Study on Security Countermeasures of Cross-border E-Commerce Payment Risk

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Abstract: China has now fully entered the era of Internet +, cross-border e-commerce has achieved stable development. If we want to promote the sustainable development of cross-border e-commerce, we must constantly improve and optimize the existing payment mode of cross-border e-commerce. This paper analyzes this, analyzes the payment risk of cross-border e-commerce, and puts forward targeted security countermeasures to lay a good foundation for the stable development of cross-border e-commerce.

The national economic growth rate has a clear downward trend, many businesses in the operation and development process, gradually looking for new channels to achieve business development and development. Cross-border e-commerce is in this context put forward a new business channel, its overall development speed is relatively fast. According to relevant statistics and survey results, China's entire cross-border e-commerce transactions reached 6.7 trillion yuan in 2016, an increase of 22.2 percent over the same period last year. At the same time, imports of e-commerce transactions also reached 1.2 trillion yuan, a year-on-year growth rate of 33.3%. It can be seen from this that the overall development situation of cross-border e-commerce is generally good in the process of modern society development. But to achieve stable and sustainable development, we must ensure that there are corresponding supporting services to support, the most important point is cross-border payment. Only by ensuring the perfection and optimization of cross-border payment mode can we promote the stable and sustainable development of cross-border e-commerce.

1. Status of development of cross-border e-commerce and payment risks

1.1 Current status of cross-border e-commerce

China's economic development is gradually changing towards the trend of "e-commerce ". And this trend is not only confined to the domestic retail links, but also in the "Internet + foreign trade" and other aspects have gradually been stable and sustainable development. Table 1 shows the proportion of total cross-border e-commerce transactions in total import and export transactions in China from 2010 to 2016, as shown in Table 1.

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|------|------|------|------|------|------|------|------|
| Total cross-border e-commerce transactions (trillion yuan) | 1.3 | 1.6 | 2.3 | 3.1 | 4.2 | 5.4 | 6.3 |
| Total import and export transactions | 20.2 | 23.6 | 24.3 | 25.8 | 26.4 | 24.6 | 25.5 |
According to the statistical results of relevant data, it is obvious that the growth rate of total import and export transactions in China has been floating around 5% since 2012. Cross-border e-commerce has been expanding in the overall scale of transactions, its annual average growth rate can basically reach more than 30%, while the proportion of the total foreign trade is also increasing\cite{1}. In addition, the main structural performance of our country in the import and export of cross-border e-commerce transactions is shown in Table 2. From the statistical results in Table 2, it can be concluded that I am mainly B 2B in the development of cross-border e-commerce.

|                | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  |
|----------------|-------|-------|-------|-------|-------|-------|
| Proportion of imports | 6.5%  | 7.6%  | 9.8%  | 11.8% | 13.3% | 16.8% |
| Share of exports      | 93.5% | 92.4% | 90.2% | 88.2% | 86.7% | 83.2% |

1.2 Cross-border e-commerce payment risk

1.2.1 credit risk
In the development of cross-border e-commerce, both sides of the transaction basically come from different countries, and at the same time, the two sides generally do not meet. This mode of trading for both sides, in fact, there are certain credit risks, such as merchants after the delivery of goods, can not receive payment, consumers after payment did not receive the corresponding goods and so on\cite{2}. Even in the process of trading, the use of third-party payment platform to achieve cross-border transactions, but the third-party platform in the operation process, it is impossible to verify the identity of each trader in detail, the entire regulatory scope is not very large, but also difficult to achieve effective monitoring and management of the actual trading situation. Therefore, cross-border e-commerce for both parties to the transaction must bear the corresponding risks.

1.2.2 network risks
In the process of cross-border e-commerce payment, if the transaction is completed directly through the online way, then it is bound to use the Internet, through the network to operate\cite{3}. However, in the process of network transaction, it is bound to be affected by the threat of the network, because the network has a certain openness, some systems in the process of operation, will be attacked by hackers. This will lead to information in the whole transmission process will be seriously affected, and may even cause problems such as failure. Once these problems occur, it is easy to lead to the consumer's personal information, payment information is seriously leaked, most of which leads to the serious loss of funds on both sides.

2. Common payment methods and security countermeasures for cross-border e-commerce

2.1 Cross-border e-commerce payments

2.1.1 Commercial Bank
Cross-border e-commerce in the collection and payment of foreign exchange, foreign consumers can browse the e-commerce platform, from which to choose their desired products, followed by an order processing, after the completion of payment, domestic merchants can directly through international logistics to achieve transactions. In the process of payment, if the commercial bank is selected to carry out offline payment, then the consumer must go to the bank counter to handle. In general, in this link to use the traditional international settlement method to pay, such as remittances or letters of credit and so on\cite{4}. In the whole process of payment transaction, basically rely on commercial credit to achieve, especially for some relatively good business reputation between the old customers, this way is very
suitable. L/C is a traditional settlement method of international trade activities in the process of practical application. When this method is applied, it is mainly carried out on the basis of bank credit, because the bank's own charge is relatively high, and the formalities are also relatively cumbersome, so this method is more suitable for being applied in some traditional large goods import and export. These two ways in practice, in fact, the overall utilization rate is not very high, usually will directly use the remittance method to pay, mainly wire transfer. Consumers in the process of payment, according to the basic requirements put forward by the merchant, the bank counter to purchase foreign exchange, but also combined with the actual requirements, fill in the application for wire transfer in accordance with the provisions. Upon completion of these processes and procedures, the local bank can be entrusted directly to remit all orders to the designated account of the corresponding merchant\cite{5}. There is no restriction on the identity of the remitter during the whole remittance process, and the whole operation process is relatively simple.

2.1.2 third-party payment agencies
The efficient development of cross-border e-commerce in recent years, the traditional offline payment method has been unable to meet the basic needs of cross-border e-commerce payment. This is also one of the main reasons for the rapid rise and rapid development of third-party payment. According to the results of the relevant data survey, it can be concluded that in 2016, the domestic non-bank payment institutions in the realization of cross-border payment transactions, the total transaction volume reached 585 million, the total amount also reached 186.551 billion yuan. Nowadays, the mode of cross-border e-commerce payment is mainly realized by the operation of domestic and overseas third-party payment institutions. For example, in China, consumers can choose products of interest directly through the application of e-commerce platform, and merchants will issue electronic orders, and then consumers will have to pay their own currency to the corresponding third-party institutional accounts\cite{6}. In the process of payment transaction, the third-party institutions mainly exchange foreign exchange directly with the cooperative bank, and finally transfer all the corresponding loans to the corresponding merchants. Nowadays, in cross-border e-commerce payment, the more common third-party payment platforms include international Alipay, Fortune Tong and so on.

2.2 Security responses to cross-border e-commerce payment risks
To some extent, cross-border e-commerce can be regarded as an inevitable development trend under the background of the new era. But in the process of payment of cross-border e-commerce, there are still many risk problems, and when serious, it may cause serious economic losses. Therefore, in order to realize the sustainable development of cross-border e-commerce and realize the effective avoidance of its payment risk, we must put forward targeted solutions according to the type of risk and so on. First of all, from the perspective of buyers and sellers. When both sides carry out cross-border e-commerce transactions, they can judge the credit and qualification of both sides through measures such as network platform, and at the same time, they can also analyze the purchase behavior and intention of consumers. At the same time, the merchant can verify the relevant information such as the receiving address of the consumer, so as to avoid the goods being unable to receive the payment after they are issued. And consumers can directly through the platform of business reputation, qualifications and other relevant information query. Both sides must pay attention to the network security after reaching the transaction will, cause the network security guard consciousness, especially for some unknown procedures and so on, must not be allowed to log in at will. Both sides also regularly to their common computer equipment such as antivirus, to avoid the impact of Trojan horse and other viruses.

Second, you can start with e-commerce and payment platforms. In practice, in order to effectively avoid risks, big data information technology and so on can be used reasonably, so that the identity of both sides and related information can be verified through data analysis. In addition, the third party integrity certification can be reasonably introduced and utilized in practice, and a good cooperative relationship can be established with insurance institutions to realize the introduction and implementation of various types of risks in cross-border transactions, which is conducive to the
guarantee of the basic rights and interests of both sides. For the current advanced technology means can achieve reasonable introduction and utilization, such as firewall technology, encryption technology and so on, which can not only provide a guarantee for the security and stability of the network platform in the process of operation, but also achieve effective risk avoidance. Finally, the government can be taken as the starting point, the government should combine the current situation of cross-border e-commerce development, formulate and implement the credit guarantee system that meets the requirements, at the same time, it should perfect and optimize the existing laws and regulations, relevant system and so on. While ensuring that information can be effectively shared, the basic operation flow of both sides can be standardized management, so as to ensure the rationality and legitimacy of cross-border e-commerce transactions.

3. Concluding remarks

Although cross-border e-commerce is a new industry, there are still many problems in the process of development, but its overall development prospects are relatively good. In view of a series of problems, such as the payment risk of cross-border e-commerce, it is necessary to ensure the perfection and optimization of the existing system from various angles, and at the same time, the two sides of the transaction should raise the awareness of security prevention. While ensuring the stable development of cross-border e-commerce, it can guarantee the payment security of both parties.

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