Journal of Humanities, Arts and Social Science, 2023, 7(8), 1614-1619
https://www. hillpublisher. com/journals/jhass/
ISSN Online: 2576-0548
ISSN Print: 2576-0556

Research on Supply Chain Finance Operation Model—Fresh Products as an Example

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How to cite this paper: Jingjing Xue, Yan Peng. (2023) Research on Supply Chain Finance Operation Model—Fresh Products as an Example. *Journal of Humanities, Arts and Social Science*, 7(8), 1614-1619.
DOI: 10.26855/jhass.2023.08.025

Received: July 22, 2023
Accepted: August 18, 2023
Published: September 15, 2023

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Abstract

In recent years, China has actively promoted a series of financial policies to support the overall development of the social and enterprise economy, following the requirements of the Central Committee of the Party and based on actual development needs. However, some small and medium-sized enterprises are not strong enough and have a single financing channel, so they have difficulty resuming work and production. The main objective of innovative supply chain finance is better to solve the financing dilemma of small and medium-sized enterprises. Along with the increasing development of science and technology and the empowerment of global open development, supply chain finance has gradually become a critical step for SMEs everywhere to solve their financing problems and expand their financing channels. Financial technology promotes the digitalization and informatization of the market and integrates with Internet finance, which has led to changes in the operational processes and structures of supply chain finance in enterprises, strengthening the collaborative nature with financial capital while promoting the development of the real economy, and building a new situation of interdependence and joint and coordinated action between the financial sector, enterprises, and supply chains everywhere.

Keywords

Supply chain, finance, fresh produce

Introduction

With the development of science and technology on the Internet, supply chain finance will gradually progress from a tentative development to maturity. It will make significant progress in innovation, while enterprises will gradually open up and innovate in compliance and will slowly combine with Internet finance to play an important role in supply chain finance. This paper mainly introduces the development status and financing needs of fresh agricultural products, and based on the characteristics of the fresh agricultural product supply chain model in Guangxi, it discusses the mode of operation of supply chain finance suitable for new agricultural products, discusses related problems, and gives countermeasures to solve them.

1. The concept of supply chain finance business

Generally speaking, the supply chain mainly includes the core enterprise and the enterprises surrounding the core enterprise upstream and downstream, the storage and logistics enterprises, and the financial institutions providing services to the core enterprise and the upstream and downstream links. In the whole supply chain, the core enterprise is the center of technology, capital, and information; the financial institution is the supporter of the entire supply chain; Supply chain finance refers to the service mode in which the financial institution takes the core enterprise in the supply chain as the support and designs personalized and standardized financial service products for each link in the supply chain, to provide comprehensive solutions to all enterprises in the whole supply chain (Chen X, 2023).

Supply chain finance provides services to supply chain procurement, production, transportation, and sales by investing capital and capital efficiently and reasonably upstream and downstream of the supply chain. Supply chain finance provides targeted financial solutions for the core companies in the supply chain and customized financial products for the disadvantaged companies in the upstream and downstream of the entire supply chain, supporting the healthy and rapid development of the supply chain, which is a novel financial operation mode. According to the different financial service providers, supply chain finance can be divided into commercial banks, finance companies, etc.

2. Characteristics of Supply Chain Finance

Supply chain finance uses a wide range of financial products and concepts to achieve the objectives of both sides of the transaction, mainly to solve the financing problems of small and medium enterprises. Unlike the financing methods adopted by traditional financial services exchanges, supply chain finance favors a more scientific, convenient and targeted approach to financial transactions and, with the help of relevant financial intermediaries, shows the public its full range of advantages and financial services channels (Sang B, 2021).

(1) Reduces the transaction cost of SME financing and improves the efficiency of enterprise capital operation

Traditional supply chain finance usually only grants credit to core enterprises, which tend to have higher credit, the transaction capital amount is large, and the transaction surface is more extensive. Moreover, the traditional transaction process is very cumbersome, with a master contract signed between multiple counterparties, followed by communication between the enterprise and the partner bank, between the enterprise and the associated enterprise, between the associated enterprise and its partner bank, and to a certain extent, with the relevant guarantee and mortgage companies and trust companies. The modern supply chain finance system, on the other hand, does not simply select transactions based on the fundamentals of the client company, nor does it consider whether to engage in further communication and cooperation with the company based on its creditworthiness, but takes the real business-related prospects as the basis, which essentially reduces the transaction costs of SMEs in financing and thus improves the efficiency of their capital operations (Rishehchi Fayyaz M, 2021).

(2) With strict and dynamic control capabilities

Large-scale financing injected into the supply chain system is usually restricted, allowed to be used only within the limits of control, and subject to strict auditing following the business requirements of the company before lending when the company's capital chain, financial allocations, and operational processes are gradually carried out in accordance with the way the transaction contract stipulates. In the traditional model, the bank obtains information about the transaction by looking at the financial statements of the main companies and the related upstream and downstream companies, which are already available and static. The members of the supply chain system will guide and monitor how their related companies operate their funds, and the two sides of the transaction can exchange and communicate with each other about supply chain information. This not only controls adverse selection and moral hazard on a large scale but also dramatically reduces the company's cost in the transaction and increases the benefits of supply chain finance to both sides of the transaction. Furthermore, through the supply chain finance system, dynamic data can also be effectively collected and managed for trading companies, allowing financial institutions to understand and grasp their real-time operational capabilities and efficiency, improving the decisiveness of financial institutions in their decision-making (Sodhi M M S, 2021).

(3) It strengthens the ability of the business to operate

The liquidity of the enterprise's funds is high enough to help make the enterprise more stable in the process of development, and the precipitation and illiquidity of funds can seriously limit the efficiency of the enterprise's economic operation. It is also the direction of supply chain financial services to deal with illiquid assets. To improve the operational efficiency of the funds, and under the premise that part of the assets have good self-reimbursement, the emergence of a supply chain financial platform will timely solve the problems existing in the systems of both banks and enterprises, such as the mismatch between the speed of updating and upgrading the systems of banks and enterprises. Generally speaking, banks tend to upgrade their systems slowly, whereas enterprises upgrade their systems quickly, so the problem of mismatch will occur.

The main supply chain finance service targets are SMEs, especially those with high development potential. SMEs operating in the supply chain system, especially those with innovative value, tend to dominate supply chain financial services. Through supply chain finance, these enterprises can, to some extent, optimize their own capital flow and improve the efficiency of capital allocation, which in turn improves their ability to manage risks and even their profitability. What is different from traditional credit services is that supply chain financial services involve multi-level transaction channels and many transaction subjects. Banks and other capital providers in the supply chain financial system can obtain a large amount of information about the sources of customers and transaction processes of various enterprises so that they can draw up some theories according to the development direction of enterprises, future transaction channels or according to the beneficial aspects of the supply chain for themselves. The bank can also develop promising cooperation mechanisms, make two-way connections and two-way matches, and communicate and liaise with its partners promptly (Zhao X, Wang P, & Pal R, 2021).

3. Supply Chain Finance Risk Analysis

3.1 Policy and legal risk

Policy risk is the potential for losses to arise due to amendments or changes to supply chain economic policies or industry rules by administrative authorities or industry associations. In some cases, the adjustment of economic policies may lead to a certain impact on companies in the relevant industry, which in turn may lead to changes in financing and investment patterns and the possibility of increased risk. For example, if an administrative agency's policies on industrial restructuring are favorable for some industries and negative for others, commercial banks may face the possibility of losses if their supply chain finance business involves restricted industries. The extension of commercial banks' services to the supply chain is based on the accounts receivable credit business. If the agreement involved is incomplete and the terms are not protected by law, it will lead to legal problems of accounts receivable falling through, thus causing unnecessary trouble for banks to carry out supply chain finance business. Furthermore, the lack of laws and regulations also contributes to the legal risks faced by supply chain finance.

3.2 Market risk

Market risk refers to the potential to create risk for a business when market prices fluctuate. Market risk can arise from changes in exchange rates and price fluctuations. Price fluctuations in commodities are affected by economic factors, political factors, and complex factors such as war, which can cause prices to change. Market price fluctuations and exchange rate movements can lead to changes in the price of pledges, causing a change in the pledge's ability to be realized. In general, small-scale commodities, items that are not easily disposed of, perishable items, and commodities with high price volatility are not suitable for pledges because of their high market risk. Supply chain finance is exposed to risks arising from changes in market prices when it receives payment from service providers. Businesses that have import and export operations are subject to price fluctuations and exchange rate changes. If a company does not have an import/export business, it will be affected by price fluctuations. Changes in interest rates can also affect the price of financial assets and liabilities, exposing the person liable for repayment to the possibility of loss.

3.3 Operational risk

Operational risk is the possibility of loss in implementing supply chain finance by commercial banks due to inadequate management, process confusion, lack of accountability, and human-induced errors. Operational risk can be internal fraud, employee error, external fraud, physical damage, and business interruption. For SMEs upstream and downstream of supply chain finance, since the number of financing strokes may be relatively high, the frequency of financing is relatively high and there are more links in supply chain finance. Therefore, operational risk can occur at many links and operational risk has become the most critical risk. When supply chain finance occurs or during the execution of contracts, commercial banks, core enterprises, and upstream and downstream enterprises may lay down hidden risks due to improper operations; whether they are primary or secondary operational risks, there is inevitably the possibility of risks occurring.

3.4 Information risk

Information risk is the possibility of loss due to incomplete information on a particular link or links in the process of implementing supply chain finance, insufficient supervision and control, and lack of effective and timely communication. In the supply chain finance process, if the scale of the supply chain continues to increase, the structure will become increasingly complex, and the probability of misinformation in its business implementation will also increase. Poor information transfer, outdated information, or distorted information can lead to miscommunication between upstream and downstream companies and inconsistencies in the analysis of supply and consumer demand and volume in the market between upstream and downstream companies in the supply chain, leading to a significant reduction in the sensitivity of the supply chain to the market.

To prevent business risks in supply chain finance, it is necessary to conduct scientific research and forecast on the macro economy, fully utilize laws, policies and regulations; build a risk management system; standardize the process of decision-making and business, as well as supervision; adopt credit risk isolation technology to strengthen credit risk management; through process-oriented operation and corresponding technical means, reasonably avoid operational risks; strengthen information risk management means and build an information platform.

3.5 Fresh produce supply chain models and characteristics

Some of the current agricultural product production has achieved large-scale and group development, but in the vast rural areas, the absolute majority of production is still completed by the vast number of small and medium-sized farmers and agricultural enterprises, the main fresh agricultural products supply chain model has the following kinds:

(1) The "farmer + agribusiness + wholesale agricultural market" model

Farmers and agribusinesses mainly use this model to raise agricultural resources and carry out production, and then sell the fresh agricultural products produced to the wholesale market of agricultural products. The wholesale market then sells the produce to the relevant farmers' market or supermarket. In this model, the wholesale market is at the center of the market and is able to concentrate fresh produce and sell it directly to consumers. However, this model is prone to monopoly by large enterprises, and most farmers and agricultural enterprises are at a disadvantage.

(2) The "farmer + agricultural cooperative + sales terminal" model

Farmers, on their own initiative, organize agricultural cooperatives. They can purchase seeds and seedlings of fresh agricultural products, provide relevant planting equipment and fertilizers and other agricultural materials for farmers, and provide professional technical support and guidance during the production and planting of agricultural products to ensure the smooth production of fresh agricultural products and product quality. At the harvest stage, the agricultural cooperative will purchase the agricultural products grown by farmers piecemeal and use its own sales network to sell them unified for a better sales price. Under the guidance of the agricultural cooperatives, the originally scattered fresh produce growers are brought together, from agricultural procurement to production and processing to centralized sales and unified coordination and management, expanding the scale of fresh produce cultivation, improving the quality of varieties, reaping more economic benefits and better safeguarding the farmers' own economic interests. However, the shortcoming of this supply chain model is that the management capacity of rural cooperatives needs to be further improved and they cannot fully solve the various problems that occur in the supply chain of fresh produce.

(3) Model of "farmers + agricultural cooperatives + e-Commerce platform"

The traditional supply chain of agricultural products is obviously territorial and scattered, and it is difficult to form effective coordination between different logistics enterprises, while the e-commerce platform effectively integrates the production, supply, circulation, sales, and distribution systems of fresh agricultural products. Under this model, the e-Commerce platform can reach a cooperation agreement with agricultural cooperatives, and the e-Commerce platform can order directly from the agricultural cooperatives based on the orders of end consumers, while the farmers can effectively produce with the technical support of the agricultural cooperatives. This model connects the information flow, capital flow, and logistics information in the whole supply chain, thus improving the operational efficiency of the fresh produce supply chain.

4. Model of operation of the fresh produce supply chain finance

Under the "farmer + agricultural cooperative + core enterprise + financial institution" model, farmers report their agricultural procurement needs to the agricultural cooperative, the cooperative summarizes the farmers' procurement needs and signs a procurement agreement with the core enterprise, and uses the procurement agreement to apply for financing from banks and other financial institutions, with the agricultural materials to be purchased as pledges in the agreement. The core enterprise provides a credit guarantee for financing. Financial institutions examine the creditworthiness of the core enterprise and decide on the specific credit limit. If the cooperative and the farmers cannot complete the repayment of the financing, the core enterprise should be obliged to buy back the pledged agricultural resources and repay the loan. The risk of this model is mainly due to the credit risk of the cooperative and the core enterprise, and any default by either party will cause the model to fail. In practice, in order to prevent the risks involved, the first requirement is that the agricultural cooperative and the core business have a long history of cooperation and familiarity with each other. Secondly, the pledge for the proposed agricultural assets should be made by a logistics agency approved by the cooperative, the core enterprise, and the financial institution. Finally, the financing money should be released to a third-party account approved by the financial institution. The entire financing process is confirmed to be complete after the core enterprise has released the purchased agricultural materials in batches to the logistics agency to complete the pledge of warehouse receipts and confirmed by the three parties.

Accounts receivable financing is a common mode of financing in supply chain finance. Receivables financing of fresh agricultural products mostly occurs in the final sales process, which can effectively alleviate the problem of a lack of funds due to the lack of timely return of sales of agricultural enterprises. The most common mode of financing is "agricultural enterprise + core enterprise + financial institution". The specific financing process is as follows: the agribusiness and the core enterprise sign a sales contract for agricultural products and then apply to the financial institution for a loan on the basis of the accounts receivable contract. After acceptance, the financial institution will examine the creditworthiness of both the core enterprise and the agribusiness to determine whether the transaction can be completed as scheduled and whether the amount of accounts receivable is reasonable. After passing the inspection, the financial institution will issue a loan to the agribusiness and repay the principal and interest after the core enterprise has finished selling the agricultural products.

In the whole financing process, it is particularly important to examine the creditworthiness and production and sales capacity of the agricultural enterprise and the core enterprise. Suppose that one of the two parties fails to complete the content of the accounts receivable contract. In that case, it will lead to the failure of the model, so financial institutions should consider the qualifications and creditworthiness of both parties from multiple angles and different dimensions, give a reasonable credit limit, and identify and control the risks during repayment.

5. Conclusions

If the core enterprise is a large agricultural products e-commerce platform, then this model can also take another form, namely the "agricultural enterprises + agricultural products e-commerce platform + financial institutions" model. Under this model, as the transactions between the agricultural enterprises and the core enterprises are mainly conducted on the e-commerce platform, which has a large number of historical transaction records, through the platform's big data technology, the core enterprises will be able to examine the operational capacity of the agricultural enterprises more easily, so that they can preferably select agricultural enterprises with stronger production and operational capacity for cooperation. On the other hand, financial institutions can dock to the transaction interface of the e-Commerce platform and grasp the capital flow, information flow, and logistics of both sides in real-time, which will greatly reduce the pressure of risk identification and control of financial institutions in the original model, thus making the whole financing process more secure, efficient, and convenient. Across the entire model, there are high requirements on the actual operational capability of the e-commerce platform and the ability to apply big data analysis, while the depth of transaction data sharing between the financial institution and the e-commerce platform also directly affects the efficiency of the model, so the successful design of the model depends on whether the three parties, namely the agribusiness, the e-commerce platform, and the financial institution, can establish a good cooperative relationship.

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