

Information Asymmetry Problems and Solutions in Supply Chain Management of Industrial Enterprises

YIN, Guocheng ^{1*}

¹ Shanghai Mancang Information Technology Co., Ltd, China

* YIN, Guocheng is the corresponding author, E-mail: gongchengy_21@outlook.com

Abstract: This paper will explore the causes and effects of information asymmetry in supply chain management of industrial enterprises, as well as its impact on supply chain efficiency and cost. In response to the problem, some solutions to the problem of information asymmetry in supply chain management of industrial enterprises are proposed, including information sharing, contract design and supply chain coordination, etc., and through case analysis, solutions to the problem of information asymmetry in supply chain management of industrial enterprises are discussed. practical applications and effects.

Keywords: Supply Chain Management, Business Management, Efficiency Optimization, Operations Management

DOI: <https://doi.org/10.5281/zenodo.10576455>

1 Introduction

Today, the problem of information asymmetry in supply chain management of industrial enterprises has become an important research field. Information asymmetry means that in the supply chain, different participants have different information, which may lead to problems such as incomplete contracts, uncertainty in quality, opaque prices, etc. These problems may affect the efficiency and cost of the supply chain, thereby affecting the company's profits and market position. Therefore, it is of great research significance to solve the information asymmetry problem in supply chain management of industrial enterprises.

In industrial enterprise supply chain management, solutions to information asymmetry problems can include information sharing, contract design, and supply chain coordination. These solutions can improve supply chain efficiency and reduce costs, thereby increasing a company's profits and market position. Therefore, studying the information asymmetry problem and its solution in the supply chain management of industrial enterprises is of great significance for improving the competitiveness and market position of enterprises.

2 Causes and Effects of Information Asymmetry

In industrial enterprise supply chain management, the problem of information asymmetry means that in the supply chain, different participants have different information, which may lead to some problems, such as incomplete contracts, uncertainty in quality, and opaque prices. Sex and so on. These problems may affect the efficiency and cost of

the supply chain, thereby affecting the company's profits and market position.

Information asymmetry can be caused by many factors, such as poor information exchange between suppliers and buyers, or conflicts of interest between suppliers and buyers, etc. In addition, cultural differences, technical differences, language differences, etc. between suppliers and buyers may also lead to information asymmetry problems.

The problem of information asymmetry has an important impact on the efficiency and cost of the supply chain. For example, information asymmetry may lead to incomplete contracts between suppliers and buyers, resulting in reduced efficiency and increased costs in the supply chain¹. In addition, due to information asymmetry, quality and price uncertainty between suppliers and buyers will also increase, resulting in reduced efficiency and increased costs in the supply chain.

3 Solutions to the Problem of Information Asymmetry

In industrial enterprise supply chain management, solutions to information asymmetry problems can include information sharing, contract design, supply chain coordination, etc. The following is a detailed description of these solutions:

Information sharing: Information sharing refers to the sharing of information between different participants in the supply chain to reduce information asymmetry. Information sharing can be achieved by establishing information platforms, sharing data and information technology.

Contract design: Contract design refers to the signing of contracts between different participants in the supply chain to reduce information asymmetry problems. Contract design can be achieved by clarifying contract terms, formulating reward and punishment mechanisms, and establishing trust mechanisms.

Supply chain coordination: Supply chain coordination refers to the coordination of actions between different participants in the supply chain to reduce information asymmetry problems. Supply chain coordination can be achieved by formulating unified plans and coordinating production and logistics.

These solutions can improve supply chain efficiency and reduce costs, thereby increasing a company's profits and market position. Therefore, studying the information asymmetry problem and its solution in the supply chain management of industrial enterprises is of great significance for improving the competitiveness and market position of enterprises.

4 Case Analysis

Through case analysis, we can better understand the practical application and effect of solutions to the information asymmetry problem in supply chain management of industrial enterprises. The following is an example:

Taking a company in Weifang, Shandong as an example, there is an information asymmetry problem between suppliers and buyers in its supply chain, resulting in incomplete contracts, uncertainty in quality, and opaque prices. In order to solve these problems, the company took the following measures:

Information sharing: The enterprise has established a digital information platform based on the Spring framework, on which suppliers and buyers can share data and information. Through real-time information sharing, the information asymmetry problem between suppliers and buyers is alleviated.

Contract design: The company hired a professional team of lawyers to formulate clear contract terms, including quality standards, prices, delivery dates, etc. In addition, the company has established reward and punishment mechanisms to ensure that suppliers and buyers comply with contract terms.

Supply chain coordination: The company developed a unified plan and designed a digital supply chain management system for the supply chain to coordinate production and logistics. In addition, the company has established long-term cooperative relationships with suppliers and buyers to ensure the stability and reliability of the supply chain.

Through these measures, the company successfully solved the information asymmetry problem in the supply

chain management of industrial enterprises, improved the efficiency of the supply chain and reduced costs. These measures also increase the company's profits and market position.

5 Conclusion

This paper aims to explore the information asymmetry problem and its solution in supply chain management of industrial enterprises. By analyzing the causes and effects of information asymmetry, we found that information asymmetry may lead to incomplete contracts, quality uncertainty, price opacity and other issues, thus affecting the efficiency and cost of the supply chain. To address these issues, we propose solutions including information sharing, contract design, and supply chain coordination. These solutions can improve supply chain efficiency and reduce costs, thereby increasing a company's profits and market position.

Acknowledgments

The authors thank the editor and anonymous reviewers for their helpful comments and valuable suggestions.

Funding

Not applicable.

Institutional Review Board Statement

Not applicable.

Informed Consent Statement

Not applicable.

Data Availability Statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this

article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Author Contributions

Not applicable.

About the Authors

YIN, Guocheng

Director of the Business Operations Management
Department of Shanghai Mancang Information Technology
Co., Ltd.

References

- [1] Sanders, N. R. (2020). Supply chain management: A global perspective. John Wiley & Sons.
- [2] Mastos, T. D., Nizamis, A., Terzi, S., Gkortzis, D., Papadopoulos, A., Tsagkalidis, N., ... & Tzovaras, D. (2021). Introducing an application of an industry 4.0 solution for circular supply chain management. *Journal of Cleaner Production*, 300, 126886.
- [3] Wisner, J. D., Tan, K. C., & Leong, K. (2021). Principles of supply chain management: A balanced approach. South-Western, Cengage Learning.
- [4] Pournader, M., Ghaderi, H., Hassanzadegan, A., & Fahimnia, B. (2021). Artificial intelligence applications in supply chain management. *International Journal of Production Economics*, 241, 108250.
- [5] Nunes, L. J. R., Causer, T. P., & Ciolkosz, D. (2020). Biomass for energy: A review on supply chain management models. *Renewable and Sustainable Energy Reviews*, 120, 109658.