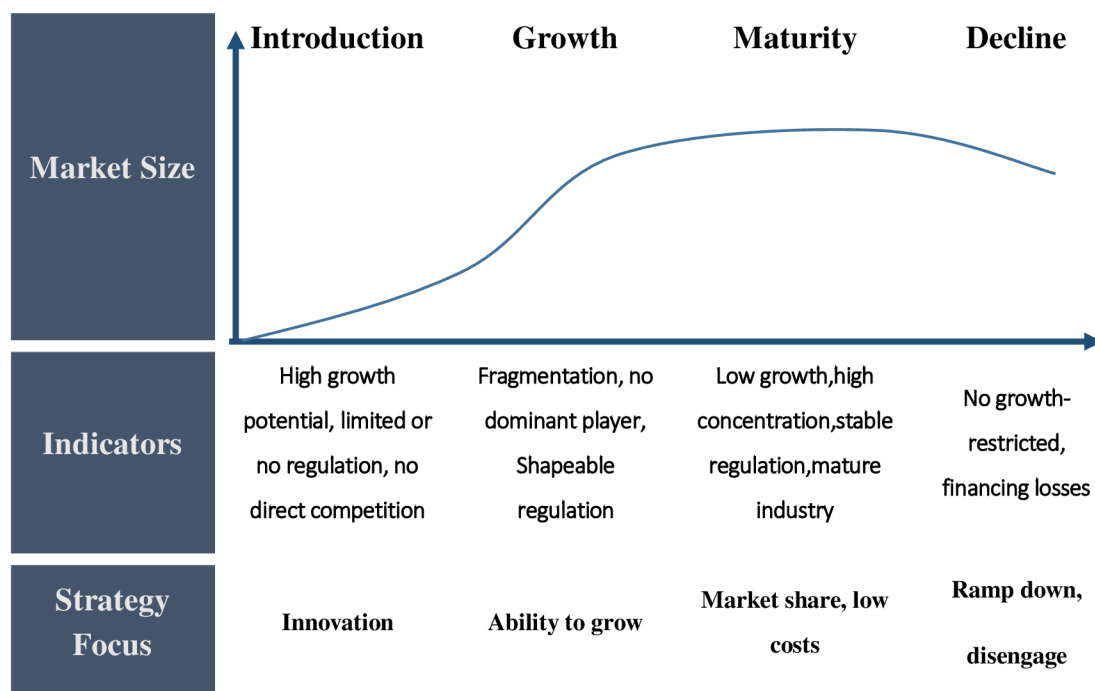
The emergence of e-commerce has radically transformed the global economic landscape over the past decade. Although e-commerce experienced a boom-and-bust business cycle in its transition from the DotCom bubble in 2000 and 2001 back to an economy with more modest expectations for technology-led value, e-commerce is achieving steady growth in the global setting.

##### 6.4.1. Ecommerce Industry Research

Before conducting industry research, the first judge whether the target industry is in the early stage or late stage of the whole industry development stage. For the early-

stage industry, because the overall market landscape of the industry is uncertain, no industry leader emerges, and the number of companies in the early stage of the industry is relatively small, the logic used is "Bottom-Up": research the companies in the market first. Then we summarize the industry as a whole. For the mid-and late-stage industries, the market pattern is gradually formed and the industry benchmark has been determined. The logic used in our study of the mid-and late-stage industries is "Top-Down": first research the industry fundamentals, and then research the benchmark enterprises.

Table 9 Industry Life cycle model



Source: Own analysis, data from iEduNote.com

In the past 20 years, China's e-commerce has gone through four stages, such as the germination period, infrastructure construction period, rapid development period and maturity period. The scale of China's electric commerce has grown continuously and has become an important part of the modern service industry. In the budding period (1997-1999), the level of informationization is low, the base of online shopping people is low, the public lacks understanding of e-commerce, and the domestic e-commerce websites are in the bud. During the infrastructure construction period (2000-2007), the C2C model developed rapidly, supported by national policies, the credit bottleneck was solved, and infrastructure such as logistics payment was further improved. During the

period of rapid development (2009-2015), the online transaction mode with Chinese characteristics was formed.

Meanwhile, with the development of the mobile Internet and the popularity of smartphones, mobile e-commerce has entered the windfall period. During the mature development period of e-commerce (2016-present), the traffic pattern of e-commerce platforms has been determined, the online dividends gradually disappear, and vertical segments continue to be further developed.

Table 10 China's total e-commerce transaction and growth rate 2010-2019

Year	China's total E-commerce transactions ( Trillion CNY)	year-on-year growth rate(%)
2010	4.55	---
2011	6.09	33.85
2012	8.11	33.17
2013	10.40	28.24
2014	13.37	28.56
2015	20.80	55.57
2016	28.90	38.94
2017	29.16	0.90
2018	31.63	8.47
2019	34.81	10.05

*Source: own calculations. Data from China's E-commerce report, Ali Research Institute and Avatar large data processing centre.*

From above table 5, The scale of the e-commerce market is still expanding, but the growth rate is slowing down and has entered a mature stage. It has become the main driving force of business innovation in the 21st century, has shown a strong driving force in promoting consumption and structural adjustment, and has become a new factor driving the development of the national economy and society. It also provides a platform for technological progress and innovation

#### **6.4.2. Analysis of Technology Development in the E-Commerce Domain**

In 'Technical Change and the Aggregate Production Function' (1957), [19] Solow attempted to quantify the effect of individual factors on the pace of growth.

Since the neoclassical growth theory Solow model (Solow, 1956) [20,21] cannot explain the mechanism of technological progress that causes long-term economic growth, the endogenous growth theory takes the research on the end chemistry of technological progress as the core of the study. It is pointed out that the sources of technological progress are technological innovation, learning by doing, human capital and international trade. Representative theoretical contributions are technological innovation proposed by Romer (1990) [22], Azin and Howitt (Aghion & Howitt, 1992) [23] [24], human capital accumulation mentioned by Lucas (1988), Lucas (1988), Young (1993) and the Stokey model (1991). 1995), and Grossman and Helpman (1991) [25] suggest technological progress resulting from technological spillovers in international trade.

Under the mechanism of endogenous technological progress, the accumulation of specialized knowledge and human capital produces increasing returns to scale, which breaks through the assumption of decreasing or invariable factor returns in the traditional growth theory. The mechanism of endogenous technological progress has three basic characteristics: the first is the endogenous uncertainty, which originates from the investment decision-making behaviour of the firm's profit maximization. Although the innovation success of certain domain-specific technological breakthroughs or knowledge is stochastic, the overall growth of technical knowledge is proportional to the resources invested. Second, the gains from technological progress are increasing. The endogenous growth theory holds that there is an endogenous mechanism in which investment stimulates knowledge accumulation, and knowledge accumulation, in turn, promotes investment.

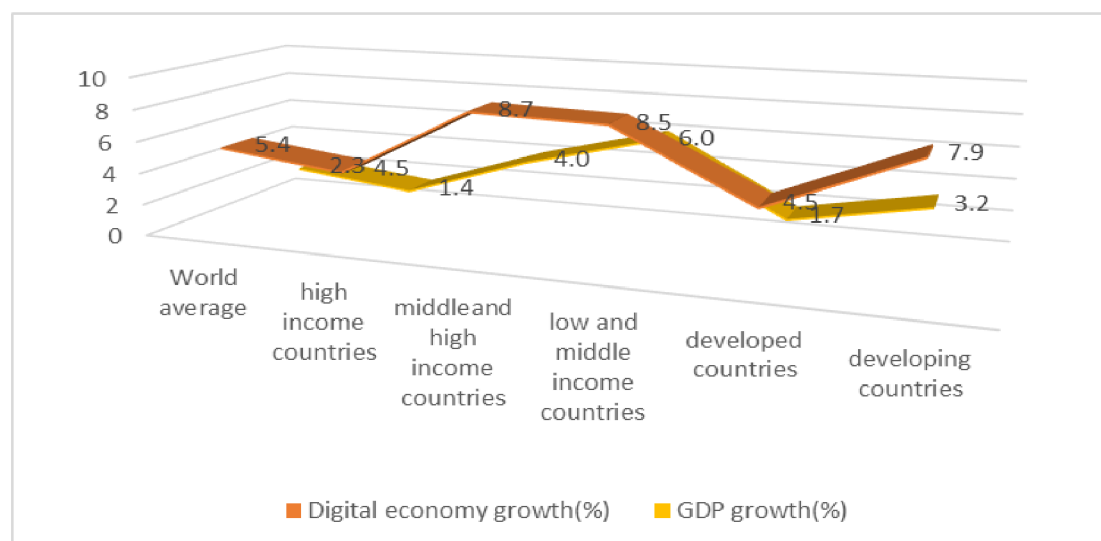
This virtuous cycle mechanism of increasing investment returns has increasing marginal productivity, which the neoclassical growth theory cannot explain.

Endogenous growth theory explains why developed countries can maintain strong growth rates without encountering the diminishing returns to investment predicted by neoclassical growth theory. Third, monopolistic competition. Endogenous growth theory argues that knowledge discovery or technological innovation requires some monopoly power. The special nature of technology or knowledge (non-competition and local exclusiveness) leads to increasing marginal returns, which is the key feature of long-term economic growth. [26] It is these characteristics that guarantee the end chemistry of technological progress.

### 6.4.3. Technology Driven by Digital Economy for China's E-Commerce

The digital economy has become a strategic commanding point for new growth in all countries around the world. Developed countries such as the United States, European Union, Germany, and United Kingdom Japan have formulated a large number of digital economy development strategies and plans since the beginning of the century. As a prominent representative of the digital economy, e-commerce has shown unprecedented development potential in promoting consumption, maintaining growth, adjusting structure, and promoting transformation. It has become an important driving force for China to cope with the economic downward trend and drive economic and social development and innovation.

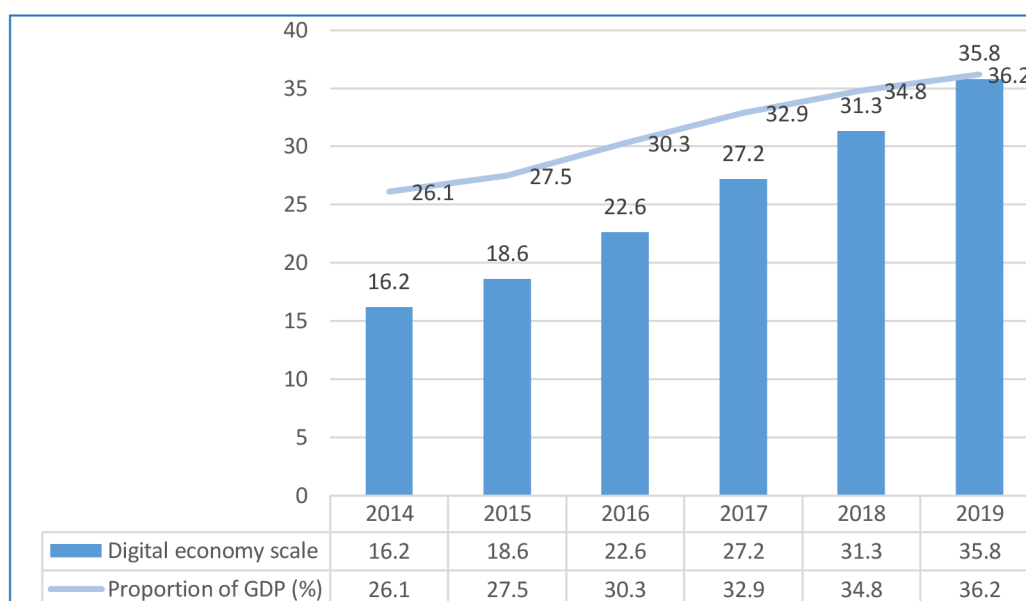
Graph 9 Global Digital Economy Growth and GDP Growth



Source: Own calculation, data from China Institute of Information and Communication



Graph 10 Digital economy scale and proportion of GDP in China



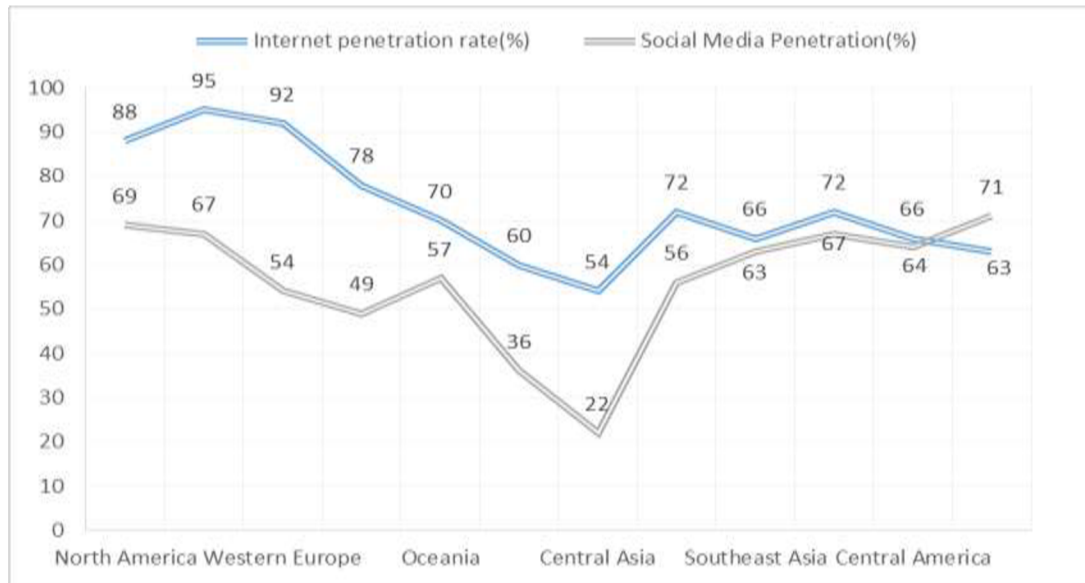
Source: Own calculation, data from China Institute of Information and Communications

#### 6.4.4. Global B2B2C E-Commerce Development Analysis

The emergence of global e-commerce decentralization. Overseas social media such as Instagram, Youtube, Facebook, and so on are a huge number of people, and a global survey of e-commerce decision-makers shows that 40% of e-commerce companies have sold or plan to sell directly through social platforms by 2020. In mature markets, the Internet penetration rate is significantly higher than the social media penetration rate. In these countries, the e-commerce infrastructure is well developed, the development of centralized e-commerce is relatively mature, and decentralized e-commerce is developing rapidly. In developing markets, there is little difference between Internet penetration and social media penetration. The development of e-commerce infrastructure in these countries varies greatly and needs to be improved. Centralized e-commerce and decentralized e-commerce are growing at the same time.

During the 2020 pandemic, users' online consumption habits have been cultivated, new social marketing channels have been emerging, bringing new traffic to the independent site and social e-commerce market. On cross-border B2B e-commerce platforms, the trend of consumer-to-consumer is becoming more and more prominent.

Graph 11 Internet Penetration and Social Media Penetration in Major Regions of the World, 2020

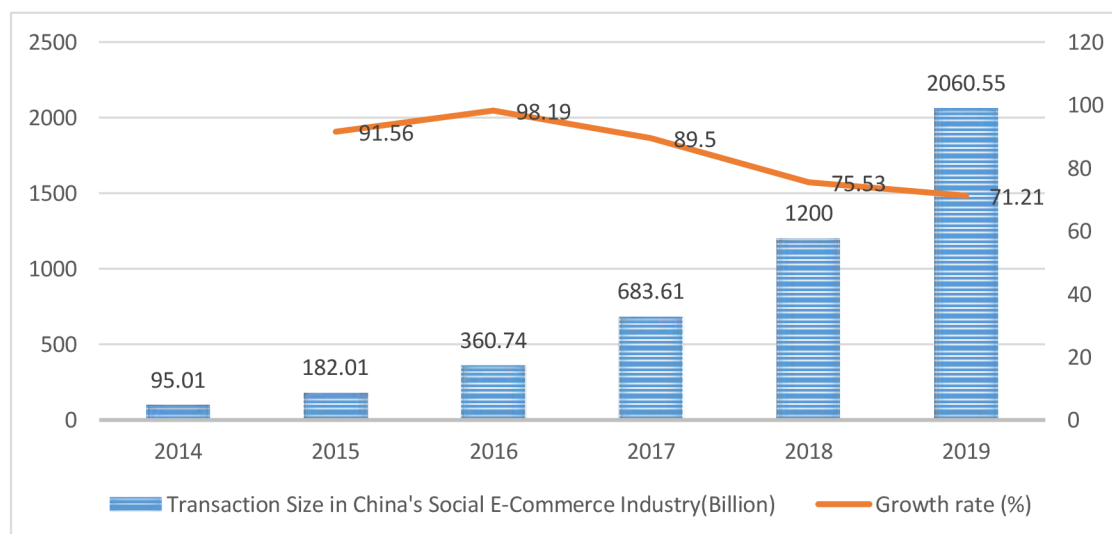


Source: Own calculation, data from Statista, iResearch

#### 6.4.5. Development-driven: Technological Innovation Deepens Value Application of Social E-Commerce

Social e-commerce is the integration of e-commerce and social media, in which social networking is the means and business is the end. Therefore, its essence consists of two aspects: the commercialization of social traffic and the socialization of e-commerce.

Graph 12 China's social e-commerce industry size and growth rate



Source: Own calculation, data from www.100EC.CN

As the COVID-19 pandemic spread worldwide in early 2020 and hampered brick-and-mortar businesses, online social retail emerged as a refreshing breakthrough. Social commerce blends e-commerce and social media best practices as an exciting, lucrative evolution in retail marketing.

China's social e-commerce innovation continues. In recent years, it has pioneered a variety of e-commerce blue ocean business models, including live video, content shopping guide, and WeChat ecological social applications.

#### **6.4.6. Future Technology Update Trends in Cross-Border E-Commerce**

Cross-border e-commerce has gradually improved the construction of payment, foreign exchange settlement and tax refund, logistics, and overseas warehouses. In addition to capital, how to improve customer experience will become the core of enterprises. Indicators such as product differentiation, scale centralization, platformization, and traffic conversion rate will continue to drive enterprise growth.

Branding will become the focus of cross-border e-commerce. Various modes of cross-border e-commerce have emerged under technological innovation, and industry employees have rapidly increased. Through various trainings, practices, and cases, they have become mature industry employees.

In recent years, emerging technologies such as Big Data and IoT have gradually converged with new cross-border e-commerce R&D and production, logistics and distribution, and precision marketing. The big data technology-assisted platform improves the efficiency of matching supply and demand and reduces information opaqueness caused by lengthy intermediate circulation links and complex cross-border liability recourse. AI algorithms assist in intelligent operation management and business prediction and decision-making. Technologies such as IoT and smart warehousing improve contract fulfilment efficiency. Communications and 5G technologies provide a more visualized and convenient service experience in logistics and after-sales. Blockchain technology addresses trust issues in cross-border trade.

Table 11 Technology and applications lead the development of global e-commerce and new cross-border e-commerce

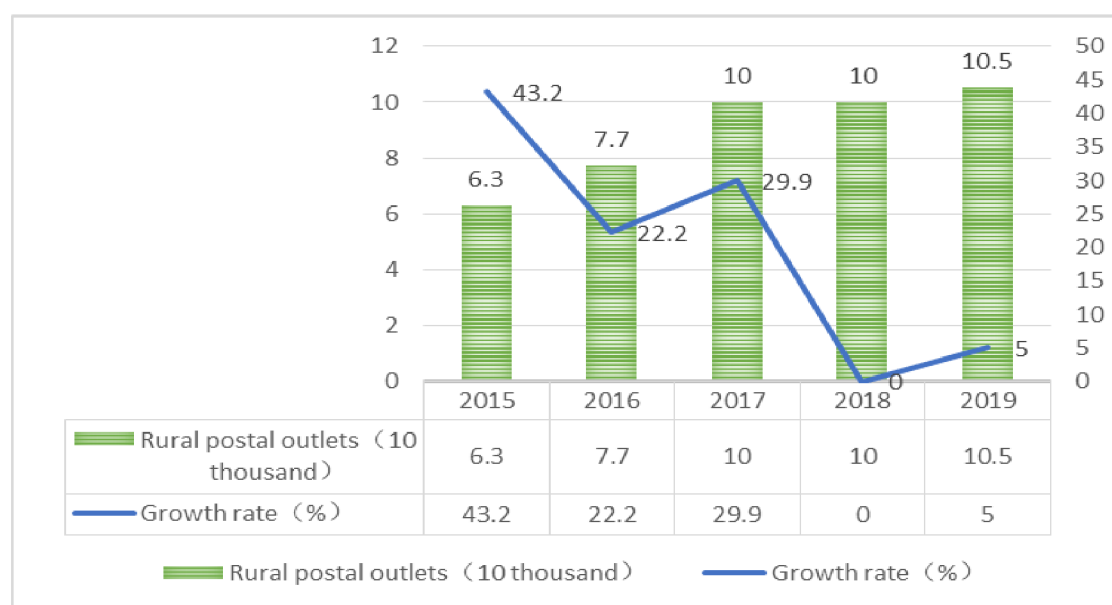
<p><b>Big Data</b></p>	<p>The platform implements comprehensive management of multiple data assets, such as order information, logistics information, and fund flow information.</p>
<p><b>Artificial Intelligence (AI)</b></p>	<p>In the future, AI algorithms are used to summarize and analyze data stored on platforms and suppliers to further promote the implementation of intelligent customer service, intelligent marketing, intelligent production decision-making, and intelligent order matching products.</p>
<p><b>IoT</b></p>	<p>Automatic identification technologies such as RFID, NB-IoT, EPC, QR code, and sensor sensing technologies enable cross-border logistics scenario identification, product source tracing, secure transportation, and scheduling optimization.</p>
<p><b>5G commercialization</b></p>	<p>Use the communication technology to transmit the data collected by the intelligent terminal in real-time. Use 5G and VR technologies, cross-border e-commerce provides consumers with more visualized, convenience.</p>
<p><b>Blockchain</b></p>	<p>information can be self-verified, transmitted and managed, and cross-border regulators can accurately understand transaction data and money flows through open interfaces.</p>

Source: own Calculation ,information collected from [www.iresearch.com](http://www.iresearch.com)

### 6.4.7. Accelerating the Development of Logistics Mode in E-commerce Environment

The coverage of rural postal services also affects the development of e-commerce and logistics in China. Due to geographical limitations, logistics companies cannot deliver goods in time or at all in remote areas where postal services are not developed. Therefore, it is also crucial to improve the coverage of postal services to promote the development of logistics technology.

Graph 13 Number of Postal Service Outlets in Rural China 2015 - 2019



Source: Own calculation, data from State Post Office of China

With the implementation of active policies to guide the development of rural e-commerce logistics, the further improvement of rural consumption level, and the innovative application of logistics technology and logistics model in rural e-commerce field, the development potential of rural e-commerce logistics industry will be further stimulated.

## **7. Results and Discussion**

Through the above results, we can know that the service support system for E-commerce is not yet complete. So far, the environment and condition such as laws and regulations, technology standards and infrastructure construction that are required to carry out E-commerce business activities are still incomplete.

The financial supervision system concerning E-commerce supervision, as well as administrative regulations for industry and commerce, taxation, customs and inspection, are not yet promulgated. Moreover, the e-payment system, logistics system, and credit management system also need to be improved.

Despite the model analysis, the employment of employees driven by e-commerce and the development of e-commerce technology has made tremendous contributions to China's economic growth, but there is still a lack of high-tech talent in the e-commerce industry.

According to the analysis results, the proportion of China's B2C market is extremely high, and the overall market scale continues to expand. Traditional enterprises usually lack online sales channels, but in the face of the continued weakness of offline terminal sales, traditional enterprises require online transformation, but they lack internal transformation resources and the cost of independent transformation opportunities is too high. The emergence of high-quality operators provides traditional enterprises with outsourcing options. Enterprises can continue to focus on polishing their core competitiveness such as product development, saving online operating costs and risks.

Analysis shows that although the scale of cross-border e-commerce is still expanding, the growth rate is slowing down. At the same time, for overseas brands eager to enter the Chinese market, offline channels with slow sales and high fixed costs are not the optimal market entry end. China's online e-commerce platform has become the main battlefield for overseas brands. However, in the face of domestic and foreign differences in customer consumption habits, language, laws and regulations, supply

chain, etc., overseas brands are willing to choose China's local e-commerce operators, closer to consumers and cater to their needs.

The 2020 epidemic has driven the development of cloud live broadcast and cloud office products. For cross-border e-commerce enterprises, cloud logistics and cloud supply chain management will bring a new possibility. For overseas consumers, offline stores have closed and online malls have become the only shopping channel. This is tantamount to accelerating the habit of shopping from offline to online.

China's live-streaming craze has spread abroad, in Southeast Asia and some European countries. Live broadcast has undoubtedly become a new trend in bringing goods and traffic, and this has opened up new opportunities for cross-border e-commerce, where small and medium-sized enterprises may be able to take the opportunity to grow rapidly.

## **8. Conclusion**

Based on the above analysis, we can draw the following conclusions.

The market size of Chinese e-commerce has been steadily increasing in recent years. Due to the improvement of technology and the introduction of direct labour, the direct labour force has also made a great contribution to China's macroeconomics. At the same time, it also attracts a lot of investment and financing at home and abroad.

But even if it is growing, multiple data shows that the growth rate is gradually slowing down, the e-commerce market is updating rapidly, the economy is weak, the human resources are scarce, the market competition is fierce, and consumers' willingness to buy is declining.

At present, the head effect is becoming more prominent, and the industry concentration is expected to continue to increase. After the transformation and iteration in recent years, the overall level of e-commerce service providers has improved, shifting from labour-driven to technology + labour-driven. Some service providers that have advantages in scale, capital, and supply chain have risen strongly, and industry barriers have gradually been established.

In this regard, the recommendations made in this article are as follows.

Improve the updated technology, improve the effectiveness and internal support.

Changes in marketing strategy, as social e-commerce gradually develops in scale, should be used to enhance brand penetration.

Increasing investment in third-party e-commerce, more and more offline brands want to join, and even international brands need a third-party platform to provide help in Chinese policies, transaction methods, logistics, etc.



## 9. Reference

- 1) Goldstein, Andrea, and David O'Connor. E-commerce for development: prospects and policy issues. Vol. 94. Paris: OECD Development Centre, 2000.
- 2) Wang, Kuang-cheng. "A process view of SWOT analysis." Proceedings of the 51st Annual Meeting of the ISSS-2007, Tokyo, Japan. Vol. 51. No. 2. 2007.
- 3) Chermack, Thomas J., and Bernadette K. Kasshanna. "The use and misuse of SWOT analysis and implications for HRD professionals." Human Resource Development International 10.4 (2007): 383-399.
- 4) Sammut - Bonnici, Tanya, and David Galea. "PEST analysis." Wiley Encyclopedia of management (2015): 1-1.
- 5) Ghazinoory, Zadeh & Mariani. "Fuzzy SWOT analysis." Journal of Intelligent and Fuzzy Systems. (2007).18.99-108.
- 6) ECLAC. (2002). Economic Commission for Latin America and the Caribbean ECLAS, Washington Office, Electronic Commerce, International Trade and Employment: Review of The Issues. UN. pp. 1-30.
- 7) Efendioglu, Alev M., Vincent F. Yip, and William L. Murray. "E-Commerce in developing countries: issues and influences." *Proceedings of the IBEC Annual Conference, Honolulu, Hawaii*. 2005.
- 8) Tian, Yan, and Concetta Stewart. "History of e-commerce." Encyclopedia of e-commerce, e-government, and mobile commerce. IGI Global, 2006. 559-564.
- 9) Lund, M. J. F., & McGuire, S. (2005). Institutions and development: Electronic commerce and economic growth. *Organization Studies*, 26 (12), pp. 1743-1763.
- 10) Malkawi, B. H. (2007). E-commerce in light of International Trade Agreements: The WTO and the United States-Jordan Free Trade Agreement. *International Journal of Law and Information Technology*, 15 (2), pp. 153-169.
- 11) Terzi, N. (2011). The impact of e-commerce on international trade and employment. *Procedia Social and Behavioral Sciences*, 24, pp. 745-753.

- 12) Gary Schneider(2012).Electronic Commerce(10 edition). Ohio: Cengage Learning.
- 13) Barbara M Fraumeni(2001). E-commerce: Measurement and measurement issues. The American Economic Review,91(2): 318-322.
- 14) M Subramani, E Walden(2001). The impact of e-commerce announcements on the market value of firms. Information Systems Research, 12(2): 135–154.
- 15) Temple, Jonathan and Ludger Wößmann. (2006). Dualism and Cross-Country Growth Regressions. Journal of Economic Growth, 11, 187-228.
- 16) Ding, Sai, and John Knight. "Can the Augmented Solow Model Explain China's Economic Growth? A Cross-Country Panel Data Analysis." (2008).
- 17) A.M. Efendioglu, V.F. Yip, Chinese culture and e-Commerce: an exploratory study, Interacting with Computers 16, 2004, pp. 45–62.
- 18) Tigre, Paulo Bastos, and David O'Connor. "Policies and Institutions for E-Commerce Readiness." (2002).
- 19) Solow, R. (1957). Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics*, 39(3), 312-320.
- 20) Solow R A. Contribution to the theory of economic growth [J ]. Quarterly Journal of Economics, 1956, 70 ( 1 ): 65-94.
- 21) Solow R. Technical change and the aggregate production function [ J ]. Review of Economics and Statistics, 1957, 39: 312-320.
- 22) Romer P. Growth based on increasing returns due to specialization [ J ]. American Economic Review, 1987, 77 (2): 56-62.
- 23) Aghion P, Howitt P. A model of growth through creative destruction[J ]. Econometrica, 1992, 60 (2) : 323-351.
- 24) Aghion P, Howitt P. Endogenous growth theory[M ]. M IT Press, 1998.

- 25) Grossman, Helpman. Quality ladders in the theory of growth [J ]. Review of economic studies, 1991.
- 26) Xavie Sala2I2Martin. 15 Years of new growth economics: what have we learnt? [ R ]. Centrals Banks of Chile Working Papers, 2002, 172

## 10. Appendix

Year	Total e-commerce	National Express	The market scale of cross-	China Third-Party	China's advertising	Network penetration
2001	0.12	2.0	1000	1.6	792	3.7
2002	0.19	2.2	1700	4	903	4.6
2003	0.27	2.5	2500	11	1079	6.2
2004	0.48	2.9	3300	60	1265	7.2
2005	0.74	3.4	4300	163	1416	8.5
2006	1.3	3.8	5000	451	1573	10.5
2007	1.55	4.5	6200	935	1741	16
2008	2.9	5.5	7000	2578	1900	22.6
2009	3.6	6.1	8500	5051	2041	28.9
2010	4.55	7.1	11000	10105	2341	34.3
2011	6.09	8.4	17000	22038	3126	38.3
2012	8.11	9.4	21000	36814	4698	42.1
2013	10.4	10.2	31500	54105	5020	45.8
2014	16.39	10.6	42000	80767	5606	47.9
2015	21.79	10.8	54000	122000	5973	50.3
2016	26.1	11.1	67000	588000	6489	53.2
2017	29.16	12.1	80600	1021000	6896	55.8
2018	31.63	13.3	90000	1715000	7991	59.6
2019	34.81	14.6	105000	2262000	8674	61.2

<b>Cross-border E-commerce integrated test area in China</b>		
<b>Region</b>	<b>Extent</b>	<b>Main Objectives</b>
Hangzhou	International	Form a set of management system and rules to global cross-border E-commerce development gradually. Provide general experiences to promote the national cross-border E-commerce. Set it as an important window of opening up and the carrier of economic transformation. Enhance the competitiveness and voice of China in foreign trade.
shanghai	International	Make the first pilot on technical standards, business processes, regulatory models and information technology of cross-border E-commerce. Guide the cross-border E-commerce to scale, standardization and clustering. Create a fair and transparent business environment for all types of companies. Explore the international standards and rules for the development of cross-border E-commerce.
Suzhou	National	Innovate the business model of “Internet + China made 2025 + independent brand international”. Expand the developing space of traditional foreign trade and manufacturing enterprises through the "Internet +".
Ningbo	National	Enhance the capacity and level of cross-border E-commerce services; Form an environment of

		convenient facility, efficient supervision as well as normal rules gradually. Promote quality trade priority and build an upgraded version of Ningbo open economy
Guangzhou	National	Build the promotion system of cross-border E-commerce in Chinese characteristics and Guangzhou elements
Chengdu	National	Establish a new foreign trade system consists of cross-border E-commerce applications, cross-border B2B innovation services as well as cross - border network retail integration. Promote foreign trade growth mode from the "domestic capacity-driven" to "outside demand-driven", from "outside demand-driven" to "China's manufacturing transformation and upgrading". Promote the structural reform of the supply side, and cultivate new impetus to foreign trade.
Hefei	Region	Highlight the safety of brand and quality. Efforts to crack the development of cross-border E-commerce problems. 20 20 Strive to cultivate a new engine of foreign trade transformation and upgrading, a new high economic development
Chongqing	Region	Form a cross-border E-commerce industry chain and the ecological chain. Form a management system and rules adapted to cross-border E-commerce. Provide the replicable and generalizable experience for other country's inland areas

Zhengzhou	Region	Form a complete cross-border E-commerce industry chain and ecological circle, to create a new trade service chain. Improve the rules of cross-border E-commerce; enrich the development model in Chinese features. Stimulate public entrepreneurship, innovation and vitality; cultivate new advantages of foreign trade competition.
Shenzhen	Region	Promote the development of E-commerce by building platforms to form a new mechanism to coordinate basic services and high-level service. Create a new situation in international cooperation in E-commerce to serve the strategy of “The Belt and Road”.
Dalian	Region	Make the first pilot on regulatory models, technical standards business processes, and information technology of cross-border E-commerce. Explore replication and promotion experiences to achieve a breakthrough of cross-border E-commerce in Dalian.
Qingdao	Region	Build the industrial chain and ecological circle of cross-border E-commerce in Qingdao. Promote new formats, foreign trade as well as industry development. Establish the cross-border E-commerce trading system and operational mechanism at the global level.