

The Risks and Countermeasures of Supply Chain Financing on E-Commerce Platforms

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Abstract: With the popularization of the Internet, e-commerce business has developed rapidly in recent years, and the scale of online transactions is growing day by day. In order to meet the funding needs of enterprises on the platform supply chain and assist the platform's development, e-commerce platform supply chain financing has become one of the important financing methods. But this model will inevitably face more dimensional risks, which will have an impact on financing efficiency. In order to minimize risks and ensure the smooth and efficient development of this model, this article explores the supply chain financing model of e-commerce platforms, and explores and summarizes the existing risks of e-commerce supply chain financing from multiple perspectives. And propose preventive measures from multiple dimensions to address risks. In order to provide reference for improving the supply chain financing of e-commerce platforms, provide more assistance for enterprise financing, and provide certain reference and inspiration for enterprises interested in developing such businesses.

Keywords: E-commerce platform, Supply chain financing, Financing risk.

1. Introduction

Financing is a prerequisite for the survival and development of enterprises. With the rapid development of the internet economy, traditional financing models can no longer fully meet the financial needs of enterprises. Therefore, innovative financing models for e-commerce supply chain have emerged. The scale of e-commerce in China has continued to grow in recent years. According to the data from the "China E-commerce Report (2022)" by the Ministry of Commerce, the total amount of e-commerce transactions in China in 2022 has reached 43.83 trillion yuan, an increase of 3.5% compared to 2021. Faced with the hot market, major e-commerce platforms want to maintain competitiveness. Considering their own business development, e-commerce platforms must ensure the efficient operation of their supply chain. Therefore, ensuring the normal operation of enterprises on the chain is particularly important. If enterprises generally lack financial support, it will be difficult for the supply chain to operate stably. Under the influence of business characteristics, supply chain financing has become a focus of e-commerce attention. Major e-commerce platforms are actively exploring, leveraging their own characteristics and advantages to further improve the supply chain financing model, making it more comprehensive, efficient, and suitable for financing needs in the context of e-commerce. From JD's "Jingbaobei" to Alibaba's "Ant Financial Services", and then to Suning's "Huosuo Rong", various types of e-commerce supply chain financing products have emerged one after another, helping the development of the platform, bringing many assistance to enterprise financing, and achieving a win-win situation in multiple aspects. However, at the same time, this financing model also exposes some risk issues. This article explores the supply chain financing models of e-commerce platforms, explores and summarizes the risks of existing supply chain financing models from multiple perspectives, and proposes preventive measures.

2. E-commerce Supply Chain Financing Model

The e-commerce supply chain financing model is an innovative model based on supply chain financing. The basic logic is that the funding provider is based on e-commerce platforms, using logistics, information flow, fund flow and other data on the platform's supply chain as the basis for judgment, and using the reputation, accounts receivable, products, etc. of the financing enterprise as guarantees to provide loans to the financing enterprise. In e-commerce supply chain financing, financing services are mainly launched by e-commerce platforms, which have acquired a large amount of information through their businesses and become high-quality credit rating entities, providing financial support for enterprises and assisting them in financing. Compared with traditional financing models, e-commerce supply chain financing has full line operation and high financing efficiency. Adequate information resources and low financing costs. The advantage of strong business control and low financing risk.

2.1. Prepayment financing model

In the procurement process, some enterprises, as suppliers of upstream goods and raw materials, rely on their strong position to demand that downstream enterprises make full payment in advance. But when downstream enterprises do not have sufficient funds but must obtain raw materials for goods, they can adopt the prepayment financing model. The process of this model can be briefly summarized as follows: firstly, the financing enterprise applies for funds from the e-commerce supply chain financing platform. Afterwards, the e-commerce platform relied on its own database to evaluate the reputation level and daily transactions of the enterprise. After the financing enterprise passes the platform's review and evaluation, the upstream enterprise sends the commodity raw materials to the designated logistics warehouse of the platform, and then the upstream enterprise will receive the

funds issued by the platform. Finally, as long as the financing enterprise repays a certain amount of loans to the platform, the logistics company will send the corresponding value of commodity raw materials to the enterprise.

2.2. Chattel pledge financing model

Enterprises inevitably encounter poor turnover of movable assets such as inventory in their daily production and operation. The funds they occupy will affect the cash flow of the enterprise, and if the occupation time is too long, it may even lead to the bankruptcy of the enterprise. However, the movable property pledge financing model can to some extent revitalize the inventory of enterprises. The process of this model can be briefly summarized as follows: firstly, enterprises with financing needs submit loan applications to the e-commerce supply chain financing platform. Similarly, e-commerce platforms evaluate the reputation level and other conditions of the enterprise based on known information to determine whether the enterprise has loan qualifications. If qualified, further evaluation shall be made to make Value judgment on the pledge provided by the financing enterprise, so as to confirm the credit line and other loan details. After evaluation, eligible enterprises will send their raw materials to designated logistics warehouses, and then the e-commerce platform will issue loans to the enterprises. After a period of operation, the enterprise earns profits, repays a portion of the loan and interest, and the platform returns the corresponding value of goods and raw materials to the enterprise through logistics.

2.3. Accounts receivable financing model

Accounts receivable are very common in the sales process, but some enterprises, as downstream distributors, may not necessarily make timely payments for goods, making it difficult for suppliers to collect payments in the short term and facing significant cash flow pressure. Therefore, these suppliers use accounts receivable documents as evidence to seek loans. The process of this model can be briefly summarized as follows: the enterprise uses accounts receivable as evidence and applies to the e-commerce supply chain financing platform. The ideal scenario is for the debtor to verify the existence and authenticity of the accounts receivable and promise to repay them. Then, based on its own database, the e-commerce platform evaluates financing enterprise information, accounts receivable debtor information, and transaction information between the two, judges credit rating, and conducts risk calculations. Qualified financing enterprises will be granted corresponding loans by the platform. When the financing enterprise recovers its accounts receivable, it is sufficient to repay the loan to the e-commerce platform within the specified time.

2.4. Credit financing model

The credit financing model is a financing method in which enterprises apply for funds from e-commerce platforms solely based on their high credibility. Due to the fact that this financing model usually does not have collateral, the application conditions set by the platform will be stricter, and the pre loan review and post loan supervision of enterprises will also be more meticulous. Moreover, from an objective perspective, the risk of this financing method is relatively high, resulting in a lower credit limit compared to the first three financing models. The process of this model can be briefly summarized as follows: the enterprise applies to the e-

commerce supply chain financing platform, which evaluates the credit conditions of the enterprise based on daily production and business activity data, issues corresponding loans to enterprises that meet the requirements, and then the enterprise repays within the deadline.

3. Risk Analysis of E-commerce Supply Chain Financing

Risk is the uncertainty of results caused by various factors, and enterprises face risks in their daily production and operation activities. E-commerce platforms built on the Internet, due to their special business models, face more risk factors in supply chain financing, resulting in different risks.

3.1. Policy and legal risks

The greater the government's support for the industry and the more favorable policies it issues, the more attractive e-commerce supply chain financing will be and the faster the business will develop. On the contrary, when policy support is insufficient and e-commerce supply chain financing can only develop on its own, progress will be relatively slow. In terms of the legal environment, China's e-commerce supply chain financing business started relatively late, and there are still imperfections in laws and regulations. There is room for improvement in the division of rights and responsibilities among various entities, as well as the definition of the ownership of pledged goods. The current e-commerce supply chain financing market is hot, with numerous participants. Without sound laws and regulations as the standard, relevant departments cannot carry out effective supervision, the behavior of all parties cannot be effectively constrained, and business disputes cannot be effectively handled, which will lead to many risks.

3.2. Logistics and warehousing risks

E-commerce platforms have a close relationship with logistics and have stronger control over logistics. It can be said that the development of the e-commerce supply chain financing model has benefited to some extent from the self built logistics and warehousing system, but this also means that this model puts higher requirements on the level of logistics and warehousing. Especially in the process of movable property financing, the collateral provided by enterprises will be placed in designated warehouses of e-commerce. If the logistics transportation or warehouse storage capacity of diversified collateral is not perfect, it may cause problems such as damage to the collateral, affecting its value and damaging the interests of the platform. In addition, when the personnel responsible for logistics and warehousing do not have experience in managing various goods, it is also easy to cause unnecessary damage to the goods, which can also cause risks.

3.3. Financing enterprise risks

Financing enterprises may forge transaction volumes through methods such as brushing orders before lending to demonstrate their strong debt repayment ability, seek high loans, or use products with disputed property rights as collateral, which poses a risk of disputes. Financing companies that do not strictly comply with agreements after loans, invest their funds in high-risk projects, or refuse or delay repayment when the debt matures, all of which can pose more risks to the platform's fund recovery. In addition, due to

the fact that the supply chain is a whole and each enterprise on the chain is interdependent, the reputation level of each enterprise will be affected by its upstream and downstream enterprises. Therefore, once a company engages in behavior that damages its own reputation such as failure to repay on schedule, the reputation of its associated companies will also change, and a reassessment is needed to more accurately grasp the actual situation. However, prior to this, the e-commerce supply chain financing platform may have provided corresponding loans to these enterprises based on the original credit calculation results, which cannot be predicted and will also increase the risk of financing business.

3.4. Platform's own risks

(1) Business planning risks. Supply chain financing will develop phased business plans based on the goals of different periods, but whether it is deciding to develop new products, making adjustments to the original products, or improving the existing financing process, it is bound to be different from the original situation, and changes may form new risk points. For example, when the current goal of the platform is to expand market share, in order to attract more customers, lowering the financing threshold, such as relaxing the requirements for cooperation terms, will increase the risk of financing business. Furthermore, if the plan is not adjusted in a timely manner to reduce risks, these risks may cause substantial damage to the platform's interests during the implementation of the plan.

(2) Information quality risk. The supply chain financing platform provides financing services based on Big data and other information technologies. The loan application, review and issuance are also completed online. The entire financing process is highly dependent on information technology. If the platform system encounters attacks such as hacker intrusion and virus infection, it will cause data security issues, and the authenticity, timeliness, and accuracy of information will be compromised, which will bring many hidden dangers to the normal operation of the platform's business. In addition, platform staff's business level is not up to standard, data entry errors are caused by improper operation, and the platform lacks a comprehensive internal control system to identify and correct problems, which can also easily lead to information quality risks.

(3) Assess quality risks. Evaluating quality is a crucial aspect of e-commerce chain financing, as it is necessary for the supply chain financing platform to evaluate whether a company can apply for a loan, including the amount, term, interest rate, and other related information based on the database, using various algorithms. When the quality of information is certain, evaluating quality risks mainly comes from two aspects: firstly, the data collection situation. If the data collection is not in place, resulting in insufficient available data or missing key risk factor data, it will cause inaccuracy in the evaluation results from the source. The second is algorithm quality risk. If the algorithm cannot be adjusted in a timely manner according to business development, it may no longer be applicable, leading to inaccurate analysis results and also triggering evaluation quality risk.

4. Measures to Prevent Financing Risks in E-commerce Supply Chain

4.1. Improve policies and laws

To optimize the policy environment, the government

should examine the shortcomings of e-commerce supply chain financing from a macro perspective, and introduce industrial support policies, such as tax incentives, reducing taxes and burdens for participants. Only in this way can the financing market be active, industry attractiveness be improved, and the development of e-commerce platform supply chain financing be promoted. To optimize the legal environment, legislative bodies should improve the legal system in the field of e-commerce supply chain financing, and make up for the shortcomings of existing laws and regulations, such as the definition of rights and obligations, and the ownership of pledged goods. Industry associations should also continuously improve industry standards and do a good job in self-discipline. By striving to create a favorable external environment and reducing the financing risks of e-commerce supply chain.

4.2. Strengthen logistics and warehousing management

Improve the management level and specialization level of logistics warehousing. On the one hand, logistics warehousing needs to strengthen the acquisition of product characteristics, such as standardization level and whether they belong to perishable and perishable products, in order to clarify the transportation and storage conditions of the goods, develop appropriate storage plans, and ensure the quality of the pledged goods. On the other hand, real-time supervision and regular inspections should be carried out on these pledged assets to ensure timely detection of hidden dangers and avoid damage to the pledged assets. In addition, personnel responsible for logistics and warehousing need to possess basic knowledge and skills to ensure proper handling of pledged goods.

4.3. Dealing with financing enterprise risks

Financing enterprises should do a good job in building integrity. They should not engage in fraudulent activities to obtain financing before lending, and firmly resist actions such as forging cash flow or using disputed asset collateral. After lending, they should not violate the agreed terms and should use the loan for purposes within the specified scope, and should also repay the loan on time according to the regulations. At the same time, financing enterprises should also establish a sound internal control system to objectively ensure the quality of information. For platforms, attention should be paid to the screening of information before lending, and the obtained enterprise information should be reviewed to see if there are any unreasonable aspects. If there are any unreasonable situations, the financing enterprise should be promptly informed of the relevant situation. If there is no reasonable explanation, further judgment should be made on the information. If the enterprise is identified to have fraudulent behavior, the financing service should be terminated in a timely manner. At the same time, e-commerce platforms should establish a post loan stability maintenance mechanism: firstly, establish a post loan supervision mechanism to real-time grasp the flow and use of post loan funds; The second is to conduct a secondary analysis and evaluation of enterprises that have already provided financial support, and financing enterprises that have reduced their credibility after evaluation; The third is to establish a risk warning and response mechanism, use algorithms to extract high-risk behaviors based on the industry characteristics of financing enterprises, conduct dynamic monitoring, and

timely detect and stop high-risk behaviors of enterprises. The fourth is to increase the cost of default. In order to further reduce risks, e-commerce platforms should formulate more binding terms. For enterprises that seriously default, they can close their online stores and terminate all business with the platform. The platform can also cooperate with relevant departments to connect the backend database of financing business to the credit reporting system, further increasing the cost of corporate default and strongly cracking down on corporate dishonesty; The fifth is to establish a risk mitigation mechanism, where the platform can reach agreements with insurance companies to provide insurance guarantees for loan funds with relatively high risks, reducing potential losses.

4.4. Improve e-commerce platforms

(1) Develop reasonable business plans. E-commerce platforms need to do a good job in business planning, clarifying that the prerequisite for providing financing services is risk control. When business planning involves new content, it is necessary to list potential risks and predict them. If the calculation results are not ideal, adjust the plan. When a platform plans to develop new supply chain financing products to attract customers, it should make predictions about the fund recovery situation. When the prediction results show that the proportion of loans that can be recovered on time is low, the preset deferred repayment rate of the financing product can be increased to reduce risk. When business planning involves adjustments to existing businesses, detailed discussions should be conducted on general business content. Be cautious when dealing with key business content. To avoid risks, a financing application condition with a cooperation period of at least three months can be specially set, and adjustments are not easily made. Because the longer and more stable the cooperative relationship, the more authentic and reliable the transaction information will be, the more accurate the customer's actual situation can be evaluated, and the hidden risks can be more efficiently controlled.

(2) Improve information quality. Establish an information system maintenance mechanism, and e-commerce platforms should regularly repair and update the financing business backend information system. At the same time, stricter protective walls should be set up to reduce attacks from hackers or competitors. Aging hardware facilities should also be updated and replaced in a timely manner. Strengthen internal control construction, ensure that the professional requirements for executing the entire financing business can be met, and do a good job of pre job training for employees. It is necessary to enable them to master the operating process, understand the operating logic, and regularly provide supplementary training. Reduce information quality risks caused by lack of internal control or human error. The application of blockchain technology ensures that the data in the blockchain is tamperproof and is not easily lost during information transmission due to the increase in the number of participating nodes in supply chain financing, ensuring the integrity of information. The information from various channels can be cross verified and updated in a timely manner, improving the credibility and timeliness of the information. Improve information quality from an overall perspective and reduce financing risks.

(3) Establish an information sharing mechanism and optimize algorithms. To avoid risks caused by inadequate data collection due to a single information collection channel, e-commerce, financing enterprises, and logistics warehousing

can be combined to establish an information exchange platform and form an information sharing mechanism. At the same time, with the help of blockchain, various transaction information of financing enterprises can be traced actively, and information that was previously overlooked can be collected and analyzed through channels. With the support of blockchain technology, a blockchain information network can be constructed by combining data from external departments such as industry and commerce, taxation, and judiciary, expanding the scope of information collection and facilitating the construction of information sharing mechanisms. In addition, the technology department should optimize the algorithm on a regular basis to ensure its progressiveness, accuracy and stability, to ensure that the algorithm meets the requirements of the development of e-commerce platform supply chain financing business, to ensure that the credit evaluation results of financing enterprises, the value evaluation data of collateral and other contents can be truly reliable and accurate, so as to reduce the risk of evaluation quality.

5. Conclusion

The supply chain financing model of e-commerce platforms is a gradually emerging financing model in the context of e-commerce. Compared to traditional models, e-commerce supply chain financing has the advantages of high financing efficiency, low cost, and low risk. E-commerce supply chain financing mainly includes prepayment financing mode, movable property pledge financing mode, accounts receivable financing mode, and credit financing mode. With the arrival of the era of Internet plus and Big data, e-commerce platforms are developing rapidly, and the supply chain financing mode of e-commerce platforms will become an important way to boost the development of enterprises. At the same time, along with financing risks, the author analyzes financing risks and puts forward targeted preventive measures, with a view to providing more support for enterprise financing, and providing some reference and enlightenment for enterprises interested in developing such businesses.

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