



**THE EFFECT OF THE SUPPLY CHAIN INTEGRATION
STRATEGY ON THE COMPETITIVENESS OF POLYURETHANE
ENTERPRISES - A CASE STUDY OF HL NEW MATERIAL
COMPANY**

**GUO PEIYU
6517195802**

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
GRADUATE SCHOOL OF BUSINESS
SIAM UNIVERSITY**

2024



**THE EFFECT OF THE SUPPLY CHAIN INTEGRATION
STRATEGY ON THE COMPETITIVENESS OF POLYURETHANE
ENTERPRISES - A CASE STUDY OF HL NEW MATERIAL
COMPANY**

GUO PEIYU

This Independent Study Has Been Approved as a Partial Fulfillment of the
Requirements for the Degree of Master of Business Administration

Advisor.....
(Dr. Zhang Li)

Date:/8/...../12...../2014

.....
(Associate Professor Dr. Jomphong Mongkhonvanit)
Dean, Graduate School of Business

Date:/24/...../1...../2025


Title: The Effect of the Supply Chain Integration Strategy on the Competitiveness of Polyurethane Enterprises - A Case Study of HL New Material Company

Researcher: Guo Peiyu

Degree: Master of Business Administration

Major: International Business Management

Advisor:


.....
(Dr. Zhang Li)

15, 12 - 2024
.....

ABSTRACT

Combined with the enterprise's competitive environment, a clear enterprise strategic development direction and the implementation of strategic planning can improve the competitiveness of enterprises. This study took HL New Material Company as a case study to investigate the corporate strategy and analyze the effect of the supply chain integration strategy on the competitiveness of polyurethane enterprises. There were two research objectives: 1) To explore the competitive environment of HL New Material Company by using Porter's Five Forces; 2) To examine the impact of supply chain integration on HL New Material Company by using the SWOT analysis.

This study adopted the method of documentary research to analyze the impact of supply chain integration strategy on HL New Material Company. It reviewed the resource-based theory and the transaction cost theory and referred to the research of scholars at home and abroad. The results show that: 1) There are relatively few domestic competitors but the market is saturated. International competitors are strong, but the international market demand is large. There are few potential entrants. Buyers have strong bargaining power. Suppliers have less bargaining power. There are almost no substitutes; 2) Supply chain integration strategy has the following advantages: cost reduction, efficiency improvement. However, excessive dependence on suppliers and low bargaining power are major weaknesses. The improvement of product competitiveness brings opportunities, while the industry competition and the impact of the macroeconomy pose threats.

Recommendations of this study: 1) Optimize supply chain and expand downstream business; 2) Strengthen industry-university research collaboration; 3) Expand marketing channels with online-offline integrations.

Keywords: supply chain, enterprise strategy, enterprise competitiveness

ACKNOWLEDGMENT

First of all, I would like to express my sincere thanks to Dr. Zhang Li and Dr. Jomphong Mongkhonvanit. From the selection and conception of the independent study to the final draft, they gave me rigorous and careful guidance. Every communication with my tutor inspired me deeply.

Secondly, I would like to thank my parents, my husband and my son, Wang Yize, and daughter, Wang Yixuan. Their support enabled me to successfully complete my studies in Thailand.

I would also like to express my special thanks to HL New Material Company. The seven-year working experience has provided me with rich time materials and valuable experience for my independent study, and provided me with ideas for solving problems.

Finally, I want to thank myself. At the age of 30, I still have the courage to study, and challenge myself in the process of learning.

I will remember this precious experience of studying in a foreign country. With gratitude, keep trying.

The seal of Siam University is a large, circular emblem in the background. It features a central figure, possibly a deity or a historical figure, surrounded by a wreath. The text "SIAM UNIVERSITY" is written in a circular path around the inner border of the seal. There are also Thai characters at the top and bottom of the seal.

(GUO PEIYU)

DECLARATION

I, GUOPEIYU, hereby declare that this Independent Study entitled “The Effect of the Supply Chain Integration Strategy on the Competitiveness of Polyurethane Enterprises - A Case Study of HL New Material Company” is an original work and has never been submitted to any academic institution for a degree.

(GUO PEIYU)



CONTENTS

ABSTRACT.....	I
ACKNOWLEDGMENT.....	II
DECLARATION	III
CONTENTS.....	IV
LIST OF FIGURES	VI
Chapter 1 Introduction	1
1.1 Background of the Study	1
1.2 Questions of the Study	1
1.3 Objectives of the Study	2
1.4 Scope of the Study	2
1.5 Significance of the Study	2
1.5.1 Theoretical significance	3
1.5.2 Practical significance	3
1.6 Definition of Key Terms	4
1.6.1 Supply Chain.....	4
1.6.2 Enterprise Strategy.....	4
1.6.3 Enterprise Competitiveness	4
Chapter 2 Literature Review	5
2.1 Introduction.....	5
2.2 Literature Review of Supply Chain	5
2.3 Literature Review of Enterprise Strategy	6
2.4 Literature Review of Enterprise Competitiveness	6
2.5 Theoretical Concepts.....	8
2.5.1 Supply Chain.....	8
2.5.2 Supply Chain Integration	8
2.5.3 Enterprise Strategy.....	9
2.6 Theoretical Theories	10
2.6.1 Resource-Based Theory	10
2.6.2 Transaction Cost Theory	11
2.7 Porter's Five Forces Model Analysis	13
2.8 SWOT Analysis.....	14
2.9 Conceptual Framework.....	15
Chapter 3 Research Methodology.....	16

3.1 Research Design.....	16
3.1.1 Porter's Five Forces Analysis.....	16
3.1.2 SWOT Analysis.....	16
3.2 Sources of Data.....	17
3.3 Data Analysis.....	18
Chapter 4 Findings and Discussion.....	19
4.1 Porter's Five Forces Analysis Findings.....	19
4.1.1 Analysis of existing competitor.....	19
4.1.2 Analysis of potential entrants.....	19
4.1.3 Analysis of substitutes.....	19
4.1.4 Analysis of suppliers' bargaining power.....	20
4.1.5 Analysis of buyers' bargaining power.....	21
4.2 SWOT Analysis Findings.....	21
4.2.1 STRENGTH.....	21
4.2.2 WEAKNESS.....	23
4.2.3 OPPORTUNITY.....	24
4.2.4 THREAT.....	25
4.3 Porter's Five Forces Analysis Discussion.....	26
4.4 SWOT Analysis Discussion.....	26
Chapter 5 Conclusion and Recommendation.....	28
5.1 Conclusion.....	28
5.1.1 Porter's Five Forces Analysis Conclusion.....	28
5.1.2 SWOT Analysis Conclusion.....	29
5.2 Recommendation.....	30
5.2.1 Optimize Supply Chain and Expand Downstream Business.....	30
5.2.2 Strengthen Industry-University Research Collaboration.....	30
5.2.3 Expand Marketing Channels with Online-Offline Integration.....	31
5.3 Further Study.....	31
References.....	33

LIST OF FIGURES

Figure 2.1 Conceptual Framework15



Chapter 1 Introduction

1.1 Background of the Study

Economic globalization has led to the rapid integration of global resources. The information gaps of many products have been broken. Polyurethane, known as the "fifth major plastic", has developed rapidly in China. The implementation of strategies of the "Belt and Road Initiative" and the policy support of the state have given the polyurethane industry huge development space. Its production and sales volume have long ranked first in the world, and the polyurethane industry is booming. But opportunities and risks coexist. With the rapid development of science and technology and the economy as well as the continuous deepening and integration of globalization, market competition at home and abroad has intensified. Since 2011, problems of overcapacity, unstable product quality, serious product homogeneity, and few high-end products have emerged in China's polyurethane industry (Ma, 2018).

The epidemic in 2019 pressed the pause button on the economy. In 2023, the world economy is recovering with difficulty under the influence of negative factors of the epidemic and wars, with insufficient momentum for growth and unstable growth momentum, and the characteristics of the widening differentiation trend among countries are prominent (Li & Yan, 2023). Facing the severe internal and external environment, enterprise competition is more intense. In order to survive in the cruel competition, some enterprises with financial strength assess the situation and adjust their strategies. More and more enterprises adopt the supply chain integration development strategy in order to maintain an advantageous position in industrial competition. As an important enterprise growth strategy, a merger and acquisition integration can reduce procurement costs while ensuring the quality of raw materials, ensure the stability of the supply chain, improve the market power of enterprises, improve the economic efficiency of enterprises, bring continuous competitive advantages to the integrated enterprises, and thus improve the competitiveness of enterprises to survive and develop only by adopting appropriate growth measures and strategies, and therefore it is receiving more and more attention from enterprises (Ma & Chen, 2015).

1.2 Questions of the Study

HL New Material Company started relatively late and is less popular than several other Diethyltoluenediamine (DETDA) and Dimethylthiotoluenediamine (DMTDA) manufacturers. Affected by the general economic environment, there is an imbalance between supply and demand in the polyurethane industry. There is vicious competition among peers, and price-cutting behavior is serious.

Therefore, by analyzing the background of polyurethane industry, this study

focuses on the following two questions.

(1) What is the competitive environment of HL New Material Company?

(2) How does the supply chain integration strategy influence HL New Material Company?

1.3 Objectives of the Study

The main purpose of this study is to analyze the enterprise strategy of HL New Material Company from the direction of supply chain integration, discuss the problems existing in enterprise operation, and put forward specific suggestions and opinions. Using Porter's Five Forces model provides a basis for formulating competitive strategies for enterprises from existing competitors, potential entrants, substitutes, suppliers' bargaining power, and buyers' bargaining power. Using the SWOT analysis is convenient for formulating an enterprise strategy that can give full play to advantages, overcome disadvantages, seize opportunities, and deal with threats, and enhance the competitiveness of enterprises. The specific objectives are as follows:

(1) To explore the competitive environment of HL New Material Company by using Porter's Five Forces.

(2) To examine the impact of supply chain integration on HL New Material Company by using the SWOT analysis.

1.4 Scope of the Study

This study mainly studies the influence of supply chain integration on the competitiveness of polyurethane enterprises. This study analyzes the operating status of HL New Material Company and examines existing problems by reviewing the resource-based theory and the transaction cost theory. The competitive environment of HL New Material Company is analyzed by using Porter's Five Forces model. The strengths, weaknesses, opportunities, and threats faced by HL New Material Company are analyzed by using the SWOT analysis.

1.5 Significance of the Study

The main business of HL New Material Company is the research, development, production and sales of DETDA and DMTDA. In the actual operation process, it faces problems of few product varieties and no long-term and reasonable enterprise development strategy. Therefore, this study conducts a comprehensive analysis of the current development status of HL New Material Company by using Porter's Five Forces model and the SWOT analysis method, and formulates corresponding strategies, determines the development strategy suitable for HL New Material Company and puts forward suggestions for the development strategy to help HL New Material Company improve its enterprise competitiveness.

1.5.1 Theoretical significance

In the fierce market competition, competition is not only limited to market share. The supply chain competition between enterprises is also particularly important. China's polyurethane industry started in the late 1950s. After half a century of development, through technology introduction, absorption and independent innovation, polyurethane production and downstream markets have achieved leapfrog development, and the industry market output scale has been continuously expanding (Jin, 2019). This study has studied the current situation and future development strategy of HL New Material Company through the application of theory, which has certain theoretical significance. At the research perspective level, strategic management and related methods are applied to the field of new materials and other technologies, enriching the theoretical basis of strategic management and broadening the application scope of strategic management countermeasures, which can help small and medium-sized high-tech enterprises develop further. Through Porter's Five Forces analysis of the competitive environment of HL New Material Company and the SWOT analysis of the advantages, disadvantages, opportunities and challenges faced by enterprises, a multi-dimensional analysis of the internal and external status of the company is conducted, and targeted strategic measures are proposed.

1.5.2 Practical significance

China has become the world's largest production base for polyurethane raw materials and the largest production and consumption market for polyurethane products. Although China's polyurethane industry is booming, it cannot be ignored that, overseas, several large multinational companies namely BASF, Huntsman, and Bayer, have established large polyurethane multinational monopoly companies through acquisitions, mergers, and holdings, firmly grasping the world polyurethane raw material market and making them the world's largest polyurethane raw material enterprises (Li, 2009). In 2019, against the background of slow global economic development, the demand for polyurethane products was sluggish, product prices have generally fallen, and profitability has significantly declined. Chinese polyurethane enterprises have also ushered in the biggest challenge in history. Opportunities and challenges coexist. Relevant national departments and industry organizations have introduced a number of policy plans to clearly support the development of polyurethane and its industries. The development of China's polyurethane industry is still in an important strategic opportunity period. Mergers and acquisitions in the upstream and downstream industries of the industry can improve the competitiveness of enterprises and help enterprises seize opportunities in a timely manner (Huajing Industrial Research Institute website, 2023). This study analyzes the economic, market, industry and other environments related to enterprise survival that HL New Material Company currently faces in the business process by introducing the theory of enterprise strategy, and studies

the various survival environments it faces. The purpose is to enhance its own competitive advantage, improve the business environment and expand industrial development. It can not only formulate a reasonable development strategy for HL New Material Company and provide guarantee for improving its vitality and market competitiveness, but also provide reference and guiding significance for other small and medium-sized high-tech enterprises, especially small and medium-sized enterprises in the emerging new material industry in China at this stage, and help them clarify the direction of enterprise strategic development, implement strategic plans and achieve competitive advantages.

1.6 Definition of Key Terms

1.6.1 Supply Chain

Supply chain is a functional network chain structure that centers around the core enterprise. Through the control of information flow, logistics, and capital flow, it starts from purchasing raw materials, manufactures intermediate products and final products, and finally delivers products to consumers through the sales network, connecting suppliers, manufacturers, distributors, retailers, and end users into an integrated whole.

1.6.2 Enterprise Strategy

Enterprise strategy refers to the overall and guiding plan for an enterprise to select suitable business fields and products according to environmental changes, its own resources and strength, determine enterprise goals and directions, and obtain advantages in competition through effective allocation and management of resources to achieve long-term development of the enterprise.

1.6.3 Enterprise Competitiveness

Enterprise competitiveness refers to the comprehensive strength of an enterprise in the market competition. By integrating its own resources and applying unique capabilities and advantages, it surpasses competitors in aspects of the quality, cost, innovation, marketing, and customer service of products or services, thereby obtaining continuous survival and development capabilities and achieving good economic benefits.

Chapter 2 Literature Review

2.1 Introduction

This chapter systematically summarizes relevant literature, and introduces the theories related to the research objectives and the research status of the company's supply chain integration strategy in recent years, and the professional analysis and research of Chinese and foreign scholars, which lays a theoretical foundation for this study.

2.2 Literature Review of Supply Chain

Supply chain is usually made up of upstream suppliers, manufacturers and downstream markets. Supply chain is the only way to promote high-quality social and economic development, and industrial integration must be realized through supply chain (Liu, 2024). Xie & Zhang (2016) pointed out that in response to the national development strategy and constantly optimizing the innovation level and development level of the supply chain, the construction of new supply chain mechanisms includes: building information perfection system, resource integration system, talent introduction system and service evaluation system. Strategy indicates the direction of supply chain development, supply chain development services and strategy. Chen (2016) conducted a corresponding study on the strategic management innovation of supply chain enterprises and pointed out that in the face of fluctuating market economic environment, enterprises must adapt to the requirements of The Times, establish a supply chain management model, and improve the competitiveness of the industry through the implementation of strategic management innovation. From industry competition to supply chain competition, to maintain supply chain cooperation, improve the overall competitiveness of partners, so as to play the competitive potential of enterprises. This requires the implementation of enterprise strategic management. Based on the background of national manufacturing strategy, Wang (2016) proposed that the strategic background of "Made in China 2025" should be combined to improve the management efficiency of supply chain and deeply integrate supply chain management with "Made in China 2025", with the latter promoting the development of the former and the former serving the construction of the latter. Cao et al. (2012), on the other hand, recognized the three-way relationship of supply chain and believed that supply chain integration included supplier integration, manufacturer integration and user integration, and that supply chain integration was the strategic cooperation between suppliers and other enterprises in the supply chain.

Supply chain integration is the further development and optimization of the supply chain, and its purpose is to enhance the overall competitiveness and adaptability of the

supply chain.

2.3 Literature Review of Enterprise Strategy

Neil (2014) pointed out that how to formulate a reasonable development strategy guidance system in the development of small and medium-sized high-tech enterprises has a direct relationship with the future development of enterprises . Therefore, when formulating development strategy, enterprises should have a deep understanding of the macro environment and internal environment of enterprises, especially for the development risk of enterprises should be comprehensively considered, Take this as the basis to do a good risk prevention system. In this process, it is necessary to establish a sound development strategy system, constantly optimize the risk control system, achieve effective management of business risks, and help enterprises to achieve stable development. Soetanto & Jack (2016) pointed out that with the development of science and technology, the market environment faced by high-tech enterprises has changed significantly, and the speed of technological change is very fast, which brings greater competitive pressure to the development of high-tech enterprises. Therefore, small and medium-sized high-tech enterprises should formulate a sound development strategy according to the development status, provide scientific guidance for the future development direction and management mode of enterprises, and make appropriate adjustments to the current development strategy . It can be said that the healthy development of small and medium-sized high-tech enterprises is directly related to the guidance of development strategy, and scientific development strategy lays a solid foundation for the long-term development of enterprises. Wang (2016) pointed out that small and medium-sized high-tech enterprises can strengthen cooperation with colleges and universities to jointly carry out scientific and technological research and innovation and create mutually beneficial forms for each other, so as to improve the success rate of R&D of small and medium-sized high-tech enterprises. Li (2016) pointed out that with the development of information technology, small and medium-sized enterprises must make full use of high and new technologies, combine their own development with Internet technology, and better analyze problems in enterprise development by means of big data platform and cloud computing

2.4 Literature Review of Enterprise Competitiveness

Under competitive market conditions, enterprises acquire external searchable resources by cultivating their own resources and capabilities, and make comprehensive use of them to realize their own value on the basis of creating value for customers; In a competitive market, an enterprise has the ability to provide products and services to the market more effectively than other enterprises, and gain profits and reputation.

Porter (2002) pointed out in National Competitive Advantage that enterprise

competitiveness refers to the ability of enterprises to compete in the international market with a global strategy. Porter especially emphasizes that enterprises should participate in international competition with global strategy, and strategy is the key to the success of enterprise competition. Kotler & Armstrong (2001) described the competitiveness of enterprises as follows: the competitiveness of enterprises is to meet the needs of consumers more effectively and efficiently than competitors. Chinese scholar Jin (2003) believed that enterprise competitiveness refers to the comprehensive quality of an enterprise that can continuously provide products or services to the market more effectively than other enterprises, and obtain profits and own development in a competitive market. Enterprise competitiveness is determined by four types of factors, they are environment, resources, ability and knowledge.

In terms of environment and enterprise competitiveness: If the enterprise has the right environmental resources, it means that the enterprise has the competitiveness endowed by such resources, but without the advantageous environmental resources, it is the loss of resources, and it has no corresponding core competitiveness (Liu, 2007). He & Luo (2018) believed that reasonable external environmental regulations can promote enterprises to carry out ecological innovation, thus enhancing their competitiveness.

In terms of resources and enterprise competitiveness: As defined by Zhu (2021), enterprise competitiveness refers to the ability of an enterprise to gain competitive advantages over external enterprises through its own capabilities and the ability to find external resources to enhance its capabilities. Zhao & Kou (2018) concluded that corporate culture can actively encourage employees to recognize the value of their own enterprises, so as to further enhance the core competitiveness of enterprises. Tangible resources and intangible resources can promote the international competitiveness of enterprises through a more consistent mode of action (Zhang et al., 2003). Effective investment in human resources and financial resources can enhance the core competitiveness of enterprises (Feng et al., 2016).

In terms of competence and enterprise competitiveness, Thomas (2017) found that the faster an enterprise responds to external situations, the stronger its ability to deal with emergencies, and the higher its operational efficiency of resources, the stronger its international competitiveness will be. Technological innovation ability can affect the core competitiveness of enterprises by influencing organizational management ability, production and research ability, production capacity (Yao et al., 2017). Prahalad (2018) believed that core competence, organizational competence, process competence and enterprise competitiveness would all have an impact on its international competitiveness. The combined effect of different capability indicators of enterprises can effectively enhance competitiveness (Zhang et al., 2013).

In terms of innovation and enterprise competitiveness, Wang & Fang (2006)

believed that enterprise innovation activities can promote enterprises to follow the track of standardized management, which is conducive to improving enterprise competitiveness.

To sum up, the research on the competitiveness of manufacturing enterprises is mainly reflected in the aspects of environment, resources, ability and innovation.

2.5 Theoretical Concepts

2.5.1 Supply Chain

The supply chain revolves around the core enterprise, and through the control of information flow, logistics and capital flow, it starts from the purchase of raw materials, makes intermediate products and final products, and then sends the products to consumers through the sales network, and finally connects suppliers, manufacturers, distributors, retailers and end users into an overall functional network chain structure.

Stevens (1989) believed that the entire value-added and distribution process spanning from source suppliers to end consumers is the supply chain. Lee & Billington (1993) held that the supply chain is a close network composed of various node enterprises, whose functions lie in raw material acquisition, product processing, and product sales. Ding (2020) believed that in the production and circulation of products and services, different enterprises can complete the procurement of raw materials and primary products, the production of intermediate products and final products by controlling their own information flow, logistics and capital flow, and finally sell different forms of products or services to end users through the sales network. In the whole process, these activities will form an orderly network chain structure, and such a network chain structure is called the supply chain. In their research on building new supply chain development strategies under the Belt and Road Initiative.

2.5.2 Supply Chain Integration

In the era of digitalization and globalization, due to the continuous increase in the coupling degree between upstream and downstream enterprises in the supply chain, the supply chain has a greater risk of disruption when facing disturbances (Wang et al., 2017). At the same time, economic globalization has made many enterprises realize that it is difficult to maintain a competitive advantage in the market without changing the supply chain model (Wen et al., 2015). Therefore, more and more enterprises have begun to choose to integrate the supply chain in order to better cope with risks and maintain their own advantages. At present, some scholars have defined supply chain integration. Chen (2019) believed that supply chain integration includes two dimensions: supplier integration and user integration, and considers supply chain integration as the degree to which node enterprises jointly manage cross-organizational processes with suppliers and users. Cao et al. (2012) recognized the existence of a ternary relationship in the supply chain, believing that supply chain integration includes

three aspects: supplier integration, manufacturer integration, and user integration, and considers supply chain integration as a strategic cooperation between suppliers and other enterprises distributed on the supply chain. Huo (2015) also believed that supply chain integration is a strategic cooperation among enterprises, and defines supply chain integration as a strategic cooperation between suppliers and partners for the purpose of rapid circulation of goods, credit information, services, etc. in the supply chain. While Li et al. (2013) proposed that supply chain integration can be distinguished from three different aspects: supplier integration, internal supply chain integration, and customer integration. Birger (1984) believed that supply chain integration could enable enterprises to better integrate and utilize upstream and downstream resources, enhance their own resource advantages, optimize resource allocation, and improve the corresponding speed and synergy of supply chain. To provide more competitive products or services for downstream markets.

2.5.3 Enterprise Strategy

The word "strategy" was first proposed by Chandler, who designed the framework of strategic management. He believed that strategy is a series of strategies and actions to achieve a certain goal. With the continuous development of economy and society, the concept of "enterprise strategy" has been gradually put forward by scholars. Christopher (2019) first put forward the concept of "enterprise strategy", Strategy is defined as "the evaluation plan and solution that an enterprise develops to achieve profitability or improve its core competitiveness under the premise of determining its own long-term goals".

Corporate-level strategy, also known as the overall strategy, is a strategy that makes an overall arrangement for the future development direction to achieve the enterprise's development goals (Fred, 2012). There are mainly three types of corporate-level strategies: growth strategy, maintenance strategy, and defensive strategy. Among them, the growth strategies mainly include intensive growth strategy, integration growth strategy, and diversification growth strategy; the maintenance strategies mainly include no-growth strategy, profit maintenance strategy, and slight growth strategy; the defensive strategies mainly include contraction (transformation or reorganization) strategy, divestment strategy, and liquidation strategy.

Intensive growth strategy, also known as intensive strategy or strengthening strategy, includes three strategies: market penetration, market development and product development.

Market development strategy, refers to an expansion strategy in which an enterprise promotes its existing products or services that have passed the market test to new markets. This strategy is mainly applicable to enterprises with excess production capacity and the materials and human resources required for expansion. The main expansion approaches include opening up new market areas, developing new market

segments, exploring unsaturated markets, and expanding new sales channels, etc.

Market penetration strategy, refers to a strategy in which an enterprise conducts in-depth marketing of existing products in the existing market to obtain more market share. The prerequisite for adopting this strategy is that the overall market of the industry is in a growth trend, while the market share of competitors is declining. The main methods of market penetration are to increase advertising and promotion efforts, etc.

Product development strategy, refers to a strategy in which an enterprise strengthens product upgrading or innovation in the existing market to strive for sales growth. This strategy is suitable for enterprises whose existing products are very successful in the market, but have entered the mature stage of the product life cycle, where there is a rigid demand for upgrading and replacement in the market, and have strong R & D and technical capabilities.

2.6 Theoretical Theories

2.6.1 Resource-Based Theory

The resource-based theory was proposed by Wernerfelt in 1984. It holds that enterprise resources, whether tangible or intangible, are heterogeneous and non-replicable (unique). These characteristics bring unique capabilities to enterprises and lead to differences in their resource strategic decisions and competitive capabilities. These characteristics mainly include: value, non-imitability, scarcity, and non-substitutability. However, not all resources can spontaneously bring competitive advantages to enterprises. To some extent, resources need to be integrated, and supply chain integration is one of the implementable approaches. That is to say, the resource-based theory explains the necessity of supply chain integration. No enterprise in the supply chain can possess all the resources of all links. However, by integrating the key resources of enterprises, the circulation between enterprises can be achieved, resource barriers can be broken, the resource needs of enterprises can be met, search costs can be reduced, and thus the market power of supply chain partners can be enhanced. The resource-based theory places more emphasis on bringing benefits to enterprises through resource integration rather than reducing costs. Wernerfelt (1984) held that the unique resources and capabilities of an enterprise are the sources of competitive advantage. Through supply chain integration, enterprises can better integrate and optimize internal and external resources, of raw materials, technology, knowledge, and human resources, thereby forming a unique resource combination and enhancing competitiveness.

Resources refer to various elements owned by an enterprise, including tangible resources of equipment, factories, personnel, land, and funds, as well as intangible resources of trademarks, corporate image, and culture. Under the assumption that differences in resources can lead to differences in earnings, the enterprise resource-

based view holds that the reason why an enterprise makes a profit is that there are differences in tangible resources, intangible resources, and accumulated knowledge among enterprises within the enterprise. Resource advantages will give rise to enterprise competitive advantages. Resources that are valuable, scarce, knowledge-based, non-replicable, and acquired at a price lower than their value can produce products with low costs or high differentiation. They are the key factors for an enterprise to obtain sustainable competitive advantages and success. The competitiveness of an enterprise lies in these special resources. Therefore, the competitive advantages of an enterprise originate from within the enterprise and depend on the enterprise's heterogeneous, scarce, extremely difficult to imitate, and highly efficient proprietary resources. The enterprise has the internal impetus to continuously generate such resources, which can maintain the continuous formation of the enterprise's competitive advantages and the continuous use of these proprietary advantageous resources (Peng, 2004).

The utilization of resources helps to transform the resources acquired by enterprises into enterprise capabilities and values, so as to enhance the competitiveness of white body. The strong internal resources of enterprises will also form "resource barriers", which will help to improve the business performance of enterprises and gain competitive advantages (Alexy et al., 2017). In terms of resource acquisition, from the internal aspect, enterprises can achieve resource acquisition through internal innovation; Externally, external resources can also be obtained through strategic alliances, mergers and acquisitions (Li et al., 2020). The differences brought by resource endowments eventually lead to the differences in business performance of enterprises (Heine & Stieglitz, 2008). In terms of enterprise resources and their efficiency, enterprise managers integrate these resources in a predictable manner, thus becoming a source of competitive advantage (Yu et al., 2021).

2.6.2 Transaction Cost Theory

The theory of transaction costs was proposed by Coase, the Nobel laureate in economics, in 1937. It mainly explores how market organizations minimize production costs and transaction costs through behavioral patterns.

The specific starting points were the six influencing factors of transaction costs subdivided by Williamson (1975) :

(1) Bounded rationality refers to the inherent limitations of human beings due to objective conditions of spirit, physiology, and language, preventing them from achieving rational behaviors that pursue maximum benefits.

(2) Opportunistic behavior means that both parties in a transaction lack trust and may seek benefits for themselves through deceptive means.

(3) Minority transactions refer to the exclusivity or heterogeneity of resources of information, patent rights, and commodities, which reduces the number of transaction

objects and concentrates power in the hands of a few, breeding opportunistic behavior.

(4) Transaction uncertainty means that both the external environment and the behaviors of traders are complex and variable, making it difficult to predict them.

(5) Information asymmetry means that uncertainty and opportunistic behavior place both parties in a transaction in an unequal position.

(6) Atmosphere refers to the fact that different transaction environments will generate different transaction costs. These characteristics of the theory of transaction costs are precisely the motivations for supply integration. Supply chain integration can limit opportunistic behavior by increasing switching costs. It can also achieve information sharing and mutual trust, and thus reduce transaction costs.

Coase (1937) emphasized that enterprises will generate transaction costs in market transactions. Supply chain integration can reduce transaction costs and improve efficiency by establishing long-term and stable cooperative relationships and optimizing business processes.

The concept of "transaction" was first put forward by Commons, an early institutional economist. Commons believed that: "The essence of economic relations is transaction. A transaction refers to the transfer and acquisition of ownership of things between people. It is the most basic unit of economic activities. Society is an organism composed of countless types of transactions, and the central goal of economic organizations and economic systems is to coordinate transactions" (Yuan & Yuan, 2015). Extending from economic organizations to enterprises, an important indicator of whether an enterprise is competitive is the level of its transaction costs, especially the internal transaction costs of the enterprise. Transaction costs, also known as transaction expenses, were first proposed by Coase. Coase(1937) applied economic methods to institutional research and put forward the concept of transaction costs. The basic idea is: "Take transactions as the analysis unit, find out the characteristic factors that distinguish it from various types of transactions, and analyze what kind of institutions should be adopted to coordinate different types of transactions" (Wen, 2010). In his view, transaction costs are composed of the costs incurred in measuring, defining, guaranteeing exclusive rights, discovering transaction objects and transaction prices, signing transaction contracts, and supervising the performance of contract terms. In addition, Coase also proposed that the "transaction structure" should include "contracts" and attributed the "contract" problem to the "organizational system" problem. Williamson (2002) believed that "cost is the expense to be paid for the operation of the economic system."

Transaction costs generally refer to all expenses incurred to facilitate a transaction. Coase (1937) believed that "transaction costs are composed of information search costs, negotiation costs, contracting costs, costs of supervising the performance of contracts, and costs of dealing with default behaviors" (Wu & Li, 2010). On the basis of Coase's

theory, from the perspective of contracts, Williamson (1975) divided transaction costs into "ex post" (maintenance and performance costs after the transaction occurs) and "ex ante" (costs paid to facilitate the transaction) according to contract differences. After that, most relevant studies explain the concept of transaction costs from the perspective of contracts. From the perspective of the contract process, if both parties to a transaction intend to cooperate, they must eliminate the information barrier and exchange potential transaction information. In this way, the acquisition and transmission of information will consume costs, and there will also be the costs of making decisions and the implementation costs after agreement. Therefore, some scholars advocated dividing transaction costs into information costs, negotiation costs, decision-making costs, implementation costs, and control costs.

2.7 Porter's Five Forces Model Analysis

In his book *Competitive Strategy*, Michael Porter (2005) proposed and analyzed the competitive model that determines industrial attractiveness. Porter believed that in every industry, there are five basic competitive forces in check and balance: potential entrants, substitutes, buyers, suppliers, and competitors.

Existing competitors: It is a comprehensive competition among existing competitors that requires the use of multiple strategies, including price competition, advertising wars, product introduction, improvement of customer service or quality assurance, etc. When enterprises perceive the competitive pressure in the industry or find opportunities to enhance their competitive position, competition arises among them.

Potential entrants: The threat of potential entrants depends on the existing entry barriers in the industry and the expected reactions of existing enterprises when new entrants arrive. Analysis shows that in the DETDA and DMTDA industries, high technical barriers and capital requirements act as significant deterrents. The need for advanced production technology and substantial initial investment restricts new players. Additionally, strict policies and regulations regarding environmental protection and product quality further complicate entry.

Substitutes: It refers to the situation where two enterprises may produce mutually substitute products, thus generating competitive behaviors. This kind of competition from substitutes will affect the competitive strategies of existing enterprises at various levels.

Suppliers' bargaining power: Suppliers can exert their bargaining power by demanding price hikes from enterprises in the industry, or else they will reduce the quality of products or services with such threats.

Buyers' bargaining power: Buyers can advocate for lower prices, improved product quality, and require enterprises to provide more services and instigate competition among competitors, and these actions will affect the profitability of the

industry.

The balance between these five forces jointly determines the intensity of industrial competition and industrial profit rate. The strongest one or several forces occupy the dominant position and play a key role from the perspective of strategic formation. Numerous economic and technological characteristics in the industry are crucial to the strength of each competitiveness. The change of the five forces will eventually affect the change of the profit potential of the industry.

2.8 SWOT Analysis

The SWOT analysis is widely used in the field of enterprise strategic management. Weirich (2004) further improved the SWOT analysis in the early 1980s. It is a comprehensive, systematic and scientific analysis of the internal and external environment of an enterprise. With strong practicability and comprehensiveness, the SWOT analysis is a common analysis method in enterprise strategic management. The SWOT analysis is based on research, specifically enumerate the internal strengths, weaknesses, opportunities and threats of the enterprise itself. The analysis of strengths and weaknesses focuses on the comparison between the enterprise's own situation and its competitors in the same industry, while the analysis of opportunities and threats focuses on the impact of external factors on the future development of the enterprise.

S (Strengths) : The advantageous factors of an enterprise in the industry competition, including technological barriers, cost advantages, sufficient financial resources, a good corporate image, market share.

W (Weaknesses): The disadvantageous factors of an enterprise in the industry competition, including the lack of key technologies, chaotic management, shortage of funds, overstock of products, aging equipment.

O (Opportunities): The factors outside the enterprise that are helpful to the enterprise's development, including new market demands, the removal of regulatory barriers, mistakes made by competitors in the industry during the operation process.

T (Threats): The factors outside the enterprise that are unfavorable to the enterprise's development, including the emergence of new competitors, an increase in substitutes, a reduction in market capacity, a slowdown in economic development, changes in industry policies.

When a comprehensive analysis and evaluation of the four factors are carried out, a strategy that gives full play to advantages, avoids disadvantages as much as possible, makes full use of opportunities, and effectively deals with threats is formulated.

2.9 Conceptual Framework

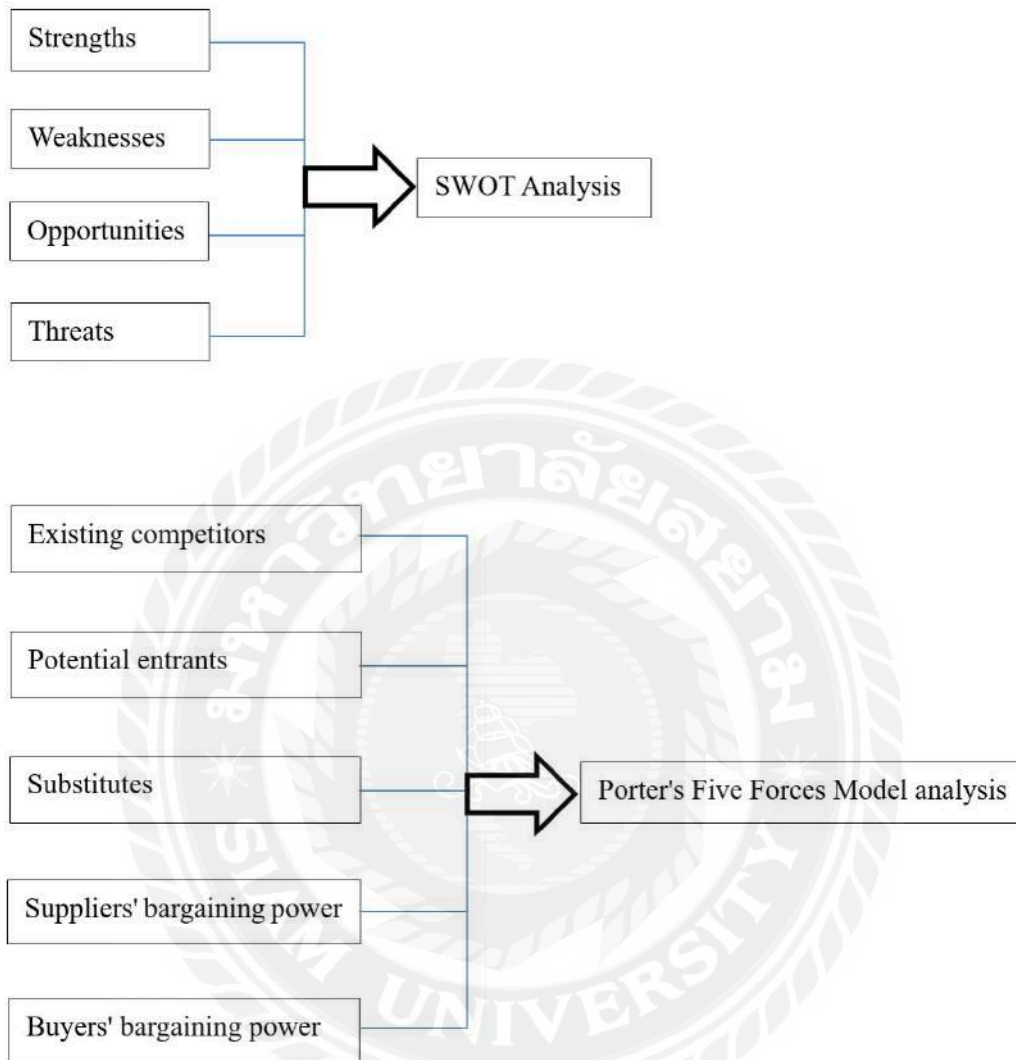


Figure 2.1 Conceptual Framework

Chapter 3 Research Methodology

3.1 Research Design

This study adopted the documentary research method to analyze the competitive environment of HL New Material Company, using the Resource-Based Theory and the Transaction Cost Theory as the theoretical basis, and at the same time adopting Porter's Five Forces model and the SWOT analysis.

3.1.1 Porter's Five Forces Analysis

(1) Existing competitors

Analyze existing competitors, understand the characteristics of DMTDA and the advantages of HL New Material Company's Shandong branch, and identify the major existing competitors. Information was obtained by consulting industry reports, corporate financial reports, and market research data, and by analyzing the competition strategies of enterprises, of price wars, product innovation, and marketing methods.

(2) Potential entrants

Study the entry barriers of the DETDA and DMTDA industries, including technical barriers, capital requirements, policies and regulations, etc.

(3) Substitutes

Identify products that may replace DETDA or DMTDA, analyze factors of the performance, price, and user acceptance of substitutes, and assess the threat degree they pose to the existing industry.

(4) Suppliers' bargaining power

Analyze the importance of existing suppliers to the enterprise and the cost for the enterprise to switch suppliers.

(5) Buyers' bargaining power

Analyze the customer group, understand the buyers' sensitivity to price, product quality requirements, and the cost of switching brands.

3.1.2 SWOT Analysis

(1) Strengths

Analyze the unique resources owned by HL New Material Company, of technical patents, professional talents, advanced equipment, brand reputation, etc.

Analyze HL New Material Company's core competitive advantages in the market, of cost advantages, product quality advantages, innovation ability, etc.

(2) Weaknesses

Compare HL New Material Company with competitors and determine in which aspects it is at a disadvantage, of a small market share, low brand awareness, supplier bargaining power, etc.

(3) Opportunities

Analyze the development trends of the industry, of market growth, changes in consumer demand, etc., and determine the possible opportunities.

Analyze the impact of national and local policies on the research object, of policy support, tax incentives, industrial support, etc.

Analyze cooperation opportunities, of finding potential partners and cooperation projects to expand the market.

(4) Threats

Analyze the strength and competition strategies of competitors to determine the possible competitive threats, of price wars, product imitation, etc.

Analyze the uncertain factors in the market, of economic recession, industry cycle fluctuations, raw material price increases, etc.

Examine the rapid development of technology and determine whether there are new technologies that pose a threat to the research object's products or services.

By analyzing the company's competitive environment through the Porter's Five Forces and using the SWOT analysis to analyze the impact of supply chain integration on the company's competitiveness, theoretical research is transformed into practical application. This can further determine the impact of corporate strategy on the company.

3.2 Sources of Data

The research focused on HL New Material Company, which is a specific enterprise in the polyurethane industry. The company's operations, competitive environment, and supply chain integration strategy were the main focuses of the study. As it is a case study of a single company, there is no specific sampling process in the traditional sense. The data and information used in the research were mainly obtained from the company's internal data, industry reports related to the polyurethane industry, and market research data that are relevant to HL New Material Company.

The main research instrument in this study is the documentary research method. The researcher consulted a large number of relevant literature materials through channels of CNKI, various news websites, and relevant policies and regulations. This helped to summarize and collate the research content related to supply chain integration and comprehensively screen and collate the research content related to the impact of corporate strategy on corporate competitiveness. The researcher also analyzed the company's internal data and combined it with the external competitive environment to conduct in-depth research on HL New Material Company.

For data collection, literature review was conducted by consulting a large number of academic studies, industry reports, and news studies related to supply chain integration, enterprise strategy, and polyurethane industry through online databases and libraries. This helped to understand the theoretical background and research trends in the field. Company internal data was utilized by taking advantage of working in HL New Material Company to access its internal data, including financial reports, production data, supply chain management data, and customer information. This provided a detailed understanding of the company's operations and performance.

Industry reports and market research data were referred to obtain information about the polyurethane industry's market size, growth trends, competitive landscape, and customer demands. This data helped to analyze the external environment in which HL New Material Company operates.

3.3 Data Analysis

Based on the Resource-Based Theory and Transaction Cost Theory, this study summarized the collected literature, extracted the influencing factors of the supply chain integration strategy on the competitiveness of polyurethane enterprises, and summarized the theoretical framework. Porter's Five Forces model and the SWOT analysis were adopted for analysis.



Chapter 4 Findings and Discussion

4.1 Porter's Five Forces Analysis Findings

4.1.1 Analysis of existing competitor

(1) Competitors within China: The main products in the relevant chemical field include DETDA and DMTDA. In China, the main competitors in the production of DETDA are LBR in Henan Province, CL and HRB in Shandong Province. The DETDA technology is quite mature and there are minor differences among the products. There are many manufacturers that master DMTDA technology. However, due to the sulfur content in the product and environmental pollution, there is only one competitor that is approved for production. The Shandong branch of HL New Material Company was approved in 2023. This company uses advanced exhaust gas treatment facilities and has good environmental treatment effects, becoming an approved manufacturer of compliant DMTDA. Its anti-yellowing and anti-ultraviolet performance has also reached the best effect in China, breaking LBR's five-year monopoly on transparent DETDA.

(2) International Competitors: Internationally renowned manufacturers include Albemarle Corporation, an American specialty chemical manufacturer with branches in many countries around the world and more than 6,900 employees. The company has a large scale and profound technological accumulation, accounting for 29% of the global market share. Its core anti-ultraviolet and anti-yellowing technologies are also among the world's top levels. Switzerland's Lonza is also a very strong competitor. With its world-leading scientific technology and reliable product quality, all of its products have occupied 21% of the global market share. HL New Material Company can compete with them in terms of price.

4.1.2 Analysis of potential entrants

HL New Material Company's DETDA and DMTDA products are fine chemicals. The market and customers are relatively fixed, while the technical barriers are high, and a certain technical threshold is required, so the two products have a good competitive advantage. As more and more investors see the profits behind the products, the DETDA with relatively weak technical barriers has been over-built. Some investors, in order to make quick money, reduced their investment in product innovation and research and development. Instead, they invested in two reactors and sought production facilities. The product quality is extremely poor, with a content of only 80%, far below the demand of at least 95% of most enterprises. This has led to problems in a few projects in the downstream urea market.

4.1.3 Analysis of substitutes

Substitutes mainly refer to products with the same functionality as HL New Material Company's main products DETDA and DMTDA. First of all, whether it is used as a curing agent for polyurea or an additive for polyurethane compound materials, there are few products with the same function in the Chinese market, and the most well-known substitute is the product produced by Guangzhou YR, but its raw materials are

also added with DETDA produced by HL New Material Company in a certain proportion, and its price is higher than that of DETDA. Therefore, it is difficult to emerge completely alternative products or technologies in a short time. Secondly, the DMTDA itself is also a replacement for MOCA (3,3'-dichloro-4,4'-diaminodiphenylmethane). DMTDA is a liquid curing agent, which is easier to operate than solid MOCA, and the finished product is environmentally friendly. EU imports of polyurethane products specifically prohibit the use of MOCA as a raw material (Zhu,2018), so more Chinese polyurethane manufacturers have to choose DMTDA to replace MOCA. However, the price of the DMTDA is relatively high due to the lack of competition in the market and the long production cycle. However, DMTDA and DETDA can also be mixed in a certain proportion to make a curing agent with a similar price to MOCA.

To sum up, the replacement products of HL New Material Company's DETDA and DMTDA products pose little short-term threat to the enterprise, and the threat caused by homogenization needs to be further overcome in the future.

4.1.4 Analysis of suppliers' bargaining power

(1) Raw material suppliers have bargaining power: The raw materials of the current product are mainly TDA and ethylene. Ethylene is the basic chemical raw material, the technical content is not high, the source is wide and the price is low and the market supply is very abundant. HL New Material Company's did not have any advantages with other manufacturers before the supply chain integration. However, after entering the park, HL New Material Company's ethylene transportation mode is pipeline transportation, which has a certain price advantage in today's highly competitive market. More importantly, another major raw material MTDA, which conforms to the equal proportion of DETDA and DMTDA, is mainly produced by BAIYIN in China, HANWHA in South Korea and COVESTRO AG in Germany. Compared with the annual purchase order signed by HRB and HANWHA, HL New Material Company merges and integrates MTDA production line, and the localized production line has stable supply, fast logistics and transportation, and lower price.

(2) Equipment suppliers have bargaining power: Due to the professional needs of HL New Material Company's research and development, the professional requirements for equipment are relatively high. The number of suppliers of high-tech equipment is small in the world, so the equipment suppliers have higher bargaining power for the company, and the products and equipment provided by the suppliers are more expensive. But on the other hand, in order to promote the development of energy-saving and environmentally friendly polyurethane new materials industry, the state has formulated corresponding industry preferential policies. As long as the companies buy relevant professional research and development equipment and software, it will give certain financial concessions. Therefore, in the purchase of corresponding products and

equipment, HL New Material Company does not have financial problems.

4.1.5 Analysis of buyers' bargaining power

HL New Material Company's current customer groups are polyurea manufacturers, polyurethane synthetic products manufacturers, etc. Buyers often buy products from HL New Material Company in a large-scale, so buyers have a certain bargaining power. At present, the technical differences of domestic polyurethane new materials are small, and the trend of product homogenization is serious. The polyurea industry, which occupies a large proportion of customer groups, has low requirements for product content, odor and color. Therefore, the price of DETDA products leads to higher bargaining power for buyers.

4.2 SWOT Analysis Findings

HL New Material Company's main business is the production and sale of polyurethane elastomer curing agent DETDA/DMTDA, which has a leading position in the polyurethane curing agent market in China. It has a relatively obvious competitive advantage. HL New Material Company has made a lot of efforts to improve its competitiveness. Moreover, under the overall slow development trend of today's international polyurethane industry, the sudden emergence of the Chinese market and fierce competition also bring certain opportunities and threats to enterprises. This study uses the SWOT analysis to analyze the operating environment and current situation of HL New Material Company .

4.2.1 STRENGTH

(1) Reduction in procurement costs: After supply chain integration, HL New Material Company can establish closer cooperation with suppliers. Through bulk procurement, long-term contracts and other methods, it can obtain more favorable procurement prices and reduce the procurement cost of raw materials. The main raw material of HL New Material Company is MTDA. A strategic cooperation with BAIYIN Company has been reached to obtain a certain price discount, thereby enhancing the cost competitiveness of products.

(2) Optimization of logistics costs: The integrated supply chain can optimize the logistics process and achieve more efficient transportation and warehouse management. By reasonably planning transportation routes, choosing appropriate transportation methods and sharing warehouse resources, logistics costs can be reduced. HL New Material Company chooses SHENGTONG logistics company to establish a joint distribution center. Raw materials directly reach HL New Material Company from BAIYIN Company, and the time is usually controlled within three days. For the major customer areas of Shandong Province, Jiangsu Province and Zhejiang Province, the products directly reach the largest local logistics distribution station within two days and complete delivery within three days. In Guangdong Province, they basically arrive

on the same day, reducing waste of transportation times and warehouse space. In addition, the new factory of HL New Material Company is located in the polyurethane industrial park, where the customer group is concentrated, saving a large amount of logistics transportation costs. Raw materials are supplied through pipelines in the ethylene park, which is convenient for storage and reduces costs. Through multiple integrations and adjustments, HL New Material Company has a rich and complete product line compared with other competitors, which is also one of its core competitiveness.

(3) Information sharing and collaboration: Supply chain integration enables smoother information communication and real-time sharing between HL New Material Company and its upstream and downstream enterprises. This helps companies at each node understand market dynamics, production progress and other information more accurately, so as to respond to the market in a timely manner and reduce the waiting time and inventory backlog of manufacturers at each node in production. Through resource sharing, companies at each node can understand customer order demands in time, adjust production plans, improve production efficiency, better meet customer needs and enhance customer loyalty.

(4) Process optimization and standardization: HL New Material Company streamlined the supply chain process and removed unnecessary links and procedures. This can reduce buck-passing and wrangling in links of raw material procurement, production and processing, and product distribution, and improve the operational efficiency of the entire supply chain.

(5) Strengthening quality control: BAIYIN, the raw material supplier selected by HL New Material Company, is a leading company in the Chinese chemical industry. Its products are reliable in quality and stable in supply. In particular, the quality and content of the product MTDA are also ranked among the top internationally. Compared with other domestic competitors who choose foreign import suppliers, the close cooperation between HL New Material Company and the local brand BAIYIN can strengthen the control over the quality of raw materials, better respond to changes in the Chinese market, and ensure stable supply and reliable quality of raw materials. At the same time, during the production process, HL New Material Company communicates closely with downstream customers, understands customers' requirements for product quality, and jointly formulates quality standards with the polyurea association. It conducts strict inspection and testing of raw materials to ensure that product quality meets customers' needs and improve its own competitiveness.

(6) Enhancing innovation ability: HL New Material Company attaches great importance to product environmental protection and research and development. It hires advanced core technicians from Taiwan for guidance in research. Supply chain integration provides HL New Material Company with more opportunities for

collaborative innovation with upstream and downstream enterprises. Through cooperation with suppliers, customers, and scientific research institutions, HL New Material Company obtains more technical support and innovation resources to accelerate the product research and development and innovation process.

(7) Improve customer recognition: The diamine content (%) in DETDA is the sum of 2.4-DETD, 2.6-DETD and 2.4-TBTD. Qualified DETDA content is 95%, while excellent product content is at least 99%. Now, DETDA technology is mature. Equipment and workers have less influence on product quality. The excellent quality of raw materials plays a key role in the quality and composition of the final product. HL New Material Company's 2.4-DETD and 2.6-DETD content has reached 99.3%. The content of 2.4-DETD and 2.6-DETD from other manufacturers are 97.5%. Low-content products have an impact on the costs of polyurethane compound materials and polyurea products. Under the same price, customers are more willing to choose products with higher content and better quality.

High-quality raw materials not only have an important impact on product content but also on color. HL New Material Company has integrated with high-quality MTDA manufacturers. Its high-quality DETDA is lighter in color and clearer, which gives it an advantage in light-colored products of roller skate wheels and polyurethane composites. Thanks to BAIYIN's high-quality raw materials, HL New Material Company's products are more popular with customers.

4.2.2 WEAKNESS

(1) Challenges in coordination and communication: Supply chain integration involves cooperation among multiple enterprises. There may be differences in management models, corporate cultures, and interest demands among different enterprises, which brings certain challenges to the coordination and communication of HL New Material Company. If an irresistible situation occurs and the task contracts signed with downstream customers cannot be completed, cooperation may be terminated due to differences in interests between the two parties.

(2) Supplier risks: After supply chain integration, the cooperation relationship between HL New Material Company and its main long-term cooperative raw material supplier becomes closer, and the dependence on the supplier also increases accordingly. If the supplier encounters situations of production interruption, quality problems, or financial crisis, it will have a greater impact on the production and operation of HL New Material Company. If the supplier suspends production for factory inspection or an irresistible accident occurs, resulting in an interruption in the supply of raw materials, the production line of HL New Material Company may be forced to shut down, and customer loss may occur due to failure to meet the needs of downstream customers.

(3) Reduced bargaining power: HL New Material has high-quality raw material suppliers. MTDA is a raw material of DETDA and also serves as a raw material for

TDI. There is a huge demand for TDI, while the downstream customer groups of MTDA are mainly manufacturers of DETDA and DMTDA. Compared with the user group of TDI, the usage amount is smaller. Therefore, the price trend of MTDA is not positively correlated with TDI. Most importantly, in a market environment with high demand for TDI, manufacturers are more willing to produce TDI rather than MTDA. As a result, the supply of MTDA is not stable. Based on all these circumstances, HL New Material Company must choose an MTDA manufacturer with high credibility. And there are few choices of MTDA raw material manufacturers. Internationally, the main ones are South Korea's Hanwha and Germany's Covestro AG. In China, it is BAIYIN. In the process of establishing a long-term cooperation relationship with BAIYIN Company, HL New Material Company may not know the prices of other suppliers. This may lead to the company being unable to obtain the optimal price and conditions when purchasing raw materials, affecting the company's cost control.

(4) Gap with competitors: HL New Material Company's DMTDA and DETDA have taken the leading position in the Chinese industry in terms of anti-yellowing and anti-ultraviolet. However, there is still a gap compared with the American company Albemarle. The integration of HL New Material Company with Chinese local companies may cause this gap to always exist and there is not much room for progress.

4.2.3 OPPORTUNITY

(1) Environmental protection policies expand the product market: In recent years, with the improvement of people's environmental awareness and the emphasis on environmental protection quality, due to the presence of chlorine elements in the molecular structure of MOCA and the instability of the adjacent hydrogen of the amine group, it is considered that there is a certain carcinogenic risk. Therefore, many countries have issued policies prohibiting the use of MOCA in polyurethane plastic tracks and stadium materials. In particular, the European Union also prohibits the use of MOCA in children's toys. Therefore, as a substitute for MOCA, the environmentally friendly product DMTDA is chosen by more customers. HL New Material Company cooperates with MOCA manufacturers. MOCA manufacturers maintain customers, and HL New Material Company also increases product sales.

(2) Localized supply chain integration enhances enterprise competitiveness: The localized supply chain integration of HL New Material Company shortens the delivery time. Moreover, in 2024, sea freight costs surged, and the prices of imported products increased. The localized integration of HL New Material Company avoided this price storm. The price advantage enhanced the competitiveness of HL New Material Company.

(3) Price reduction promotes product popularity: The reduction in price has led to the popularization of products. Moreover as an environmentally friendly product, DETDA has been highly valued by all countries since its development. As new high-

end products, DETDA and DMTDA enter the Chinese market with high prices, and downstream customers have poor acceptance of these products. In June 2018, HL New Material Company was officially put into production. Its entry allowed China's DETDA to rapidly mature. As a latecomer, HL New Material Company, which insists on using high-quality raw materials with higher prices at the same price, quickly opened the national market within half a year, breaking the previous era of LBR, HRB and CL. Product prices also began to fall amid fierce competition. From 2019 to 2022, subject to trade control, imports of foreign raw materials MTDA were difficult. In China, the only domestic producer of MTDA was BAIYIN, and its product prices were high. On the other hand, the United States, the largest exporter of DETDA, prohibited exports. Due to upstream and downstream pressures, the price in the domestic market was low, and DETDA prices declined rapidly, falling 22% by 2022.

In early 2023, the epidemic was lifted, and imports and exports gradually resumed. Other domestic manufacturers have opted for cheaper foreign raw materials. In order to survive the factory, in an extremely competitive environment, HL New Material Company's adopts the upstream raw material integration strategy in cooperation with BAIYIN. Compared with foreign MTDA, BAIYIN products have stable quality, short transportation time, and the price will be more advantageous without the monopoly background of the epidemic environment.

In 2024, DETDA prices stabilized at 27.5 per unit, orders surged, and more customers chose DETDA with favorable prices instead of other products.

4.2.4 THREAT

(1) HL New Material Company breaks monopoly but industry profits are impacted: LBR, a competitor of HL New Material Company, is the first manufacturer in China to produce colorless DETDA. It has the central enterprises as the backing and has abundant financial resources. HL New Material Company developed colorless DETDA, breaking LBR's long-standing monopoly position. For competition, LBR prices are reduced by 35%, resulting in lower prices across the industry. The profit margins have become very small.

(2) Mature technology leads to customers' preference for low-price products: Although there are fewer raw material manufacturers in the industry, with the increasing maturity of technology, the quality of products produced by various enterprises is also constantly improving, so more and more customers who do not have high demand for product performance will be more inclined to low-price products.

(3) HL New Material Company faces challenges and coping strategies under the influence of macroeconomy: Affected by the macroeconomic conditions, the demand for the entire polyurethane market is slowing down and even has negative growth in most countries, supply chain mergers and acquisitions, into the chemical park has become a general trend. This requires HL New Material Company on the one hand to control costs, on the other hand to improve customer satisfaction in order to maintain

the long-term development of the enterprise.

(4) Peer cooperation increases competitive pressure: In 2023, HRB and CH and HT jointly funded the construction of a new company, increasing product types and increasing pressure resistance. Exports increased at the end of 2023.

4.3 Porter's Five Forces Analysis Discussion

The results of Porter's Five Forces Analysis deeply reveal the competitive environment of HL New Material Company. The strong international competition indicates that the company must continuously innovate and improve in order to enhance its competitiveness in the global market. The relatively high barriers for potential entrants mean that HL New Material Company can consolidate its current position by strengthening its technological advantages and brand building. The limited threat of substitutes in the short term gives the company the opportunity to consolidate its market share. However, it also needs to pay attention to potential long-term threats and continue to invest in research and development to maintain product differentiation. The bargaining power of suppliers and buyers cannot be ignored. From the perspective of the Resource-Based Theory, establishing strategic partnerships with suppliers is helpful for the company to acquire and integrate key resources and enhance its resource advantages. According to the Transaction Cost Theory, such cooperation can reduce transaction costs by increasing switching costs, achieving information sharing and trust, and ensuring the stable supply of raw materials. Meanwhile, the company needs to pay attention to customer relationship management, understand customer needs, and improve product quality and services to reduce the bargaining power of buyers. In general, HL New Material Company should optimize the supply chain, innovate products and services, and balance the relationships with suppliers and customers to cope with competition and achieve sustainable development.

4.4 SWOT Analysis Discussion

The SWOT analysis comprehensively presents the internal and external conditions of HL New Material Company. The advantages of cost reduction, logistics optimization, and quality control are valuable assets of the company, which can be utilized to gain a competitive advantage. By optimizing the cost strategy, the company can attract price-sensitive customers. Based on the Resource-Based Theory, supply chain integration can integrate internal and external resources to form a unique combination, which helps to control costs and improve quality. However, the disadvantages of difficulties in coordination and communication, supplier dependence, and technological gap bring challenges. Poor coordination can lead to inefficiency, supplier dependence exposes the company to the risks of supply interruption and price fluctuation, and the technological gap limits the company's ability to innovate products.

The company needs to take actions, of optimizing internal communication, diversifying suppliers, and increasing investment in research and development. From the perspective of the Transaction Cost Theory, diversifying suppliers is helpful to reduce risks and transaction costs. The external trends of environmental protection and the advantages of the localized supply chain bring opportunities for the company. The company can develop environmentally friendly products and utilize the localized supply chain to reduce costs, increase efficiency, and expand the market. Facing threats of intense competition, market slowdown, and industry consolidation, the company needs to formulate strategies to deal with them, of cost control, product innovation, and market diversification, to reduce risks. HL New Material Company should adopt comprehensive measures, strengthen its advantages, address its disadvantages, seize opportunities, and resist threats to enhance its competitiveness and achieve long-term development.



Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This research, based on the Resource-Based Theory and the Transaction Cost Theory, used Porter's Five Forces model to analyze the impact of the competitive environment on HL New Material Company and employed the SWOT Analysis to explore the influence of the supply chain integration strategy on the enterprise, and then drew the following conclusions.

5.1.1 Porter's Five Forces Analysis Conclusion

Through the Porter's Five Forces model, a comprehensive analysis of HL New Material Company's industry and competitive environment was conducted. The company's main products, DETDA and DMTDA, face different market situations. DETDA has a relatively large domestic demand, yet the technology is mature with minor differences among competitors, resulting in a saturated domestic market. In contrast, fewer domestic enterprises have mastered DMTDA technology, and although the international market demand is significant and the product profits are relatively high, international brands pose strong competition. Potential entrants encounter difficulties due to technical, capital, and market policy barriers. In the short term, the threat of substitutes is not prominent, but the issue of homogeneity needs to be addressed in the future.

From the perspective of the Resource-Based Theory, the company's unique resources and capabilities, of its technical patents, professional talents, and advanced equipment and facilities, contribute to its competitive advantage in the market. However, in order to maintain and enhance this advantage, continuous innovation and resource integration are required. Supply chain integration, as an important strategy, enables the company to better access and utilize external resources, break resource barriers, and meet the resource needs of different links in the supply chain. This is in line with the view of the Resource-Based Theory that emphasizes the importance of resource integration for enterprise competitiveness.

Regarding the bargaining power of suppliers and buyers, from the Transaction Cost Theory, the company needs to balance the relationship with suppliers and buyers to reduce transaction costs. By establishing long-term and stable cooperative relationships with suppliers, information sharing and mutual trust can be achieved, thereby reducing the risk of opportunistic behavior and the cost of searching for suppliers. At the same time, understanding the needs and preferences of buyers and improving product quality and service levels can help reduce the buyer's bargaining power and maintain the company's profitability. In the short term, the threat of substitutes is not prominent, but the issue of homogeneity needs to be addressed in the

future. Raw material suppliers possess a certain degree of bargaining power. Despite the high bargaining power of equipment suppliers, national preferential policies provide some relief. Additionally, purchasers also have a certain level of bargaining power due to the small differences in domestic polyurethane new material technologies and product homogeneity.

5.1.2 SWOT Analysis Conclusion

The SWOT analysis of HL New Material Company reveals that its supply chain integration strategy brings several advantages. It leads to cost reduction, efficiency improvement, enhanced product quality, and increased customer loyalty. According to the Resource-Based Theory, supply chain integration allows the company to optimize the allocation of internal and external resources, of raw materials, technology, and human resources. By integrating with reliable suppliers of BAIYIN, the company can ensure the stable supply and high quality of raw materials, which is crucial for improving product quality and cost competitiveness.

However, this strategy is not without drawbacks. The company faces challenges in coordination and communication, risks associated with supplier dependence, limited bargaining power, and a technological gap compared to American companies. In terms of supplier dependence, from the Transaction Cost Theory, the closer cooperation with suppliers after integration may increase the company's dependence on them. If the supplier encounters problems of production interruption or quality issues, it will bring significant transaction costs and risks to the company. Therefore, the company needs to diversify its supplier sources and strengthen risk management to reduce the impact of potential supply disruptions.

On the positive side, the company benefits from trends of the substitution of environmentally friendly products, the advantages of a localized supply chain, and the opportunity for product popularization due to price declines. These factors are expected to boost the company's competitiveness and order volume. Nevertheless, the company also confronts threats including competitors' price cuts, competition from low-performance products, a slowdown in market demand caused by the macroeconomy, and competitive pressure from industry collaborations. In response to these threats, the company should continue to focus on innovation and differentiation, improve product quality and service levels, and actively explore new markets and business opportunities to enhance its resilience and competitiveness in the market.

5.2 Recommendation

5.2.1 Optimize Supply Chain and Expand Downstream Business

The integration of upstream raw material MTDA has a positive impact on HL New Material Company's , and long-term cooperation with suppliers has stabilized HL New Material Company's position in the polyurethane elastomer curing agent industry and accumulated a large number of customers. HL New Material Company also built a factory in Tancheng Polyurethane industrial Park, Shandong province, to expand production capacity. The success of upstream raw material integration makes HL New Material Company see the importance of the downstream market integration. Only by studying downstream products and increasing product types can enterprises develop healthily in the long run. Today, the downstream manufacturers of DETDA are mainly polyurea manufacturers. The competition pressure in the polyurea market is huge. Similarly, as a manufacturer, the approach of the competitor HRB Company is to directly enter the polyurea production industry, which has aroused dissatisfaction among a small number of polyurea manufacturers and led to a decline in its domestic sales. HL New Material Company should avoid following the same approach and consider exploring other downstream industries in which it has not been involved. The potting glue industry presents a viable option. In the market, numerous potting glue companies have attempted to use DETDA as a raw material for sample tests, yet failed, mainly due to the curing speed not meeting the standard. The difference is that DETDA is the best curing product in the polyurea production process, and the polyurea molding takes only a few seconds. The first enterprise founded by the boss of HL New Material Company is a glue production factory, which has a market share of up to 90% in Guangdong and has rich experience. HL New Material Company can try investing money and technology to study potting adhesives.

5.2.2 Strengthen Industry-University Research Collaboration

Cooperated with polyurethane professional research colleges and universities to obtain high-quality talents and scientific research results, and tried to shorten the distance with international manufacturers. Raise product technical barriers (Chen et al., 2023)

The quality of DETDA and DMTDA produced by HL New Material Company ranks first in the same industry in China. However, compared with Albemarle Corporation in the United States, there are still gaps in aspects of anti-yellowing, anti-ultraviolet, and smell. This situation necessitates that HL New Material Company actively cooperate with polyurethane professional research colleges and universities in a order to closely track the direction of technological development. Through such cooperation, the company can leverage the academic resources and research capabilities of these institutions to identify the breakthroughs in technological innovation. Subsequently, HL New Material Company should carry out a thorough patent layout, forming a strong patent portfolio. This not only helps to protect the company's technological achievements but also improves its right to speak in the industry. By

integrating industry, academia, and research, HL New Material Company can enhance its technological innovation capabilities and narrow the gap with international advanced enterprises.

5.2.3 Expand Marketing Channels with Online-Offline Integration

Based on the existing marketing channels, continue to expand diverse marketing channels. It can help HL New Material Company find more suitable channels for differentiation, so it is necessary to carry out diversified marketing channels on the existing basis. On the one hand, HL New Material Company can add offices. By establishing physical offices among downstream dealers, it can expand market share and brand awareness and guarantee the company's sales of more products.; On the other hand, online sales can be enhanced. Compared with Albemarle Corporation, HL New Material Company has obvious price advantages. It can establish overseas e-commerce websites through Alibaba and other platforms, explore overseas markets, help enterprises to win more markets, and properly control enterprise operating costs within a reasonable range to ensure that enterprises can be marketed through different means.

5.3 Further Study

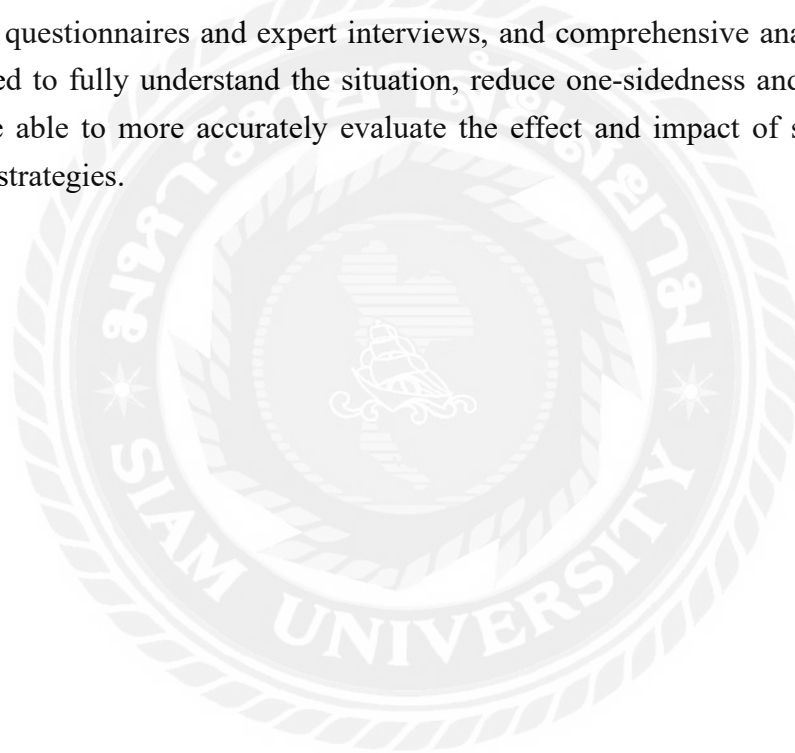
In the research on the competitiveness of the polyurethane industry brought by supply chain integration, although certain results have been achieved, there are some limitations. In view of the limitations of this study, the following suggestions are put forward for future research.

(1) This research is only a single case study of HL New Material Company . Although the selected case enterprise is representative to a certain extent in the polyurethane industry, the polyurethane industry is diverse in types and wide in scope. Different sub-sectors have differences in market characteristics, competitive situations, and supply chain structures. As a company that produces DETDA and DMTDA, raw materials for polyurethane elastomer curing agents, HL New Material Company's business strategy cannot fully represent all companies in the entire polyurethane industry, nor can it cover the differences and complexities among reaction links. Therefore, the conclusions about the impact of supply chain integration strategies of HL New Material Company's may not be applicable to other companies. In response to this limitation, follow-up research should conduct multiple case comparisons, select enterprises covering different scales, business types, and industrial chain positions in the polyurethane industry, and deeply analyze their supply chain integration models, and then summarize universal laws and strategic suggestions.

(2) The polyurethane industry is constantly evolving and changing, and is greatly affected by fluctuations in the macroeconomic environment. Based on the single case study of HL New Material Company's , it is difficult to reflect the complexity of the industry dynamics and the macroeconomic factors in a timely manner. To solve this

problem, in the future, it is necessary to closely follow the macroeconomic and industry dynamics, analyze the changes in supply chain integration in different situations, so as to provide flexible strategic basis for enterprises and enhance the applicability of conclusions.

(3) The data of this research mainly comes from the internal data of HL New Material Company , which may lead to one-sidedness and limitations of the data. The omission of the views and information of relevant competitors affects the authenticity and reliability of resources, and in turn affects the comprehensive understanding and analysis of supply chain integration strategies. In response to this, data collection channels and methods should be broadened. Not only external data of data released by industry associations, market reports, relevant information of competitors, and policy documents should be collected, but also multi-source data should be collected through methods of questionnaires and expert interviews, and comprehensive analysis should be conducted to fully understand the situation, reduce one-sidedness and limitations, and thus be able to more accurately evaluate the effect and impact of supply chain integration strategies.



References

- Alexy, O., West, J., & McGrattan, E. R. (2017). Surrendering control to gain advantage: Reconciling openness and the resource-based view of the firm. *Strategic Management Journal*, 46(4), 244-261.
<https://doi.org/10.1002/smj.2484>
- Brush, T. H., & Warts, K. (2017). ICT adoption and performance of small medium-sized enterprises in Kenya. *Eastern European Economics*, 50(8), 10-20.
<https://doi.org/10.1080/00128775.2017.1393672>
- Cao, Z., Huo, B., & Zhao, X. (2012). Supply chain integration model and performance: A global perspective. *Science of Science and Technology Management*, 33(7), 44-52.
- Chen, C. (2016). Exploration of enterprise strategic management innovation based on supply chain. *China Market*, 11(15), 21-25.
- Chen, M. (2019). *Research on the antecedents and performance impact of supply chain integration: An external relationship perspective* (Master's thesis). University of Science and Technology of China, China.
- Chen, X., Xue, S., Liu, Z., & Gong, F. (2023). Research and exploration on the standard innovation of new materials industry chain in Shan Dong province leading industrial development-taking the polyurethane industry chain as an example. *Journal of Combinatorial Optimization*, 640(10), 123-127.
<https://doi.org/10.1007/s10878-022-01715-2>
- Christopher, M. (2019). *Logistics and supply chain management*. Publishing House of Electronics Industry.
- Coase, R. H. (1937). The nature of the firm. *The Nature of the Firm*, 4(16), 386-405.
- David, F. R. (2012). *Strategic management: Concepts and cases* (13th ed., Global ed.). China Renmin University Press.
- Ding, J. (2020). Building an economic community of common destiny under the supply chain model. *Supply Chain Management*, 1(1), 11-17.
<https://doi.org/10.1108/SCM-03-2020-0153>
- Feng, X., Zhang, Y., & Han, Y. (2016). The impact of human resource management on the core competitiveness of enterprises: From the perspective of human resource investment. *Smart City*, 2(12), 313-317.
- He, Y., & Luo, Q. (2018). Technological innovation of environmental regulation and industrial total factor productivity: A retest of the “Strong Porter hypothesis.” *Soft Science*, 32(4), 20-25.

- Heine, K., & Stieglitz, N. (2008). Innovations and the role of complementarities in a strategic theory of the firm. *Strategic Management Journal*, 28(1), 1-15.
<https://doi.org/10.1002/smj.616>
- Huajing Industrial Research Institute. (2023). *2023-2028 China polyurethane industry development prospect forecast and investment strategy advisory report*. [Author].
- Huo, B. (2015). The power of institutions and supply chain integration. *PKU Business Review*, 14(8), 98-105.
- Jiang, B. (2003). *Theory and method of enterprise competitiveness evaluation*. China Industrial Economy.
- Jin, Z. (2019). A brief analysis of the current situation of China's polyurethane industry. *Jin Zhi Innovation*, 9(5), 1-7.
- Kotler, P., & Armstrong, G. (2001). *Marketing*. Huaxia Publishing House.
- Lee, H. L., & Billington, C. (1993). Material management in decentralized supply chains. *Operations Research*, 41(5), 835-847.
<https://doi.org/10.1287/opre.41.5.835>
- Li, B. (2016). Discussion on technological innovation strategy of Chinese small and medium-sized enterprises. *Foreign Trade*, 112(7), 134-135.
- Li, B. C., Wang, F., & Sun, R. (2020). Enterprise age, resource base and enterprise failure - an introduction to “failure research: Bankruptcy, enterprise age and resource-based theory.” *Communication of Finance and Accounting*, 14(5), 3-5.
- Li, H. (2019). Development prospects of polyurethane materials. *Modern Rubber Technology*, 32(1), 1-7.
- Li, J., & Yan, J. (2023). Proteomic analysis of left ventricular tissues following intermittent myocardial ischemia during coronary collateralization in rabbits. *International Journal of Cardiology*, 131(3), 326-335.
<https://doi.org/10.1016/j.ijcard.2023.02.021>
- Li, P. (2007). Influencing and determining factors of international competitiveness of enterprises. *Science of Science and Science and Technology Management*, 56(5), 134-139.
- Li, S. (2024). Research on the construction of closed-loop supply chain system of manufacturing industry in Gansu province. *Logistics Sci-Tech*, 13(7), 108-111.
- Li, X., Yang, H., & Wang, Y. (2013). Research on the relationship between supply chain integration and firm performance: An empirical study based on Chinese manufacturing enterprises. *Modern Economic Science*, 35(2), 52-60.
- Ma, X. (2018). Impact of straw returning on cropland soil mesofauna community in the western part of black soil area. *Chinese Journal of Ecology*, 37(1), 139-146.

- Ma, X., & Chen, L. (2015). Analysis of the impact of vertical integration on enterprise competitiveness. *Contemporary Economy*, 22(19), 14-15.
- Neil, M. C. (2014). Logistics, governance and upgrading in a shifting global economy. *Review of International Political Economy*, 21(1), 15-16.
<https://doi.org/10.1080/09692290.2013.878677>
- Peng, J. (2004). Improving the core competitiveness of enterprises by applying the resource-based theory. *Science-Technology and Management*, 27(5), 27-29.
- Porter, M. (2002). *National competitive advantage*. Huaxia Publishing House.
- Porter, M. (2005). *The competitive strategy of Potter's competition trilogy*. Huaxia Publishing House.
- Prahalad, G. (2018). Do small businesses create more jobs: New evidence for the United States. *National Establishment Time Series*, 13(61), 100-108.
- Qian, Z. (2021). *Study on the impact of trade facilitation on the international competitiveness of tourism service trade*. (Master's thesis). Sichuan International Studies University, China.
- Soetanto, D., & Jack, S. (2016). The impact of university-based incubation support on the innovation strategy of academic spin-offs. *Technovation*, 50(11), 25-40.
<https://doi.org/10.1016/j.technovation.2015.12.002>
- Stevens, G. C. (1989). Integrating the supply chain. *International Journal of Physical Distribution and Materials Management*, 13(8), 26-33.
<https://doi.org/10.1108/eb018117>
- Wang, C., & Feng, R. (2006). Analysis of uncertainty characteristics of enterprise technological innovation. *Journal of Zhongyuan University of Technology*, 106(2), 5-8.
- Wang, H. (2010). Analysis and enlightenment of transaction costs and institutional changes. *Economic Problems*, 12(4), 20-23.
- Wang, S. (2016). *Research on technological innovation countermeasures of small and medium-sized enterprises in China under the new normal*. Central China Normal University.
- Wang, X. (2016). *Research on supply chain management based on "Made in China 2025."* Business Economics Research.
- Wang, Y., Gao, Y., & Teng, C. (2017). Review and extension of supply chain resilience research under disturbances. *Management Review*, 29(12), 204-216.
- Wen, F., Cheng, L., & Feng, H. (2016). Research on the two-dimensional interactive evolution mechanism of supply chain integration span and intensity. *Journal of Chongqing University (Social Science Edition)*, 22(4), 81-87.
- Wernerfelt, B. (1984). Enterprise resource base theory. *Enterprise Resource Base Theory*, 5(2), 102-114.

- Williamson, O. E., Wachter, M. L., & Harris, J. E. (1975). Understanding the employment relation: The analysis of idiosyncratic exchange. *The Bell Journal of Economics*, 6(1), 250-278.
- Williamson, O. E. (2002). *The economic institutions of capitalism*. The Commercial Press.
- Wu, J., & Li, L. (2010). Analysis of enterprise credit risk based on transaction costs. *Friends of Accounting (Mid-month)*, 6.
- Xie, S., & Zhao, Z. (2016). Research on China's logistics development strategy based on logistics service supply chain under the framework of the Belt and Road Initiative. *Railway Procurement and Logistics*, 11(5), 45-47.
- Yu, P., & Peng, S. (2021). The financial ecological environment of countries along the “Belt and Road” and the “going down” of Chinese OFDI enterprises: From the perspective of the combination of resource-based view and institution-based view. *Technology Economics*, 40(1), 70-81.
<https://doi.org/10.3969/j.issn.1000-5887.2021.01.010>
- Yuan, Q., & Yuan, T. (2015). Institutions, transaction costs and consumption: An analysis from the perspective of new institutional economics. *Journal of Jiangxi University of Finance and Economics*, 37(4), 454-467.
- Yang, Y., Ouyang, X., & Zhang, H. (2017). Research on the relationship between open innovation knowledge dynamic capability and firm international competitiveness: The moderating role of partner opportunism. *Soft Science*, 31(7), 29-33.
- Zhang, C., & Kang, X. (2018). An empirical analysis of the impact of corporate culture on corporate international competitiveness. *Statistics and Decision*, 34(6), 181-184.
- Zhang, J., & Zhang, X. (2013). Construction of enterprise international competitiveness evaluation index system. *Management World*, 10(8), 172-173.
- Zhang, X., Wu, Y., & Hong, Y. (2003). Quantitative evaluation method of international competitiveness of enterprises. *Management Review*, 23(1), 32-37.