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Problems and Countermeasures of Cross-border E-Commerce Based on Blockchain Technology

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ABSTRACT

With the development of Internet technology, cross-border e-commerce platform business models continue to emerge, e-commerce enterprises have changed the national way of life, especially during the new crown epidemic, more and more become the first choice for life shopping, e-commerce is also increasingly becoming a pillar industry of the national economy. With the evolution of the industry life cycle, the e-commerce industry has entered a mature period, cross-border e-commerce also ushered in the development of the blowout period, but due to the limitations of Internet technology, the development of e-commerce enterprises also has many problems, the platform business model has long been inadequate, such as business model design objectives to centralize the interests of the platform, business model trust acquisition costs are too high, etc. There is an urgent need to seek new business models to creatively change the overall status of the industry. In recent years, blockchain technology has received attention from various parties. With the characteristics of decentralization and data tamper-proof, cross-border e-commerce platforms have begun to explore its impact on the platform business model, such as whether it can make up for the shortcomings of the traditional model and whether it can bring new opportunities for platform business model innovation.

This paper firstly analyzes the current mainstream Internet-based cross-border e-commerce platform business models and points out their characteristics and shortcomings; secondly, it analyzes the feasibility of building a blockchain cross-border e-commerce platform business model from a theoretical perspective. In the last part, based on the theoretical and case study results, the business model of blockchain-based cross-border e-commerce platform is integrated, analyzed and summarized, and how to apply blockchain technology to promote cross-border e-commerce trade is discussed. And on this basis, relevant policy suggestions are put forward.

Keywords: *Blockchain, Cross-Border E-Commerce, Platform, Business Model.*

I. INTRODUCTION

The popularity and application of the Internet in China has been comprehensively enhanced in recent years, and the e-commerce industry, which relies on the Internet, has become an indispensable part of people's lives, and its economic benefits and contributions to people's consumption upgrade are evident to all. E-commerce not only facilitates people's lives, but also makes China take a place in the e-commerce industry in the world.2019 At the beginning of 2019, in the 43rd Statistical Report on the Development Status of China's Internet Network released by the China Internet Network Information Center, it was shown that the number of new Internet users in 2018 was 56 million, and the penetration of the Internet was close to 60%, an increase of 38% compared with the number of new people in 2017 38%, and the number of cell phone Internet users also increased significantly, with the number of new Internet users increasing by 0.64 billion in 2018, accounting for 98.6% of all Internet users, up from 97.5%.

In this context, China's cross-border e-commerce is also developing rapidly, with a continuous growth in transaction scale and the emergence of new business models on cross-border e-commerce platforms. According to the data of the Ministry of Commerce, the import and export volume of cross-border e-commerce retail in 2017 was RMB90.24 billion, up 80.6% year-on-year, and the growth rate was above 50% in the past three years. In this context, the business models of Chinese cross-border e-commerce platforms are also developing and innovating, especially the development of mobile Internet technology, which makes the social e-commerce model and the offline model become new highlights.

II. LITERATURE REVIEW

At present, there are few research papers on this part in China, mainly focusing on the impact of blockchain technology on the business model of sharing economy. Li Dan et al. analyzed the development status and dilemmas of the sharing economy, and proposed a new model of "blockchain + sharing economy" to address these problems. They believed that the decentralization, transparency, system autonomy and information immutability of blockchain technology could effectively promote the development of the sharing economy.

In summary, compared with Chinese literature, foreign research on the impact of blockchain on business models is more abundant. The core contents of existing researchers include two points: first, from the perspective of business model theory, the impact of blockchain technology on business models is reflected in eight dimensions; second, from the perspective of enterprise organization theory, the decentralized characteristics of blockchain technology have led to the emergence of new business organization forms, based on The business model based on decentralized and polycentric business organizations has become a new research direction.

III. RESEARCH METHOD

This paper adopts the method of combining qualitative and quantitative research, mainly using literature analysis, case study and interview method.

(1) Literature analysis method. Through the knowledge network, thesis journals and government departments, we collect a wide range of information on blockchain technology, business model and its innovation and other related theories, and combine with industry research reports to summarize the theories of cutting-edge business models at home and abroad.

(2) Comparative analysis method. By comparing the differences between blockchain business model and traditional cross-border e-commerce platform business model, the advantages of cross-border e-commerce platform based on blockchain technology are clarified; by comparing the characteristics of blockchain business model and the characteristics of cross-border e-commerce platform business model based on blockchain, the limitations of blockchain itself can be clarified and the possible development direction of future business model can be explored.

In the context of this paper, the specific benefits and drawbacks brought to research by these methods are, firstly, the content of the selected topic is relatively new. As blockchain technology is still at a relatively early stage, the current technology is not mature enough, and the technology application is also in the process of exploration. Although the research on blockchain application has been increasing, the research on blockchain technology to promote the innovation of business model of cross-border e-commerce platform is very lacking.

Secondly, the practical significance of the research is outstanding. This paper innovatively combines blockchain technology with business model innovation of e-commerce enterprises, so that blockchain technology can provide source power for Amazon business model innovation, and analyzes the mechanism of the role of embedded blockchain technology on Amazon business model innovation from four aspects: customer value proposition, key resources, profit model and key business processes.

The shortcomings of this paper are mainly manifested in the following points. First, the current literature lacks a direct theory for studying the business model of blockchain-based cross-border e-commerce platform, so it can only be based on the existing literature. Second, due to the current scarcity of blockchain-based cross-border e-commerce platform cases, this paper only studies the blockchain single blockchain-based cross-border e-commerce platform case.

IV. DISCUSSION

4.1 A new model of cross-border e-commerce platform based on blockchain

1. Innovation of customer value proposition based on blockchain technology embedding

The customer value based on blockchain technology embedding is reflected in the brand value, maintenance of rights, evaluation (choice) and information security respectively. Firstly, the brand value of customer value based on blockchain technology embedding. Secondly, another key point of customer value based on blockchain technology embedding is to make the right of protection evidencable. Again, another focus of customer value embedded in blockchain-based technology is to make the evaluation permanently visible. Finally, the last one is the security of information property based on the customer value embedded in blockchain technology.

2. Innovation of key resource capacity based on blockchain technology embedding

First, improve the storage system

The own warehousing system of the blockchain-based cross-border e-commerce platform is the key element for the company to develop and grow and occupy a place among domestic and foreign e-commerce enterprises. Due to the establishment of the blockchain-based cross-border e-commerce platform's own warehousing system, it not only provides services for the self-operated business of the blockchain-based cross-border e-commerce platform, but also cooperates with third-party merchants.

Second, integration of supply chain resources

Through blockchain technology, the whole process of the supply chain, such as production, procurement, transportation and warehousing, is linked, and the electronic identity synchronous signature is used to ensure that the identity of the participants is real and trustworthy; the electronic pledges generated by blockchain technology can reduce the information asymmetry between financing participants as well as reduce friction costs; the smart contract is used to effectively avoid default, which is conducive to the credit rating of the participants Maintenance

Third, stable customer source

How to stabilize the customers who come to buy goods and increase customer stickiness is a problem that enterprises need to solve. With the support of blockchain technology, a blockchain-based cross-border e-commerce platform can enable every customer who consumes on the platform to enter their own block chain, so that only the consumer can see the privacy of shopping information and so on, given the characteristics of privacy. For today's era of information flooding, this is undoubtedly the most attractive way for consumers.

3. Innovation of profit model based on blockchain technology embedding

Firstly, value-added data confirmation

Through the credit ecosystem established by blockchain technology, the cross-border e-commerce platform based on blockchain will generate huge information flow every day, and after collecting, filtering and screening through big data technology, etc., combined with blockchain technology to solve the problem of ownership and circulation of these data, the data will become an important asset.

Second, the management fee of the chain alliance platform

The establishment of blockchain platform requires a large amount of capital investment, and small and medium-sized suppliers, etc. cannot afford such an investment capital, the blockchain-based cross-border e-commerce platform to build a blockchain platform to establish the alliance chain system, in order to make up for the operating costs and historical R&D costs of this blockchain alliance platform, a reasonable platform management fee can be charged to suppliers, manufacturers, third-party institutions, etc. of the upper chain to achieve the effect of cost-sharing benefit sharing.

V. CONCLUSIONS AND RECOMMENDATIONS

Blockchain solves three main problems of cross-border e-commerce.

1.Blockchain solves cross-border payment

Blockchain technology can effectively eliminate many intermediate links of cross-border payment and make the cross-border transaction mode more convenient and faster. The process of the new cross-border payment mode after applying blockchain technology is: after the buyer submits an order and makes a payment, blockchain will store and widely spread this information to every node (including the seller). After the seller delivers the goods, blockchain will also store and widely disseminate this information to every node (including the buyer).

2. Blockchain solves cross-border logistics

Through blockchain technology, the most suitable operation system can be developed for the logistics environment of cross-border e-commerce, and the all-round monitoring and tracking can be realized. Therefore, the problem of easy loss of delivered goods can be well solved.

3. Blockchain solves commodity traceability

The decentralization and non-tamperability of blockchain technology make the information in the traceability system real and reliable, open and transparent, and eliminate consumers' doubts about the safety of cross-border goods.

In conclusion, with the application of blockchain technology, some of the current problems in cross-border e-commerce can indeed be well corrected, and the future development of cross-border e-commerce will inevitably be closely linked with the development of blockchain technology. However, so far, blockchain technology is not fully mature, and the cross-border e-commerce transaction system based on blockchain technology still has a long way to go. While digging deeper into the advantages of blockchain technology, the current problems of blockchain technology applied to cross-border e-commerce can be timely discovered in order to deeply integrate blockchain technology with cross-border e-commerce and better promote the sustainable development of cross-border e-commerce.

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