

Risk Analysis of Supply Chain Finance Based on E-commerce Platform

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Keywords: Supply Chain Finance; E-commerce Platform; Risk Analysis

Abstract: As one of the innovative modes of Internet finance, the development of e-commerce supply chain finance opens a new way to solve the bottleneck of financing for small and medium-sized enterprises. One of the key factors for the success of e-commerce supply chain finance is whether the risks of online supply chain finance can be comprehensively and effectively analyzed. This paper firstly sorts out relevant concepts, and then summarizes the operation mode of e-commerce platform supply chain finance, constructs the risk assessment index system of e-commerce platform supply chain finance, and finally analyzes the six major risks involved, aiming to better reduce the probability of operational risks.

1. Introduction

E-commerce platform supply chain finance, featured with great innovation, is one of the most effective means for SMEs to get rid of financing difficulties. [1] It comes into being under the huge internal demand of the market. Among the enterprises developing online supply chain finance business, e-commerce enterprises boast huge development potential. Both consumers and enterprises are closely related to e-commerce companies, and their number is huge. Through e-commerce companies, the participants in the supply chain are connected.[2] They can share data, achieve strategic collaboration, and establish a credit evaluation system in the cooperation. This system is more scientific, and to a large extent can provide credit protection, so that the industry transaction costs have been greatly reduced, the overall efficiency of the supply chain has been improved. [3] Online supply chain finance is the key business for e-commerce enterprises to develop. This paper mainly discusses its development problems, development mode and development advantages, and puts emphasis on analyzing several major risks to promote the development of online supply chain finance towards a better direction.

2. E-commerce Platform Supply Chain Finance

2.1 Concept of e-commerce platform supply chain finance

With the supply chain as the core and the e-commerce platform as the support, the e-commerce platform supply chain finance is a comprehensive financial service that banks and e-commerce platforms jointly provide supply chain participants with financing, settlement and warehouse receipt management under the real supply chain transaction supplemented by mortgage collateral. On the one hand, e-commerce platform supply chain finance introduces the electronic credit of financing enterprises as the credit basis based on traditional supply chain finance credit, which reduces the credit risk of financing enterprises.[4] On the other hand, supply chain finance based on e-commerce platform can connect banks, e-commerce enterprises, logistics enterprises and other systems, so as to facilitate the logistics, capital flow and information flow, and provide financing facilities for SMEs on e-commerce platforms.[5] However, due to the particularity and complexity of online supply chain finance, its risk factors are quite different. In addition, the lack of mature guidance leads to the increase of bank loan risk and the decline of e-commerce profitability. Therefore, the great realistic significance of risk assessment on e-commerce platform supply chain finance business is presented.

2.2 Mode of e-commerce platform supply chain finance

In order to meet the development needs of different industries, e-commerce platform supply chain finance has derived a variety of financing modes. Although the modes are different, the sources and characteristics of supply chain financial risks are basically the same. As the main promotion mode of online supply chain finance, electronic order mode has the characteristics of multiple participants and complex processes, covering the main risk links of supply chain finance operation. In this mode, financing companies apply to e-commerce platforms for financing by virtue of the orders they trade with enterprises, and platforms cooperate with banks to extend credit and loans to core enterprises, then the core enterprises will hand over the goods to the appointed logistics enterprises. When the loan is due, the financing enterprises will repay the capital with interest, logistics enterprises will unpack the goods, and the financing enterprises will take back the right of goods, thus completes the financing (see Figure 1).

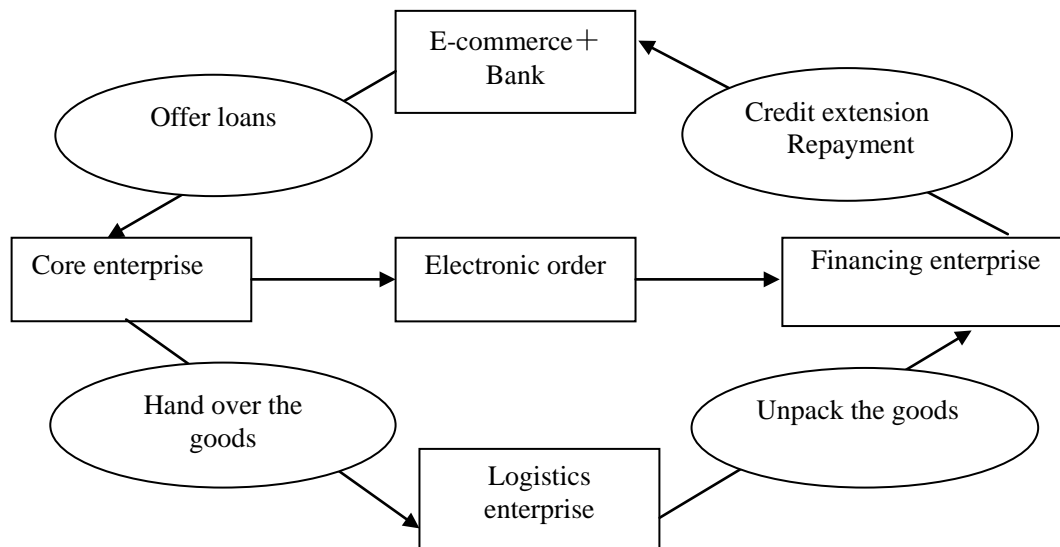


Figure 1 Financing mode of electronic orders based on e-commerce platform

3. Risk Factors Analysis of E-commerce Platform Supply Chain Finance

The supply chain financial risk of e-commerce platform refers to the situation that the participants of supply chain finance suffer losses due to external factors in the process of supply chain finance operation, that is, in the links of e-commerce transactions, platform credit granting and logistics supervision. Taking the electronic order mode in e-commerce supply chain finance as the main object, combining with the actual situation in the operation of e-commerce supply chain finance, following the principles of comprehensiveness and availability, the risk assessment index system of e-commerce platform supply chain finance is established. The e-commerce platform supply chain financial risks mainly include external risks, namely, environmental risk, supply chain risk, credit risk, collateral risk and internal risks which include operational risk and network information technology risk. (see Figure 2).

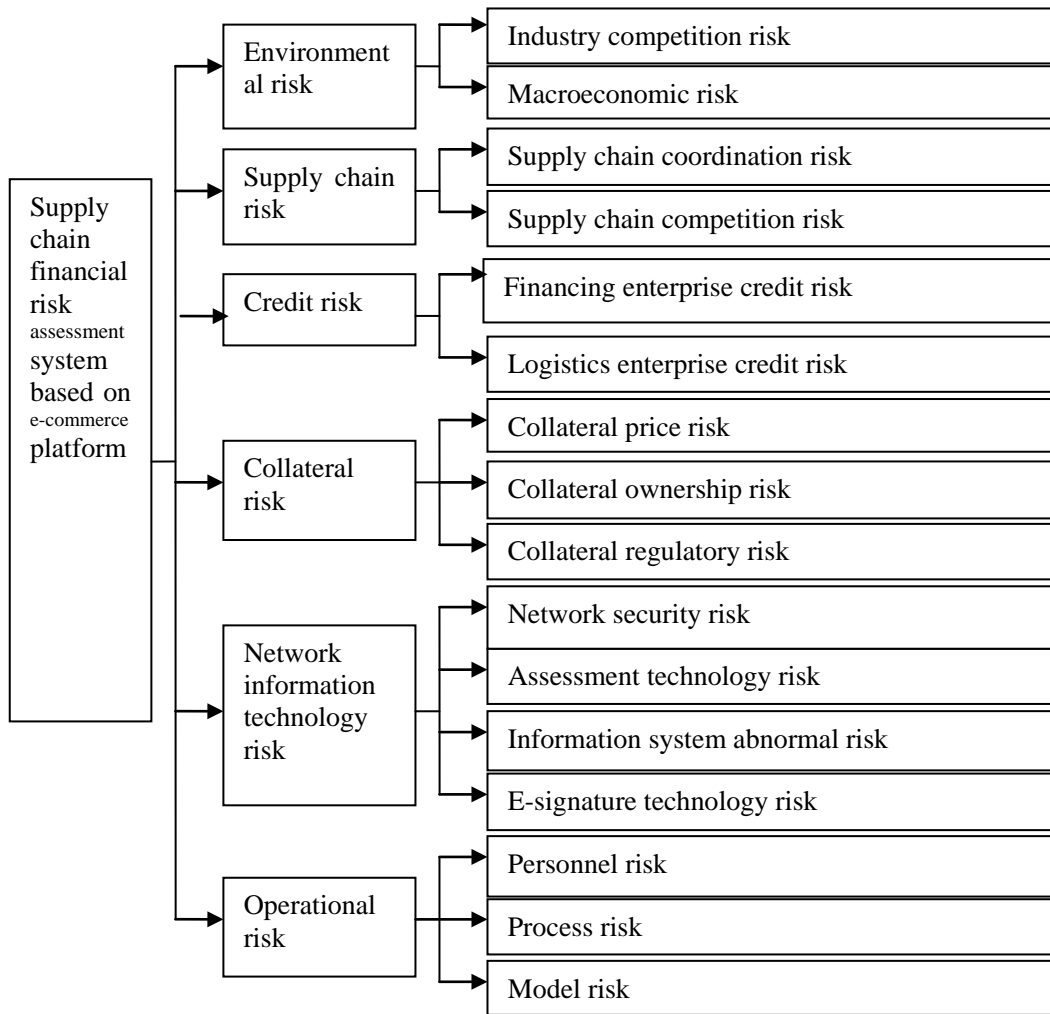


Figure 2 Supply chain financial risk assessment system based on e-commerce platform

3.1 Environmental risk

Environmental risk is the situation that the uncertainty of economic environment leads to the profit loss of supply chain financial participants, including macroeconomic risk and industry competition risk. Macroeconomic risk is manifested as the change of national economic policy will directly interfere with the development trend of the industry, resulting in the increase of supply chain operation risk. The risk of industry competition is mainly reflected in the uncertainty of the overall profit level and technology change of the industry, which has a great influence on the competitiveness and future development prospect of the supply chain of financing enterprises.

3.2 Supply chain risk

As e-commerce platform supply chain finance is a service of financing based on the real trade of enterprises with the supply chain as the core, the operation of supply chain directly affects the development prospect of trade of financing enterprises. Supply chain risk includes external competition risk and internal coordination risk. There is a competitive relationship between the same or similar supply chains, so the competitive power of the supply chain has a close bearing on the benefit of enterprises in the supply chain. The internal coordination risk refers to the increase of operation cost and low operation efficiency caused by asymmetric information and unsmooth communication in the supply chain.

3.3 Credit risk

Credit risk refers to the risk of economic losses that the borrowing enterprises cannot normally

fulfill their repayment obligations due to various reasons, thus causing corresponding economic losses to commercial banks and other financial institutions. In the model of e-commerce supply chain finance, SMEs lack of real credit, and data falsification has become the main risk source of e-commerce supply chain finance, that is, data distortion risk. In reality, SMEs may forge orders and use Internet technology to create fake data. Buyers and sellers make use of the e-commerce platform to conduct false transactions, and conspire with the third-party logistics enterprises to produce false goods transaction vouchers and other data falsification methods, so as to cheat commercial banks of loans and transfer the loans to other operations and investment projects, which will easily bring economic losses to commercial banks. Besides, upstream and downstream enterprise in the e-commerce platform service supply chain boast highly adhesiveness, once some enterprises in the supply chain suffer from poor management or fund operation risk, the risk will spread rapidly in the network of the e-commerce platform, weaken the repayment ability of other enterprises in the supply chain, and increase the overall credit risk of the supply chain financial network of the e-commerce platform.

3.4 Collateral risk

Collateral is the final guarantee for the bank to collect the goods pledged by the financing enterprise. Collateral risk refers to the loss caused by the failure of the collateral to be sold as expected which includes price risk, regulatory risk and liquidity risk. Collateral price risk refers to the loss caused by the pledged goods failing to be realized in accordance with the expected price. Collateral regulatory risk refers to the loss of collateral value due to the lack of regulatory warehousing capacity and professional level of logistics enterprises. Liquidity risk is due to the small capacity of the collateral market, weak liquidity and other reasons, resulting in additional liquidity costs or cannot be realized.

3.5 Network information technology risk

Compared with traditional supply chain finance, e-commerce platform supply chain finance is highly dependent on network information technology. The healthy operation of e-commerce platform needs the support of safe and efficient network information technology. Therefore, network information technology risk is an important influencing factor of e-commerce supply chain financial risk. Network information technology risk refers to the loss caused by the imperfection of information technology which mainly includes network security risk, information system abnormal risk, assessment technology risk and electronic signature technology risk. Network security risk refers to the risk caused by the lack of ability to defend against the risk of external attacks on computers. Information system abnormal risk refers to the risk of business failure caused by the flashback and black screen in the process of business operation. Assessment technology risk refers to the risk arising from the difficulty in the accurate and comprehensive assessment of financing enterprises or collateral due to the finiteness of assessment technology. The electronic signature technology risk is represented by the risk of tampering and forgery by a third party, and the electronic signature technology lacks effective legal protection, which is difficult to recover once the risk occurs.

3.6 Operational risk

Operational risk refers to the loss caused by operational errors or irregularities in the operation of e-commerce supply chain finance. As e-commerce supply chain finance involves many subjects and is basically online operation, operational risk has become one of the important risk indicators of supply chain finance. Operational risk mainly includes personnel risk, process risk and mode risk. Personnel risk refers to the loss caused by operational errors or deliberate violations of personnel involved in the e-commerce platform supply chain finance. Process risk refers to the risk caused by the unreasonable or imperfect business process of supply chain finance, which is mainly manifested as process standardization risk and process maturity risk. Model risk is mainly due to the fact that there are many participants in online supply chain finance and each subject has different business models. There are also barriers in the actual operation process, and the mode risks are mainly

reflected in the following aspects: unreasonable payment and collection mode, inappropriate collateral and regulatory mode, inappropriate credit evaluation report, etc.

4. Conclusion

E-commerce industry is a new business operation mode rapidly developed based on the convenience provided by the Internet. With the continuous development and growth of e-commerce, various industries have started the product development of online platforms. Many enterprises have achieved good economic benefits in the process of platform operation, which not only enlarges the scale of the network platform, but also expands related fields of product sales and services. The emergence of supply chain financing mode brings new business opportunities to large-scale e-commerce enterprises. Although this new online financial product can make both sides of the transaction get good benefits in terms of business cooperation between enterprises and capital flow, there are still problems related to trade credit and network security. When carrying out supply chain financing business, large enterprises should start from the perspective of their long-term development, strengthen the credit examination of SMEs, and use advanced technology to increase the security of platform operation. Through a series of regulatory measures, risks in the process of e-commerce operation can be effectively avoided.

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