

Research on the Selection of Agricultural Product Supply Chain Supplier

Lina Fang^{1,*}, Huizhen Ge²

^{1,2}School of Business Administration of Liaoning University of Science and Technology, Anshan City, Liaoning Province 114052, China

* Corresponding author: Fang Lina (Email: 442754168@qq.com)

Abstract: With the development of the global agricultural industry, the competition among agricultural product supply chain suppliers has become increasingly fierce. In this context, it is of great significance to explore the selection of agricultural product supply chain suppliers. Based on the analysis of the characteristics of agricultural product supply chain and the factors affecting the selection of suppliers, this paper proposes a supplier selection framework for agricultural product supply chain, which includes four stages: identification of supplier selection criteria, evaluation of supplier performance, negotiation and selection of suppliers, and management and improvement of supplier performance. Finally, the paper presents some suggestions for the selection of agricultural product supply chain suppliers, which can help agricultural enterprises to select high-quality suppliers and enhance the competitiveness of the supply chain.

Keywords: Agricultural product supply chain, Supplier selection, Supplier selection criteria, Supplier performance evaluation, Negotiation, Supplier management.

1. Introduction

Agricultural product supply chain refers to the process of agricultural product production, processing, transportation, storage, and sales, which involves multiple parties such as farmers, producers, distributors, retailers, and consumers. [1] As a key link in the agricultural industry, the supply chain plays an important role in the efficient allocation of resources, the improvement of product quality, and the enhancement of market competitiveness. In recent years, with the development of the global agricultural industry, the competition among agricultural product supply chain suppliers has become increasingly fierce [2]. Therefore, how to select high-quality suppliers has become an important issue for agricultural enterprises.

2. Characteristics of Agricultural Product Supply Chain

The agricultural product supply chain has the following characteristics:

(1) Complex network structure: the agricultural product supply chain involves multiple parties, including farmers, producers, distributors, retailers, and consumers, and the relationships between them are complex. [3]

(2) Uncertainty of supply and demand: the supply and demand of agricultural products are affected by many factors [4], such as weather, natural disasters, and government policies, which are difficult to predict.

(3) Seasonal and regional differences: agricultural products have seasonal and regional characteristics, and the supply and demand of different regions and seasons are different.

(4) Quality and safety requirements: agricultural products have high requirements for quality and safety, and the quality and safety of agricultural products affect the health of consumers and the reputation of agricultural enterprises.

3. Factors Affecting the Selection of Suppliers

The selection of suppliers is influenced by various factors, including:

(1) Price: the price of agricultural products is an important factor affecting the selection of suppliers, and the price should be reasonable and competitive [5].

(2) Quality: the quality of agricultural products is a key factor affecting the selection of suppliers, and the suppliers should have strict quality control measures.

(3) Delivery time: the delivery time of agricultural products is an important factor affecting the selection of suppliers, and the suppliers should be able to deliver the products on time.

(4) Service level: the service level of suppliers is an important factor affecting the selection of suppliers, and the suppliers should provide comprehensive and timely services.

(5) Reputation: the reputation of suppliers is an important factor affecting the selection of suppliers, and the suppliers should have a good reputation in the market.

(6) Stability: the stability of suppliers is an important factor affecting the selection of suppliers, and the suppliers should be stable in terms of production, delivery, and service.

Supplier Selection Framework for Agricultural Product Supply Chain Based on the above analysis, this paper proposes a supplier selection framework for agricultural product supply chain, which includes four stages:

(1) Identification of supplier selection criteria: in this stage, the agricultural enterprise should identify the criteria for selecting suppliers, including price, quality, delivery time, service level, reputation, and stability.

(2) Evaluation of supplier performance: in this stage, the agricultural enterprise should evaluate the performance of potential suppliers based on the identified criteria, and select a few high-quality suppliers for further negotiation.

(3) Negotiation and selection of suppliers: in this stage, the agricultural enterprise should negotiate with the selected suppliers on price, delivery time, service level, and other

terms, and select the most suitable suppliers based on the negotiation results [6] .

(4) Management and improvement of supplier performance: in this stage, the agricultural enterprise should manage and monitor the performance of the selected suppliers, and provide feedback and suggestions for improvement if necessary.

Suggestions for the Selection of Agricultural Product Supply Chain Suppliers

Based on the above framework, this paper presents some suggestions for the selection of agricultural product supply chain suppliers:

(1) Establish a supplier evaluation system: the agricultural enterprise should establish a supplier evaluation system based on the identified selection criteria, and regularly evaluate the performance of suppliers.

(2) Diversify the supplier selection: the agricultural enterprise should not rely on a single supplier, but select multiple suppliers to ensure the stability and continuity of the supply chain [7] .

(3) Emphasize quality and safety: the agricultural enterprise should give priority to suppliers with strict quality control measures and good safety records, in order to ensure the quality and safety of agricultural products.

(4) Strengthen communication and cooperation: the agricultural enterprise should strengthen communication and cooperation with suppliers, and establish a long-term partnership based on mutual trust and benefit [8] .

(5) Continuously improve supplier performance: the agricultural enterprise should provide feedback and suggestions for improvement to suppliers, and continuously improve the performance of suppliers to enhance the competitiveness of the supply chain.

4. Conclusion

The selection of agricultural product supply chain suppliers is a complex and important task for agricultural enterprises. Based on the analysis of the characteristics of agricultural product supply chain and the factors affecting the selection of suppliers, this paper proposes a supplier selection framework for agricultural product supply chain, which includes four stages: identification of supplier selection criteria, evaluation

of supplier performance, negotiation and selection of suppliers, and management and improvement of supplier performance. The suggestions presented in this paper can help agricultural enterprises to select high-quality suppliers and enhance the competitiveness of the supply chain.

Acknowledgment

Major project of Liaoning Provincial Social Science Planning Fund: Research on the impact of agricultural product supply chain information interaction on the improvement of operation quality, approval number: L21ZD007

References

- [1] Industry 4.0: a supply chain innovation perspective[J]. Gerd J. Hahn. *International Journal of Production Research*, 2020(5)
- [2] Supply chain innovation research: content analysis based review[J]. Muhammad Shakeel Sadiq Jajja; Muhammad Asif; Syed Aamir Ali Shah; Kamran Ali Chatha. *Benchmarking: An International Journal*, 2020(2).
- [3] Digital Innovation Management: Reinventing Innovation Management Research in a Digital World[J]. Nambisan Satish; Lyytinen Kalle; Majchrzak Ann; Song Michael. *MIS Quarterly*, 2017(1).
- [4] Improving the predictability of business failure of supply chain finance clients by using external big dataset[J]. Xiande Zhao; KwanHo Yeung; Qiuping Huang; Xiao Song. *Industrial Management & Data Systems*, 2015(9).
- [5] Latent classes of service quality, logistics costs and loyalty[J]. Jouni Juntunen; Mari Juntunen; Jari Juga. *International Journal of Logistics Research and A*, 2015(5).
- [6] Insights from hashtag #supplychain and Twitter Analytics: Considering Twitter and Twitter data for supply chain practice and research[J]. Bongsug (Kevin) Chae. *International Journal of Production Economics*, 2015.
- [7] Data Science, Predictive Analytics, and Big Data in Supply Chain Management: Current State and Future Potential[J]. Tobias Schoenherr; Cheri Speier-Pero. *J Bus Logist*, 2015(1).
- [8] Managing Financially Distressed Suppliers: An Exploratory Study[J]. Christoph Bode; Denis Hübner; Stephan M. Wagner. *J Supply Chain Manag*, 2014(4).