Research on the Development Trend of E-Commerce Technology

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Abstract: With the rapid development of global information technology, the network economy with e-commerce as its core is developing vigorously. E-commerce is a new strategic form of production, resource allocation and market management for enterprises through electronic tools such as computer networks. With the gradual maturity of communication technology and the rapid growth of network users, the benefits of online business activities are becoming more and more obvious. Economization of information will become the mainstream of economic activities, and the development environment of e-commerce and informatization will be better and better. In this paper, the development trend of e-commerce technology is analyzed, and the application fields of e-commerce technology are also proposed. Through the current domestic situation, some suggestions are put forward.

1. Introduction

The development of E-commerce makes the traditional business process electronic and digital. On the one hand, replacing physical flow with electronic flow can greatly reduce manpower and material resources, reduce costs, on the other hand, break through the limitations of time and space, so that trading activities can be carried out at anytime and anywhere, thus greatly improving the efficiency [2-4]. Technology is the basis of e-commerce, but it is business [5-6] that really decides whether it can succeed or not. It is necessary for e-commerce enterprises to establish the concept of "business-oriented" and turn their attention to the actual needs of industrial and commercial enterprises and consumers, so as to establish e-commerce service mode and e-commerce solutions [7-9]. The problems that should be considered in the construction of e-commerce website are network hardware, server operating system, database selection, online payment system, security in the process of network data transmission, directory service and certificate mechanism of authentication, support development platform of electronic mall and tools for application establishment developed on support development platform [10-13]. Among them, e-commerce has the characteristics of openness and globality, which creates more trade opportunities for it.

2. The Connotation and Architecture of Electronic Commerce Technology

2.1. Definition of Electronic Commerce.

ElectronicCommerce usually refers to a wide range of business and trade activities around the world. Under the open network environment of the Internet, based on the browser or server application mode, buyers and sellers engage in all kinds of business activities, realizing consumers'online shopping, business transactions and online electronic payment, as well as various business activities, trading activities, financial activities and phase. Guan's integrated service activities are a new business operation mode. The so-called technology of electronic commerce is to use computer technology, network technology and remote communication technology to realize the electronic, digital and network in the whole business process. People are no longer face-to-face, looking at real goods, trading on paper-based documents (including cash). Instead, through the network, we can browse a wide range of commodity information on the Internet, perfect logistics distribution system and convenient and safe fund settlement system for trading (buying and selling). In a word, e-commerce involves the application of electronic technology and Internet in all aspects of business activities, so as to realize the electronization of all stages of business activities. The core

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content of any definition is uniform: business, network, computer processing. E-commerce, in the final analysis, is the e-commerce of commerce. It is based on traditional commerce, through advanced network technology, to achieve the rational allocation of resources and information sharing in a broad sense. The ultimate goal is to improve efficiency, reduce costs and increase profits for enterprises.

2.2. Current Situation of Domestic Electronic Commerce Technology.

With the continuous expansion of the application field and influence scope of e-commerce, it will become the latest business transaction mode and gradually penetrate into all aspects of social life. Of course, this is closely related to the development of computer technology. The development of modern electronic commerce will promote the development of computer technology application to a certain extent, and the development of computer technology can expand the application of electronic commerce. At this stage, China's e-commerce has entered a new stage of development, electronic network computer technology will be applied in various fields, and then promote the development of its market, the market will be extended to the global business arena. Therefore, computer researchers need to actively explore new methods and technologies in the field of computer, speed up the updating and upgrading of technology, make computer technology with self-property right in the world leading level, vigorously safeguard China's technological resources, and further realize the sustainable development of e-commerce industry. In short, in order to achieve good development of e-commerce, we must rely on the implementation of laws and regulations and use advanced computer technology, so as to provide strong protection and support for e-commerce.

2.3. Electronic Commerce System Architecture.

At present, there is no authoritative discussion on what part a complete e-commerce system should include. From our practical conclusion, we can see that because of the wide coverage of e-commerce, it is necessary to describe the system architecture for specific applications. Generally speaking, e-commerce system is a three-tier framework structure: the bottom is the network platform, the carrier of information transmission and the means of user access, which includes a variety of physical transmission platforms and modes of transmission; the middle is the basic platform of e-commerce, including CA (Certiticate Authority) authentication, Payment Crateway and customer service center. Its real core is CA authentication, and the third layer is a variety of e-commerce applications. Equilibrium of e-commerce foundation is the basis of various e-commerce application systems. The structure of e-commerce system is shown in Figure 1.

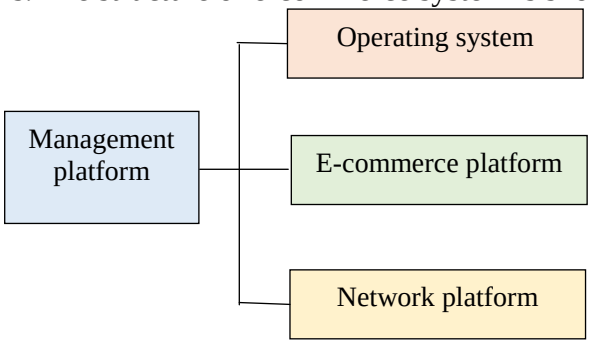

Figure 1. Electronic Commerce Framework

3. Development Trend of Electronic Commerce Technology

3.1. Application of Electronic Commerce Technology.

The impact of e-commerce in reality is expanding, and it will become a new type of transaction mode into millions of households. This is inseparable from the development and promotion of computer technology. The development of modern electronic commerce will promote the wider application of computer technology, and the rapid improvement of computer technology will

effectively promote the continuous expansion of electronic commerce in its field. With the integration of e-commerce in all aspects of society, e-commerce is no longer a new business than before. Electronic consumption, network trade, electronic registration, mobile payment and other applications have changed the traditional business model and people's way of life. In the future, the continuous evolution of e-commerce will also promote the development of existing e-commerce related technologies and the emergence of new technologies. The application and continuous development, design and construction of e-commerce technology are in order to make the application of technology development effective and to play a good role on consumers, customers and users. As an effective integration of traditional resources and network technology, the application of computer technology in e-commerce can enhance the core competitiveness of enterprises, expand the application fields of computers in an all-round way, and realize the coordinated development of e-commerce and computer fields.

3.2. Advantages of Electronic Commerce Technology.

Nowadays, the application of E-commerce technology in life is more and more widespread. The application of E-commerce technology in life has the following advantages: First, environment. People are not limited by time, space and traditional shopping. They can trade online anytime and anywhere. Through spanning time and space, we can reach more customers in a specific time, and provide us with a broader development environment; secondly, the market. On the Internet, the world will become very small, a business can face the global consumers, and a consumer can shop in any business in the world. A merchant can challenge different regions and different types of buyer customer groups, collect abundant buyer information on the Internet, conduct data analysis; third, circulation and price. E-commerce reduces the intermediate link of commodity circulation, saves a lot of expenses, and thus greatly reduces the cost of commodity circulation and transaction. Through e-commerce, enterprises can match buyers more quickly and realize the integration mode from production to supply and then to sales, which can not only save resources, but also reduce unnecessary production waste.

3.3. Extension of the Application Direction of Electronic Commerce.

Although the level of technological development of e-commerce has been improved to a certain extent compared with the current situation. However, with the continuous pioneering research and development in the related fields of information industry technology, e-commerce should broaden the depth of research, especially in the business transactions on websites, and fully demonstrate the culture and quality of enterprises. That is to say, it shows the detailed business process and the hierarchical structure of customer management, so that the vast number of customers can experience the culture of the enterprise and the service attitude of the enterprise, so that in the aspect of customers, it is closer to the actual needs of customers and meets the needs of customers. That is to say, at present, the application depth of e-commerce will continue to expand, and business innovation will emerge in endlessly.

4. Implementation of Electronic Commerce Technology

4.1. Key Technologies of Electronic Commerce.

The key is to ensure the security of data and information stored and transmitted electronically, including the following four requirements. First, security. To ensure the security of data transmission is to ensure that data information transmitted on the Internet is not monitored and stolen by third parties. Generally, the protection of data information security is achieved by using data encryption technology; secondly, data integrity. To ensure the integrity of data is to ensure that the data information transmitted on the Internet is not tampered with. In e-commerce application environment, data integrity is guaranteed through the use of secure hash function and digital signature technology; third, identity authentication. In e-commerce activities, the two or more parties often need to exchange sensitive information (such as credit card number, password, etc.). At

this time, they need to confirm the real identity of the other party. If Payment-based e-commerce is involved, it is also necessary to confirm whether the other party's account is genuine and valid. Identity authentication in e-commerce usually uses public key encryption technology, digital signature technology, digital certificate technology and password technology to achieve; fourth, folding non-repudiation. When transmitting data and information in electronic commerce, each party must carry its own unique information that cannot be duplicated by others, so as to prevent the sender from denying that the message has been sent or the receiver from denying that the information has been received, so as to ensure that the transaction is recorded when it occurs. Non-repudiation of transactions is achieved by digital signature technology and digital certificate technology.

4.2. Prospects of Electronic Commerce Technology in the Future.

Domestic e-commerce has entered a new era, electronic network business technology will be popularized in all walks of life, efficient and powerful to promote its market development, and effectively extend the market to the global business arena. Computer researchers must constantly research and explore new technologies and methods in the field of computers, and highly promote the upgrading and advancement of technology, so that domestic e-commerce technology is in a leading position in the world of computer e-commerce, and the maintenance of domestic technical resources can be electronic. The healthy development of the business industry provides the most reliable guarantee. E-commerce wants to achieve a broader development space, but also to use legal norms to implement strong support and protection. At the same time, in the future international trade can play a better role, the development of international trade and e-commerce, the international trade through e-commerce will be more and more, which will promote the process of electronic trading of international trade. At present, two-thirds of the world's international trade will be completed in the form of e-commerce. This is a bridge for economic and trade development. In recent years, electronic commerce at home and abroad has developed rapidly, as shown in Figure 2. For example, the main role of e-commerce websites such as Alibaba is still to be used as an information platform by enterprises. The electronic application of payment information, logistics information transfer and even legal information in the subsequent trade links needs further development. Therefore, in order to realize the full-scale electronicization of international trade, it is necessary to eliminate the gap between different systems, dock the public service systems, and realize the safe and smooth flow of information. At the same time, it promotes the system in the enterprise and organically combines it with electronic trade, laying a foundation for a more thorough trade electronicization.

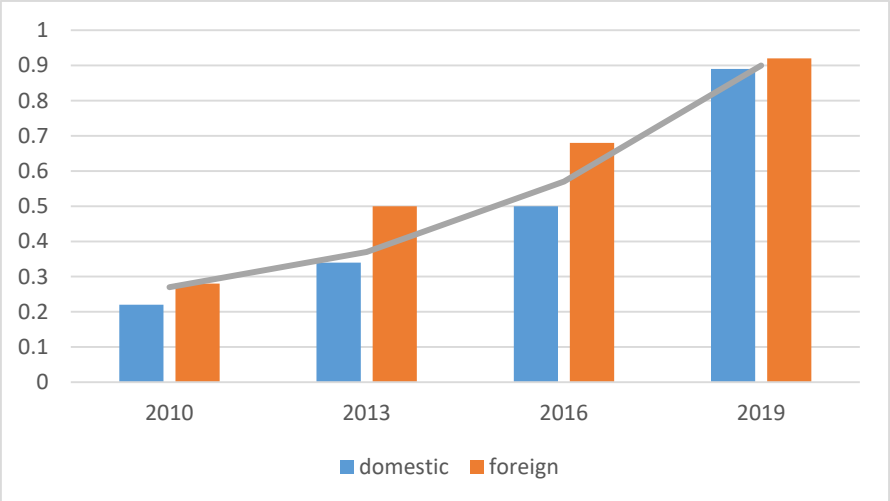

Figure 2. Trends in e-commerce at home and abroad

4.3. Suggestions on the Development of Electronic Commerce Technology.

Government level support. The government should fully recognize the importance of China's

e-commerce technology development and promote the development trend of e-commerce technology. For example, the development of international trade. First of all, through the support of the government's legal and policy system, the systems of all relevant departments involved in trade can be interconnected and open. The domestic government departments involved in international trade and related institutions' systems can be interconnected and open. Institutional support was provided for support condition 1 of the ideal model. At the same time, on the technical level, on the one hand, the government should encourage the development of computer technology and network security technology, promote the application of electronic technology in the field of international trade affairs, encourage and develop software and hardware suitable for the electronic trade of small and medium-sized enterprises, and carry out for enterprises. International trade provides a more stable and secure e-commerce platform and government service platform. In this way, the support conditions for the ideal model can be realized at the technical level, and a data sharing platform for international trade-related participants can be established.

5. Conclusion

At present, the research and development field of e-commerce has entered a rapid and high-speed development stage. We must enter this application field with a positive attitude, and we must also pay attention to the analysis and research on various constraints that affect its development. Timely tracking advanced foreign technology, strengthening theoretical exploration and application practices, and formulating solutions and measures as soon as possible to continuously advance the development process.

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