CHEMICALS SALES MANAGEMENT AND BUSINESS STRATEGY IN GREEN SUPPLY CHAIN THE CASE STUDY OF SHANDONG JIANGYUAN CHEMICAL CO., LTD

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Thematic Certificate

To

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This Independent Study has been Approved as a Partial Fulfillment of the Requirement of International Master of Business Administration in International Business Management

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ABSTRACT

Since China's membership in the WTO, the trend of industrial ecological development and the expansion of green trade barriers has increased. There has been an ongoing concern about the new forms of trade barriers and the urgency to improve the competitiveness of chemical manufacturing enterprises in the international arena. Creating a solution for green product production has been a challenge for many enterprises because they must implement a green design, execute production, and consume throughout the supply chain network. This study focused on the critical objective of green supply chain management through product marketing and business strategy. The research object was Shandong Jiangyuan Chemical Co. Ltd. and combined its product, market positioning, segmentation, and green supply chain management into a full strategic analysis and market combination strategy. This research aimed to show how green supply chain management can help alleviate the conflicts and contradictions between corporate profit and the natural environment.

Keywords: Chemicals, Green supply chain management, Business strategy

CONTENTS

1.INTRODUCTION

1.1 Background and Motivation

High-purity chemicals play a very important role in modern human life, such as semiconductor, liquid crystal panel, light-emitting diodes, biotechnology, medicine, scientific research and testing industries, which have a significant impact on human life in modern times. High-purity chemicals are indispensable raw materials in the manufacturing process. China's electronic manufacturing industry has an important position in the world, and to a higher level of manufacturing technology, so the demand for high-purity chemicals will be more stringent than ever.

Electronic and special chemicals are indispensable raw materials in the production process of electronic and information products. Although they account for a small proportion of the cost, they have an important industrial position. Therefore, although the sales volume of relevant manufacturers is not large, the technical barrier and gross profit margin are very high, so this is also a lot of. The main source of revenue for international chemical companies.

As global electronic and information products major, how to grasp the upstream key components, materials, and even high-purity chemicals have become an important key to the development of China's science and technology industry. In the future, the field will also flourish with the sustained growth of the electronics and information industries. Regionally, Asia, which is dominated by OEM, has the most potential. Therefore, the demand for high-purity chemicals derived from related electronics is also considerable. Although the domestic market demand is huge, but the domestic self-sufficiency rate is not high, some high-grade electronic materials (including high-purity chemicals and special chemicals) still need to rely on imports, which is also a hidden worry for the development of domestic high-tech industries.

With the transfer of the manufacturing center of electronic and information products to Asia, the consumption and upgrading of the electronic and information

products industry will inevitably bring a golden opportunity for the manufacturing of high-purity chemicals. Since the 20th century, with the increase of national income and the explosive growth of the demand for electronics, information and medical products, whether for general civilian or industrial and military functions, this indirect trend has also become a driving force for the upgrading of the chemical industry, and has also led to higher-order, high-purity chemicals requiring special processing. Products create huge business opportunities and markets, thereby promoting innovation in the whole industry.

The promotion of added value such as localization, high purity, customization, diversification, process upgrading and quality improvement of chemicals has enabled China's chemical material manufacturing industry to enhance its competitiveness in the international market, and is also a comprehensive manifestation of a country's chemical industry in the level of fine processing. Therefore, upgrading of related industries is indispensable. The development of high purity chemicals.

Nowadays, there are more than tens of thousands of kinds and quantities of high purity chemicals and special chemicals in our country. With the increasing demand for all kinds of chemicals in the world, the demand for chemical materials as a whole will continue to rise.

1.2 Status of Chemical Manufacturing Industry

At present, the large-scale manufacturers of high-grade chemical materials at home and abroad are mainly concentrated in Europe and the United States and Japan, which have the leading position in chemical manufacturing technology. In recent years, the production centers of the world's electronic and information products manufacturing industry have shifted from developed countries such as Europe, the United States and Japan to Southeast Asia, and the demand for various chemicals in Asia has increased dramatically. By the 21st century, the overall demand for chemicals in Asia has far exceeded the total demand of North America, Europe and Japan, ranking first in the world.

The product life cycle of the electronic chemicals industry is relatively short, and

the speed from R&D to market needs to be very fast, and the next generation of products must be put into research and development ahead of time. The replacement cost and risk of new products are high, so the requirement of purity and quality is very high. Therefore, when the manufacturer invests in the high-purity chemicals industry, the manufacturer often cooperates with the foreign manufacturer to produce the products needed in the current market, so as to quickly establish the foundation and brand, and cooperate with the research institute to develop the next generation products.

1.3 Research Purposes

In the sales and after-sales service relationship of the whole chemical supply, the most direct contact with the customer is the authorized agent or distributor of chemicals. Therefore, this study explores the partnership and sales strategy between distributors and customers from the perspective of distributors. How to strengthen the communication and cooperation between the two sides, and the strategies to be taken when facing the competition in the same industry, so as to enhance the overall after-sales service ability, and thus create mutual benefit and win-win between the distributors and customers.

In this paper we report on results from a cross-sectional survey with manufacturers in four typical Chinese industries, i.e. power generating, chemical/petroleum, electrical/electronic and automobile, to evaluate their perceived green supply chain management (GSCM) practices and relate them to closing the supply chain loop. Our findings provide insights into the capabilities of Chinese organizations on the adoption of GSCM practices in different industrial contexts and that these practices are not considered equitably across the four industries. Academic and managerial implications of our findings are discussed.

1.4 Research Significance

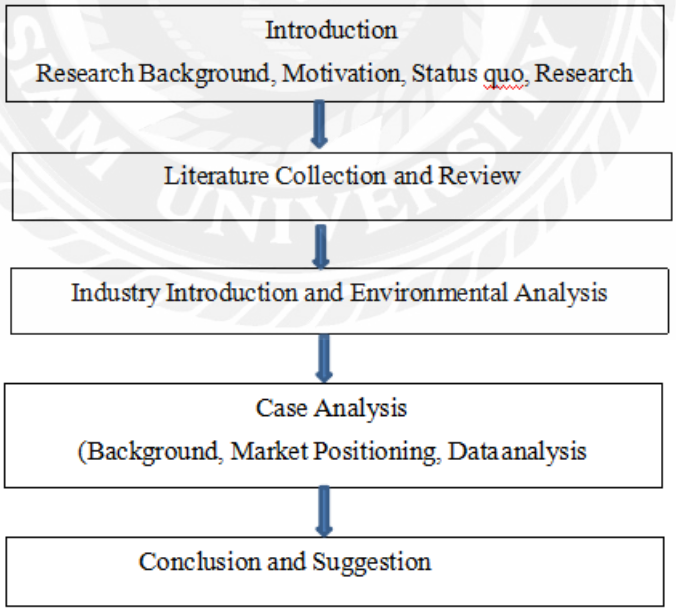
Company Z in this case study is a distributor of high purity chemicals whose nature is customer-oriented. Because its main commodities are process chemicals and special chemicals with high-risk, inflammable, toxic and other characteristics, and the supply must meet the customer's JIT (Just in time) regional requirements, its distribution, warehousing and logistics are the main. Questions. At present, Z

company is encountering fierce competition and rapid market changes. In this external environment, the company's business sales, R&D and manufacturing capabilities and business direction are the key capabilities to face competition, adapt to market evolution and enhance competitiveness (Situ, 1995).

1.5 Introductions and Framework of the Thesis

Chapter 1 is introduction: it introduces the background, motivation, purpose and significance of the study. Chapter 2 Literature Collection and Review: Through the collection of relevant literature and theory, this paper discusses the origin, development and business strategy of green supply chain. Chapter 3 Industrial Introduction and Environmental Analysis: Literature analysis and exploratory study are conducted to identify possible improvements in the background and environment of electronics and specialty chemicals in case studies. Chapter 4 Case Study and Discussion: Case Background, Market Orientation and Value, Strategic Analysis, Implementing Improvement Measures and Collecting Result Data. Chapter 5 is conclusion and suggestion.

Figure 1-1 Schema Diagram



2. LITERATURE REVIEW

2.1 Green Supply Chain Management

In this era when environmental issues are getting more and more attention, scientific and technological progress and rapid economic growth are linked to each other. The exploitation and abuse of natural resources on the earth have caused serious environmental pollution and ecological environment damage. Green supply Chain management is an important issue in the purchasing and production of science and technology industry. How to use this system in production? A balance is found between products and environment in order to reduce environmental impact.

2.2 Origins and Development of Green Supply Chain

The concept of green supply chain was first proposed in 1996 in a study called Environmental Responsible Manufacturing (ERM) sponsored by the Manufacturing Research Association of Michigan State University. Starting from the supply chain management technology and green manufacturing theory, including suppliers, manufacturers, sellers and end users, its main demand is to make the products from material acquisition processing, packaging, transportation, use to waste treatment in the whole process of use, the use of resources efficiency is the highest and the impact on the ecological environment is the smallest.

The way. In this process, the utilization and exploitation of natural resources is a very important environmental issue (Srivastava, 2007). This issue has evolved into a focus since the 1990s, and environmental management in supply chain management has become a problem that must be addressed by various manufacturing industries (Wu & Dunn 1995). In the past half century, the concept of sustainable environment has become the trend and necessity of enterprise and industrial management.

When three green directives were proposed in the European Union to protect the environment, they were Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE), Restriction of Hazardous Substances Directive 2002/95/EC

(abbreviated RoHS) After Directive 2009/125/EC on Eco-design Requirements for Energy-related Products (ErP), the green supply chain management system has been paid more and more attention by the manufacturing industry and the state. Traditional supply chain is defined as a one-way manufacturing process, from raw material processing to product manufacturing, and then transported to the buyer and user.

The traditional supply chain management system only pays attention to the production process, not the overall inspection, and the supply chain management system mainly focuses on resource integration and resource utilization maximization to reduce costs. With the rapid development of science and technology, supply chain management is mainly used to integrate enterprise resources. On the premise that information is easy to obtain, the traditional supplier advantage has gradually disappeared. Further discussion is made from the broad sense of supply chain management. The pressure caused by the demand of customers and users for customization and the competition between industries makes supply chain management easier. The supply chain management system is changing to a new direction (Beamon, 1998).

The main purpose of traditional supply chain is to maximize the profits of enterprises. Even if energy and resources are saved, the main demand is to save costs. It does not take into account the environmental impact of manufacturing and production. It increases the output value and profits of enterprises, but causes the whole people to bear the environmental impact. The external cost. However, due to the changes in the natural environment, the world is facing various environmental protection problems. Environmental management must be added to the existing supply chain system. All kinds of industries and enterprises must take this goal in the future to mitigate the damage to the environment (Sarkis, 2003).

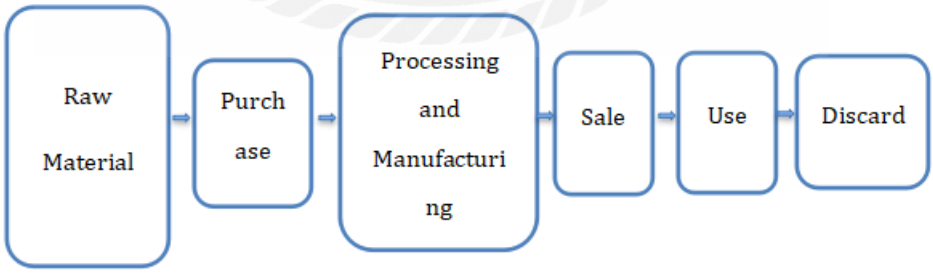
Since 1989, the concept of Green Supply Chain has appeared in various research and literature. The main meaning of green supply chain is to add the concept of green and environmental protection to the existing supply chain management. The main purpose of this concept is to hope that all kinds of manufacturing industries can comprehensively examine the environmental impact of supply chain and optimize the

use of resources and energy. For example, Sarkis believes that the main components of green supply chain are product life cycle assessment, environmental performance analysis and environmental structuring strategy (Kainuma & Tamara, 2006). Yasutaka and Nobuhiko argue that green supply chains are within traditional supply chain frameworks, and that members of their supply chains need to propose product life cycle analysis to enable their products to establish environmentally friendly recycling methods (Ashley, 1993). Its main purpose is to reduce the waste of resources and energy, maintain the quality and life of products, and the way to achieve green supply chain management is to incorporate such concepts as remanufacturing processes and ecological benefits (Srivastava, 2007).

Green Supply Chain Management (GSCM) refers to the management between products and the ecological environment. Its purpose is to make its products have the concept of environmental protection, brand and corporate image and social responsibility to enhance its competitiveness in the market. The green supply chain is an endless repetitive cycle. The traditional one-way "Cradle to Grave" of resources in the supply chain refers to the end-user of the goods produced by the manufacturer, while the green supply chain is a repetitive cycle of "Cradle to Cradle" (Cui, 2008).

The discussion between traditional supply chain and green supply chain can be compared with the following figures 2-1 and 2-2.

Figure 2-1 Production Process of Traditional Supply Chain



The difference between the traditional supply chain and the green supply chain can be seen from Figure 2-1 and Figure 2-2. The traditional supply chain production process is a linear model, and the green supply chain production process is a process

from production to use and recycling, which is that Green supply chain management system is the following five major points:

Figure 2-2 Production Process of Green Supply Chain

1.Green procurement: procurement of raw materials or environment-friendly raw materials. Selection of suppliers is a very important decision. Purchased materials require useful life cycle analysis and environmentally friendly design. Selection of reduced, renewable and reusable materials can have a positive impact on the green supply chain (Navin, 1991). Green purchasing means choosing a green supply of products or services that minimize the impact on the environment (Sarkis, Meade & Talluri, 2004).

2.Green production: The purpose of production is to satisfy and provide the goods that consumers need. Green production is to control the pollution and waste produced in the production process by means of technology and technology management, save energy, reduce consumption and reduce pollution as the goal, and minimize the impact on the environment in the manufacturing process. The products must be recycled in the process of storage, sale, and transportation and waste recycling besides conforming to environmental protection regulations.

3.Green sales: refers to enterprises in the sales process to meet consumer demand,

profit and development while ensuring the safety and health of consumers and the environment, in the pre-sale, sale, after-sales service of goods in the process of environmental protection and resource conservation. (1) Reduce the pollution and waste of social resources caused by shortening distribution pipelines and processes according to the products and customer needs of enterprises. (2) The middle and lower reaches distributors should pay attention to their green image. (3) On-line sales: E-commerce is very environmentally friendly and can reduce the loss of distribution process. (4) Promotion methods: choose economic and environmental benefits to promote, and can be integrated into the image of green enterprises.

4.Green consumption: seeking to reduce the impact on the environment in consumer behavior to protect the environment and encourage consumers to buy more environmentally friendly products (Patton, 1990). And to protect consumers as the main purpose, in line with the user's safety and environmental protection standards of various consumer behavior and consumption patterns. By buying green products to reduce consumption behavior and lead to pollution practices, is for green consumption behavior.

5.Green recycling: the process of remanufacturing and reusing by suppliers or recyclers. For example, reverse logistics is the opposite of forward logistics (Lemos & Giacomucci, 2002). Reverse logistics is the process by which manufacturers recycle and remanufacture products from end users (Beamon, 1998).

Figure 2-3 Shows The Management Applications Of Forward And Reverse Logistics and reuse, remanufacturing and recycling materials, which can also reduce the cost of manufacturing new products for manufacturers.

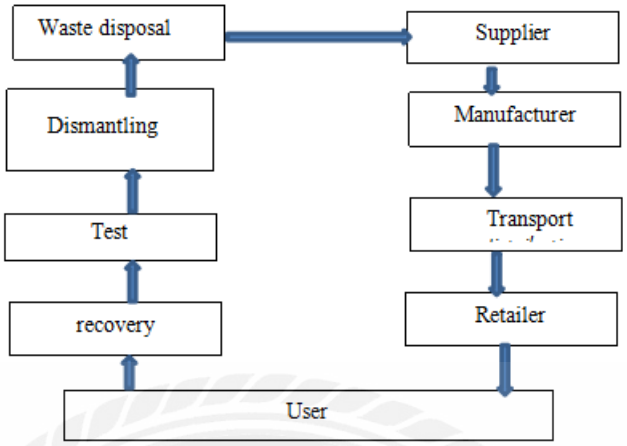


Figure 2-3 Schematic Diagram of Forward and Reverse Logistics

Reverse logistics is based on the traditional supply chain to add recycling, recycling and remanufacturing, recycling and reuse methods to make recycled materials produce new value, and the implementation of reverse logistics contains the meaning of green recycling and help enterprises to have a competitive advantage in their industry. After the end of the product life cycle, the recycling process can reduce the waste of resources and the opportunity of environmental pollution. After the end of the product life cycle, the imprecision of recycling will lead to waste of resources and environmental pollution (Dowlatshahi, 2000). The above five points can make the green supply chain a circular and repetitive production process. However, the green supply chain management should start from the introduction of so-called green design concept, from the perspective of enterprises and society. Degree expansion. Green design and environmental design see their products in their life cycle from the perspective of sustainable development. The impact of environment, energy and resources, and the quality, performance and cost of the product are optimized to make the product and the minimum degree of manufacturing process affects the environment and the consumption of energy and resources. The 3R (Reduce; Reuse; Recycling) concept has been added since the development of the product, and the two-way communication with its raw material suppliers or downstream manufacturers to reduce the negative impact of its manufacturing process and waste on the environment.

2.3 Green Supply Chain Management System Index

According to the major international and EU directives, the WEEE directive, RoHS directive, ERP directive and ISO14001 environmental management system are most relevant to China. However, most of China's SMEs are small and medium-sized enterprises, and many manufacturers have not yet imported ISO14001. Therefore, the Technical Department of the Ministry of Economy launched the Green Project (GP) to guide the domestic SMEs in their green supply chain transformation.

Table 2-1 below

International standard		China's Countermeasures
Waste electrical motor Equipment Directive (WEEE) The manufacturer/supplier of 10 major categories of electrical and electronic products circulating in the EU market is required to take responsibility for the recycling of waste products. The RoHS Directive requires the European Union to limit the use of six chemicals for motor and electronic products in circulation. The Environmental Protection Design Directive for Energy Use Products (ErP) provides the principled requirements for ecological design and environmental information disclosure, and specifies product energy consumption specifications and disclosure content. ISO 14001 covers environmental management system, environmental audit, life cycle assessment and so on. Common requirements for the organization's environmental management system from the perspective of government, society and procurement are put forward in order to effectively prevent and control pollution and improve the efficiency of the use of resources and energy.		Green Project 1. Establish the green product certification and validation standards for information and electronics industry in China, as well as information exchange platform. 2. Establish domestic green products, component database and information sharing platform. 3. Guidance green supply chain information management demonstration system of fifteen, one thousand suppliers. 4. Environmental protection labels encourage manufacturers to design and manufacture products that reduce environmental pollution and resource consumption, promote waste reduction and recycling, and awaken consumers to select products that are recyclable, low-pollution and resource-saving in order to improve environmental quality.

2.4 Product Marketing and Business Strategy

Business strategy is an enterprise in a competitive environment, examining how its advantages and disadvantages of the use of resources and extract the best strategy, in order to form advantages in the competition to obtain a favorable position and create space for survival and development of the response taken, and thus enhance business continuity. The purpose of different strategies is to establish long-term competitive advantage in this era of changing environment.

No matter how complex the business process and organizational structure are, any strategy must adhere to the basic objectives for effective planning (Hervani, Helms & Sarkis, 2005). In addition to basic goal strategy, market competition and product innovation are variables.

1.Success Key Factor Business Strategies: Adjust the allocation of resources; concentrate resources into areas where immediate competitive advantage can be achieved, in order to achieve immediate success.

2.Relative Advantage Business Strategy: Adopt the difference of technology, sales channel and asset structure that do not conflict with competitors to gain relative advantage.

3.Active Attack Strategy: When major competitors have a solid foundation in a stagnant and slow-growing industry, they need to adopt non-traditional strategies to actively attack the key success factors on which competitors rely to create their own advantages.

4.Strategic Freedom Management Strategy: By R&D and innovation to achieve competitive advantage, including the development of emerging markets and new products, to develop areas that competitors do not touch to gain market competitive advantage.

William F.Glueckis the Business Policy, and management actions in the 4-process (William, 1976). 1.you can be the example of the policy. 2.Growth: a positive change, action, investment or integration. 3.Retrenchment: to collect part of the investment in the market and keep the existing market. 4.Combination: refers to the strategy adopted by enterprises to cope with the change of time and environment.

Professor Mintzberg of McGill University in Canada proposed that enterprise strategy is defined by five norms, namely, plan, strategy, model, orientation and concept. Tony(2004) reformulated Mintzberg's strategy form and formed five forms of mutual circulation.

Figure 2-4 Mintzberg's Strategy Form and Formed Five Forms Of Mutual.

There are six types of enterprise strategy:

1.Breadth, depth and characteristics of product lines

2.Ways and options of target market segmentation

3.Depends on the degree of vertical integration.

4.Relative size and economies of scale with competitors

5.Geographical location and coverage

6.Competitive tools

Porter's competitive advantage strategy is a very representative career strategy, that is, differentiation, cost leadership and centralization of three strategic models, any of which can bring competitive advantage for users.

1. Differentiation strategy: This strategy focuses on the use of unique products, services, brand image to make customers aware of their products, enhance the value of

products and brands. Cost is not the main objective of this strategy. Therefore,under this strategy, enterprises will invest a lot of R&D, advertising and marketing costs, and strengthen channels and sales channels, deepen customer pre-sales and after-sales services, in order to continuously manufacture and competitor product value and quality differentiation characteristics.

2. Cost Leadership Strategy: Most companies will adopt this strategy only if they have the highest market share. Therefore, the homogeneity of products in the market is high, which makes the price of their customers as an important factor in the selection. Therefore, enterprises will try their best to pursue the lowest cost of production in the industry without affecting other functions in order to gain a competitive advantage. Improve capacity utilization, strictly manage costs, adopt more favorable raw materials and acquisition methods, establish efficient procurement, transportation, production processes and distribution systems, and minimize investment in R&D and quality control and management of sales costs. The main purpose is to achieve a more competitive production cost than market competitors.

3. Focus strategy: This strategy is to focus business activities on a particular market, purchase group, area, product line or geographical area, aiming at a specific strategic target customer group and meeting the needs of this particular customer group, in order to obtain competitive advantage, can be more accurate and effective than competitors in a wide range of target markets.Rate. Competition strategy of Miller (1986).

4. Product Innovation Strategy: Develop and manage more new products, customer types, new technologies and new markets. To meet the needs of the target audience to introduce new products to replace old products, or to provide new ways to meet existing or potential needs.

5. Market Differentiation Strategy: This strategy is to segment the market, understand the preferences of consumers and positioning the target audience, import brands, inject images to provide differentiated products or services.

6. Market Scope Strategy: This strategy is to select the right product positioning and service scope through technical analysis.

7. Cost Control Strategy: This strategy is to reduce production costs and efficient production of standardized products.

2.4.1 Market Positioning Strategy

Nowadays, the behavior and competitive status of manufacturers in the industry can be divided into four categories. Market leader strategy, market challenger strategy, follower strategy and niche strategy:

1. Market leader strategy: The enterprises with the highest market share in the product market of the same industry are stronger than other competitors in price control, new product development, sales channels and promotional energy.

2. Market Challenger Strategy: The market leader has the second or lower influence in the industry than the market leader, with the market leader and other competitors to obtain a larger market share.

3. Market follower's strategy: refers to the secondary position, not keen on the challenges of enterprises. In the market, we follow the marketing methods of market leaders.

4. Niche strategy: Specializing in the market according to customers, products or marketing mix, avoiding conflicts of interest with powerful competitors in the market, and extracting small markets neglected by large enterprises, vulnerable, unmet demand, or with a high return basis as its target market marketing strategy.

The empirical study of McDaniel and Kolari (1987) shows that there are four types of organizational strategies: defenders, prospectors, analyzers and reactors.

5. Defender strategy: limited product and market area, without developing new opportunities in external fields. 2. The prospector strategy: finding new market opportunities and trying to become pioneers in industrial innovation. 3. Analyst

strategy: the combination of defenders and explorers, operating in a relatively stable product and market, in a changing product and market. 4. Reactor strategy: lack of strategic response, facing the pressure of market and environmental change, adopt random response.

Hooley proposes five generic marketing strategies:

1. Positive growth strategy of increasing value: positive market goal, selling higher quality products at prices close to competitors, differentiating and high value strategy.

2. Selective Target Growth Strategy: Select a specific target market to separate, adopt high-price, high-quality strategy, centralized differentiation strategy.

3. General Target Stable Growth Strategy: Target in stably increasing market share, adopting price and medium quality strategy, is a stuck in the middle.

4. High-quality and stable growth strategy: similar to the second and third strategies, but at the same price with competitors to provide far higher than the price of high-quality.

5. Cost reduction defense strategy: to reduce costs and improve productivity methods, and competitors similar to the price and quality, is a centralized cost leadership strategy. High-tech products have the characteristics of rapid changes in market environment and technology, high technology doorstep, complex product structure, more pre-sales and after-sales service support, and high perceived risk. The traditional marketing strategy of traditional industries must be considered in the high-tech industry.

The marketing mix types of high-tech products empirically studied by Q are the following five types of marketing strategies:

1. Distributed resources: products are not low-priced, niche-based products, or emphasis on pre-sales and after-sales services, technical support, or segmentation of the market, improve the added value of products to combat price competition. On the

marketing strategy, they are dispersed on the product and promotion channels.Price oriented: market followers, good at sales and production. Few professionals, in the R & D to adopt more reference or copy others 'successful practices, in addition to specifications, performance, quality, design to improve and adjust, in the process and product cost control capabilities.

2. Product credit: emphasis on product quality, service quality, technical support and credit. The production of products is emphasized, and the highest quality and zero defect products are emphasized.

3. Channel Management: Master marketing channels and agents or distributors to cooperate with the market information and pulsation quickly and accurately, with flexible ability to respond to market competition.

4. Product development: technology-oriented, invest a lot of resources in R&D, R&D energy is strong, product development speed is fast, innovation, and focus on improving and improving product quality

2.4.2 Business Strategy Formulation

There are six aspects of strategy formulation and development (Tony, 2004):

1. New product development strategy
2. New market development strategy
3. Redevelopment of existing customer strategy
4. Create new value strategy
5. Develop new channel strategy
6. Develop new technology strategy

Burke (1984) proposed the following three types of marketing strategies in the empirical study of marketing strategies (Porter, 1980).It is a centralized differentiation strategy.

Table 2-2 Build, Hold And Pull Back Three Kinds Of Policy Types

-

1	2	3
Establish build strategy	Maintenance hold strategy	Pull back strategy.
Permanently and obviously increasing market share.	Maintain market share	Allowing market share to slow or rapidly reduce

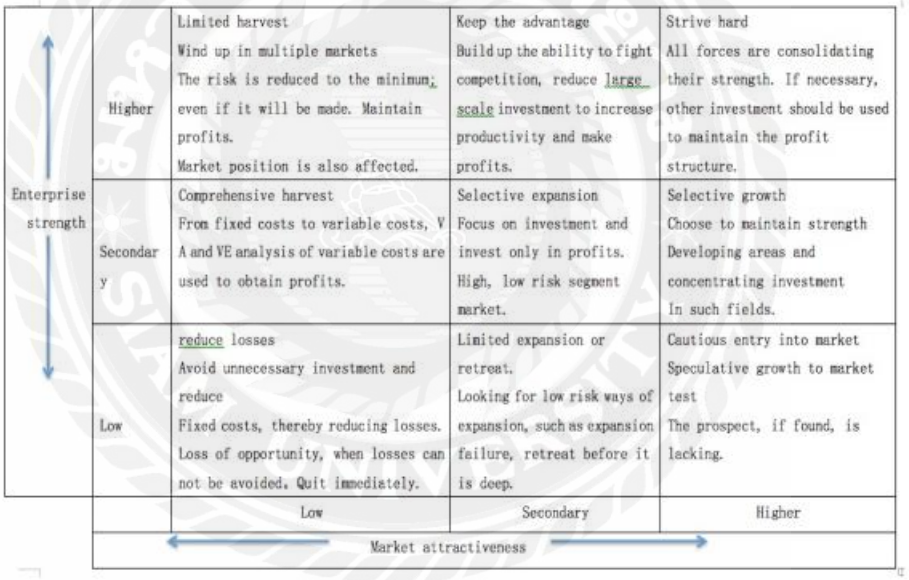


Figure 2-5 Standardization Strategies

Charles W.L. Hill & Gareth R. Jones proposes strategic planning framework. For example:

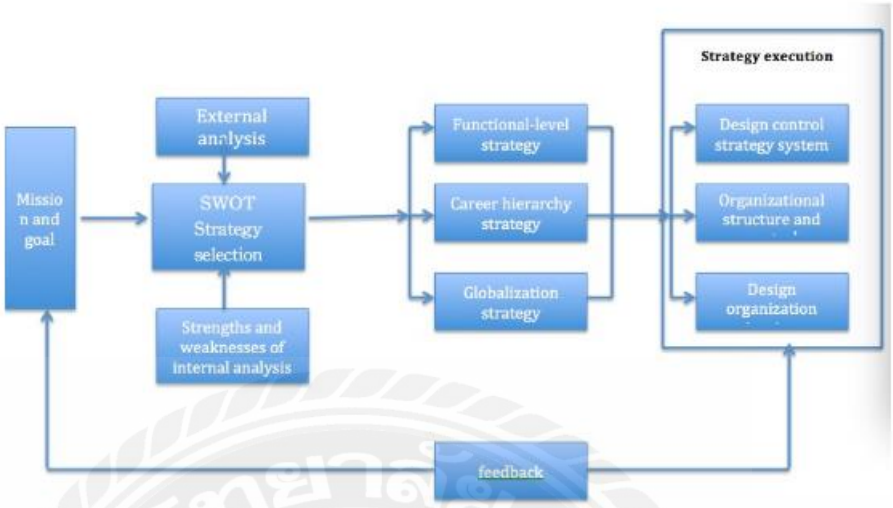


Figure 2-6 The Framework Of Hill & Jones's Policy Planning Process

2.4.3 Sources of Competitive Advantage

The concept of enterprise value chain is to divide business activities into a series of processes from procurement and production to sales services. The value created by the final product in each process is the added value that the enterprise relies on to sustain, and then exchanges resources with the external environment through transactions such as procurement (Porter, 1985). Each value activity distinguishes the following two major projects according to its strategy and technical methods:

Major activities: including purchasing and feeding logistics, production and manufacturing operations, export logistics, sales and marketing activities, after-sales services and other five value activities.

Support activities: including the basic structure of the enterprise, human resources, technology research and development, procurement and other four valuable activities. Through the analysis of value chain, we can understand the source of competitive advantage of enterprise management. When the enterprise operates through the price chain, relative advantage and differential advantage will emerge.

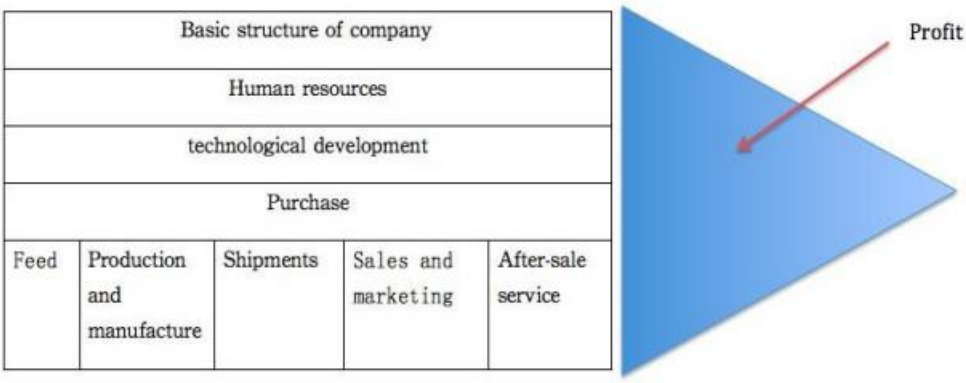


Figure 2-7 Porter value chain

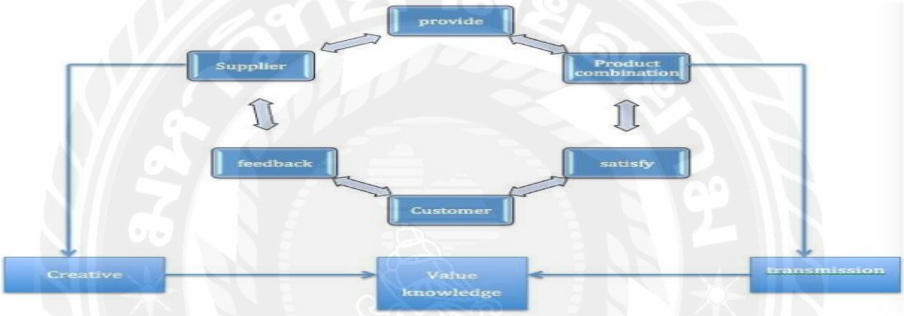


Figure 2-8 new value chains

There are two ways to conduct business strategy or industry analysis:

1. SWOT analysis SWOT analysis firstly analyzes the environment and trend of the enterprise, and then studies and distinguishes which trends and environmental conditions will be the opportunities or threats to the growth of the enterprise; it is used to analyze the advantages or disadvantages of the enterprise itself. SWOT analysis includes internal and external analysis. The five major external analyses are as follows:

A.General environment analysis,

B. Competitor analysis,

C. Industry analysis,

D. Consumer analysis,

E. Self-analysis;

Enterprise internal analysis as follows:

A.Advantage

B.Disadvantage

C.Threat

D.Current or future opportunities to maintain and obtain the competitive advantage of enterprises.

In 1950, Barney summarized the SWOT analysis into two parts:

A. Analyze the strengths and weaknesses of the enterprises, and emphasize the composition and strengthening of the organizational ability, which is called "resource-based model".

B. In recent years, the mainstream development is to emphasize the external environment analysis and adopt competitive strategies to gain advantages, which is called "competitive environment model".

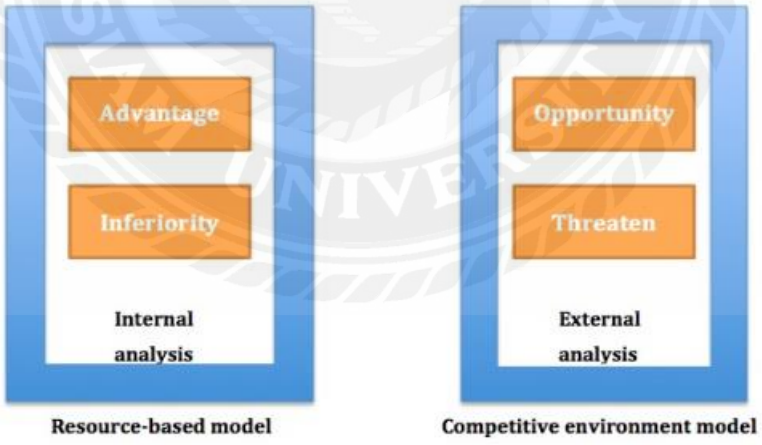


Figure 2-9 SWOT Analysis

Two. Five forces analysis

Porter (1980, 1985) proposed that inter-industry competition is related to five Competitive Forces: Bargaining Power of Buyers, Bargaining Power of Suppliers, Threat of New Entrants, Substitutes, Rivalry. The combination and change of these

five forces will ultimately affect the potential changes of industry profits, as shown in

Figure 2-10 Five Force Analysis Framework.

Using the rich body of available literature, including earlier reviews that had relatively limited perspectives, the literature on GSCM is classified on the basis of the problem context in supply chain's major influential areas. It is also classified on the basis of methodology and approach adopted. Various mathematical tools/techniques used in literature the contexts of GSCM are mapped. A timeline indicating relevant papers is also provided as a ready reference.

Finally, the findings and interpretations are summarized, and the main research issues and opportunities are highlighted. Nowadays, companies are struggling to find an appropriate supply chain strategy to achieve competitiveness. Among the available strategies lean, green and resilient are considered as a new management strategies for the supply chain management to achieve competitiveness. The major issues with theses strategies are the integration and identification of critical issues related to the strategies. This paper aims to identify the critical lean, green and resilient practices on which top management should focus in order to improve the performance of automotive supply chains. The systematic analysis of the lean, green and resilient practices is expected to

be of great value for their effective implementation by the automotive companies.

The interpretive structural modeling approach is used as a useful methodology to identify inter-relationships among lean, green and resilient practices and supply chain performance and to classify them according to their driving or dependence power. According to this research, the practices with the main driving power are just-in-time (lean practice), flexible transportation (resilient practice) and environmentally friendly packaging (green practice). Customer satisfaction is the performance measure with strong dependence and weak driving power; that is, it is strongly influenced by the other researched variables but does not affect them. Implemented ISO14001, the environmental management system standard.

Nevertheless, the point of start of a SC begins with the design of a product. This also means that product design must be focus to costumers, but fulfilling all the environmental regulations, in others words, companies must have a green design (GD) and only with a GD the company can ask for green supplier (GS). Consequently, companies today cannot ignore suppliers as part-nears integrated in the ecological issues. This new partners collar- orate in the creation of competitive advantages, and their actions have a positive impact on the organization's performance. Therefore, special attention has to be taken into account when evaluating and selecting a supplier in a GSCM environment.

Thus, GSCM has been adopted as a strategy by leading in-doctrinal companies, extending pressure on their suppliers to achieve certain levels of environmental performance and stimulating operational cooperation by all SC members. Nonetheless, all along the SC, the environmental impact must be evaluated, because only a collaborative work among SC partners leads to reduce environmental influence to a minimum and, at the same time, provide financial profits. Common procedures in GSCM begin applying a set of internal environmental policies conceived to obtain green purchasing practices with suppliers, good-practices in eco-design, cooperation and communication with customers, and investment recovery during production process and post-sale, closing so the GSCM loop. A lot of reports appear in literature informing about benefits obtained by a good GSCM philosophy with supplier

participation, informing that green practices can result in immediate statistically significant gains in stock prices. For example, Chinese car companies have experienced increasing environmental pressure while simultaneously recognizing.

3.RESEARCH METHOD

In this study, a case study was conducted to investigate the marketing methods and Strategies of electronic chemicals dealers in response to the green supply chain through in-depth interviews with Z Company, a downstream distributor of semiconductor electronic chemicals industry. Finally, conclusions and suggestions are put forward.

3.1 Object of Study

Z Company was selected as the main research object in this study. Its main business was to provide materials and chemicals distribution services. Mainly. This study explores how individual companies adjust their procurement practices in response to environmental regulations and policies in the face of their customers.

The difficulties faced by the case company to become one of the roles of the green supply chain system and the methods and methods of business strategy adjustment Results.

3.2 Selection of Research Methods

The research of social sciences mainly includes quantitative research and qualitative research, which are two great models of research methods. They have different methods of execution, different operational skills, and more importantly, fundamentally different methods and conclusions. Quantitative research tends to validate, and it is more suitable to distinguish the causal relationship between variables and significant variables. Quantitative research methods are mostly based on data and statistical principles.

Qualitative research tends to explore, discover, and summarize phenomena. Its purpose is to discover, induce and explain phenomena, but not to verify and find laws. It is a method of logical analysis using non-data data, so it is more suitable for exploratory research.

Research objects adopt a comprehensive view, attach importance to the connection and experience between researchers and interviewers, and regard each case

as an independent case orientation. It has high sensitivity to the context of social relations, flexible research design and emotional neutrality. Quantitative studies do not show the pulse of the overall event, but only the results at each point in time, and chemicals.

The mode of operation and sale belongs to a more real and slightly abstract business behavior, which must be studied in depth by qualitative research. It can reveal the deep meaning of the adjustment of business strategy and sales mode to the operation of enterprises. Qualitative research is based on finding facts rather than validating existing theories, and has a diversified depth and detailed nature of data sources. It is based on the fact that researchers and interviewees need to obtain research data in an interactive relationship in order to understand the ideas of business operators or managers of operating units.

3.3 Data Collection

In this study, in-depth interviews are the main data collection methods. Among various non-quantitative research methods, "in-depth interviews" are the most widely used. Although the interview was conducted in a general conversational way, the purpose of the interview was to gain insight into the inner thoughts and thoughts of the interviewees. However, these data cannot be obtained from observation, but through the interview process to understand their ideas, feelings and attention to the environment. The purpose of the interview is to facilitate the acquisition of information.

Interview methods can be divided into "standard open interview", "guided interview" and "informal interview". The researchers according to the research topic choose most of them. In-depth interview is a method of direct contact with the interviewees and in-depth communication, in order to obtain their linguistic information for research and analysis. "Standard Open Interview" uses a series of structured interview questionnaires to conduct one-by-one interviews, and the design of the questions is in principle open-ended, called "structured" interviews.

Informal interview is a kind of unstructured interview, which uses chat to let the interviewees speak freely without setting up a field or interviewing topic and structure. It is called "unstructured" interviews, whereas "guided interviews" are

"semi-structured" interviews in which the subject is planned in advance and the interview outline is used to guide the interviewees to conduct purposeful interviews.

3.4 Data Analysis

Interview is one of the most important sources of information for this study, and the data obtained through in-depth interviews are all from the interviewees. Language expression is the main part. The information collected through interviews is analyzed according to the principle of "linguistic analysis". The relationship between content and research themes is integrated, summarized, analyzed and studied.

3.5 Data Collection Methods

A semi-structured interview method was adopted to collect data. An interview outline was drawn up before the interview to ensure the focus of the interview.

It can focus on the research topic, but the interviewer can adjust the interview question according to the elasticity of the current situation, not according to the interview. The sequence of interviews is helpful for conducting and deepening interviews to present the situation and phenomena of research problems. In-depth interviews were conducted after contacting and establishing relationships with the respondents. The whole content of the interview, the final data collation and analysis of interviewees and content: the study object is Z public. The general manager, department managers and their key customers are the objects of this study. First, get the consent of the interviewees. Then interview and record the interview content by recording.

According to the different work content and background of the interviewees, different interview syllabuses were designed to increase effective data collection.

The content of the interview is divided into the following topics: first, the background and basic information of the interviewees, and second, the understanding of the interviewees.

The impact of green supply chain management on the company, in-depth interviews with job changes, and then to learn about. The adjustment of supply chain management and business strategy is positively related to the operation of the

company.

Table 3-1 Z Company Respondents and Interview Outline

Title	Interview guide
General Manager	Overview of electronic manufacturing industry Companies should respond to green supply chain and environmental regulations. Main competitive advantages Company management strategy Future development direction
Business Manager	The impact of environmental regulations on companies and Countermeasures The impact of implementing green supply on corporate marketing Market analysis Competitive edge Marketing strategy Future challenges and coping strategies
Purchasing Manager	The impact of implementing green procurement on company cost Green raw material coping strategies Competitive edge Company development
Finance Manager	The impact of implementing green strategy on Corporate Finance Competitive edge Financial status and planning Company development

Production and R & D Manager	The impact of green production and green design on R & D and manufacturing process Current situation and planning of new product development Production status and planning Competitive advantage company development and future
DC supervisor	Impact of implementing green recovery and reverse logistics recovery Logistics and warehousing: current status and planning
Commissioner of material Department of T company	The effectiveness of green supply chain management provided By Shandong Jiangyuan Chemical Co, Ltd Shandong Jiangyuan Chemical green recycling helps

3.6 Interview Procedures and Techniques

The research data can be divided into primary data and secondary data. Primary data refer to the data collected and studied by the researchers themselves, for example, the city market. The most common primary data collection methods in traditional marketing research are as follows: interviews, questionnaires, observations, experimental methods, Internet exploration, etc. Secondary data interfacing is acquired by previous data.

For example, the government opens up information or data. Secondary data are divided into internal secondary data and external secondary data, as shown in Figure 3-1 below. Secondary data collection costs are low and efficient, but the data obtained may not be suitable for their needs. Generally speaking, the sources of sequential data can be divided into internal and external secondary data.

The former refers to the internal data of an enterprise, such as production materials, sales data, statistical data, accounting records, personnel data, etc. External secondary information refers to all secondary information outside the enterprise, such as news reports, research reports, newspapers and magazines, website information, paper journals, audio tapes, videos, CD-ROMs, videos and so on.

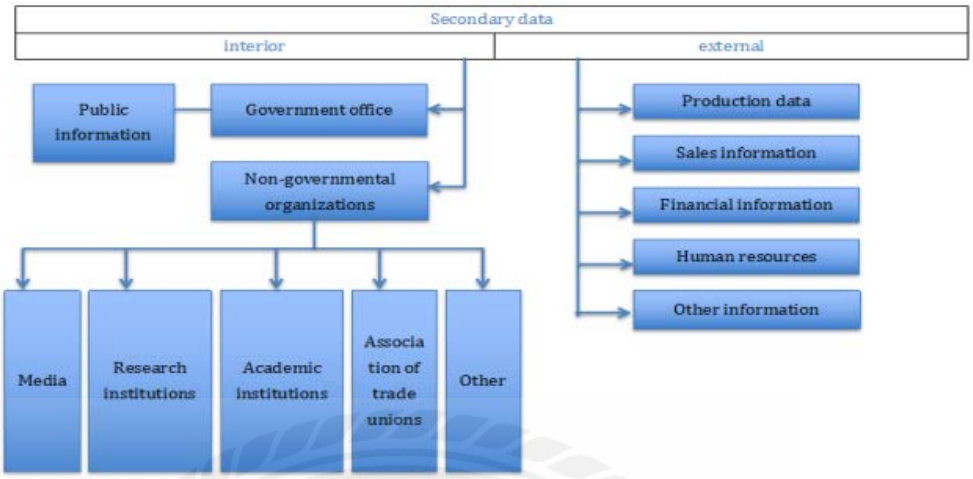


Figure 3-1 Types Of Secondary Data

When collecting data, it is necessary to determine whether there are appropriate secondary data, and if there is a lack of secondary data, it is necessary to proceed with the initial process. Level data collection. Secondary data is easy to obtain and low cost. But because of the research themes of secondary data. The motivation is different, and the credibility is high and low, so not all secondary data can be cited, should be more evaluation. After the amount of adoption. For the interpretation, analysis and evaluation of secondary data, researchers also need preliminary information.

Collect. Primary data can be broadly divided into seven points in the field of marketing research.

1. Demographic and socio-economic characteristics: Age, sex, occupation, education, marriage, economic status, social status, etc. of the target subjects.

2. Personality psychological characteristics and lifestyle characteristics: the personality, characteristics, preferences, interests, life habits, values and other information of the target subjects.

3. Attitudes and opinions: Target subjects' thoughts or opinions about a particular person, thing, idea, such as likeness, agreement, importance, satisfaction, etc.

4. Awareness and Knowledge: The degree to which the target subject understands a particular person, event, object or phenomenon, such as whether the consumer knows the characteristics, price, use, manufacturer, place of origin of a product.

5. Willingness: Expected behavior, such as purchase behavior, that the target subject may perform or engage in for a particular purpose.

6. Motivation: The intrinsic incentives for the target subject to take action against a particular person, thing or thing are also the reasons why the target subject does so.

7. Behavior: the behavior of the target research object in the past and present, such as the purchase and use of products. Primary data are not collected from the above seven categories, but are determined according to the purpose of the study. Primary data collector

8. There are three kinds of methods:
(1) Access method
(2) Observation method
(3) Depending on the characteristics required by the research, different methods should be used to collect different data.

This study adopts an access method to collect primary data, also known as communication. Face to face or telephone interviews with researchers. Questions or questionnaires are used to collect data. Its advantages are fast, easy to execute and diverse. But the disadvantages are Respondents refused to answer or did not answer honestly, or the subject of the question was too specialized or unclear to answer.

And so on. Respondents may be influenced by researchers in the course of their visits, but cannot answer the fact. Because the interview method has these advantages and disadvantages, so researchers need to pay special attention to interview procedures and techniques to use this method to collect information. Primary data.

3.6.1 Interview Procedures

1. Pre-job: Before the appointment visit, the basic information and background survey of the case enterprise will be conducted, and the relevant interview content and information will be prepared to facilitate the other party to know and enter the situation as soon as possible.

2. Sampling: According to the purpose, nature and information to be obtained, the case or interviewee should choose the appropriate, matching and most convenient respondent.

3. Invitation and Visit: When inviting, the interviewee should understand the purpose and needs, put himself in the other side's position, and study and practice visiting skills before visiting.

4. Recording and collation: Recording strives to be complete, systematic and effective. After the interview, we should arrange the content and focus of the interview as soon as possible, so as to avoid forgetting and losing the information content.

3.6.2 In-Depth Interview Skills

In-depth interviews must not become a rigid process of answering questions with the interviewees, so their skills are very important.

In advance, it is necessary to design the interview key structure based on the purpose and information needed to visit, and keep flexible guidance respondents. Answer.

The interview process should make it easy for the interviewee to respond and not stick to the topic. It can establish a relationship with the interviewee through small talk and tentatively bring in the target question, attract the interviewee's attention and encourage free and open conversation of ideas and opinions. It is not easy to interrupt or change topics, so as not to disturb the way of thinking of the interviewees. However, under special circumstances, the interviewees should also appropriately interfere with the interviewees' conversation. The reasons are as follows:

(1) The direction of the respondents is targeted.

(2) Reaffirmed and obtained the reasons for the opinion expressed by the

interviewees.

(3) Let the interviewees discuss the related problems in depth.

(4) Repeated discussions were made before the respondents.

(5) End the endless answer, and raise another topic or goal that has not yet been mentioned.

Visitors should try their best to create a pleasant and relaxed atmosphere, enhance trust and intimacy, and be confident and courageous.

3.7 Object of Study

This study adopts a case study approach to explore the business strategy adjustment of high-purity chemicals dealers in response to green supply chain management. A "in-depth interview" is conducted with Z company, which provides a wide range of chemicals distributors from the mass production, pharmaceutical and electronic industries to cooperate with relevant data collection and case studies. Finally, the conclusions and suggestions are put forward.

3.8 Interview Content

The interviews were conducted on the following seven themes: green production, green supply, green sales, green consumption, green recycling and its impact on the company and customer management. Interviews were conducted on the design issues within the company and its customers. The interview questions are as follows: table 3-2.

Benefits and incentives to turn green SC. UK organizations, that have a progressive attitude towards green SC, are also the most active operationally that is traduced in financial benefits, similarly when European Union’s restriction on hazardous substances directive took effect in 2006, Hewlett-Packard anticipated this and invested money in finding alternatives, providing a competitive product and increasing profitability.

Green product design. Human activity threatens ecosystem health and companies and enterprises need to address some of these concerns. The 2005 Millenium

Ecosystem Assessment Report is the first ever-global assessment of Earth's ecosystems, spearheaded by the United Nations that presents our ability to correct the already taken planet's course unless measures are taken.

Table 3-2 Interview Questions.

Topic	Interview content
Green R & D and green production	1. Can you explain the methods of green R & D and green production currently used by Z? 2. Is there any difference in yield and quality between using and without green R & D and green production? 3. Can green production methods effectively reduce the pollution or waste generated in the manufacturing process? 4. Can green production improve internal production efficiency, R & D capability and environmental performance? 5. Need to change the production process and management from the equipment and use more expensive but environmentally friendly raw materials to make it? 6. How do we deal with the waste generated during the production process?
Green supplies	1. The three directives of the European Union and China's environmental policy, have any impact on the company? 2. Does the management and planning of the Green Management Supply Chain System (GMSCS) by customers affect the company's resources and manpower? Does it affect the cost and price? 3. Do customers' requirements for environmental protection create business value and produce environmental performance? 4. How to stand out in the face of market competition?
	1. When marketing, will green recycled products contribute to sales? 2. How to stand out in the face of market competition? 3. Is optimized transportation and reverse recovery useful for inventory and sales? 4. Can electronic commerce and marketing increase sales? 5. Is the revision of the company's business mode and marketing mode helpful to sales?

Green sales	6. Can the integration of green concept into business strategy; corporate marketing and culture enhance consumer recognition and corporate image? 7. How can companies improve customer-purchasing intention and enhance environmental performance?

4. CASE STUDY AND DISCUSSION

4.1 Case Background Introduction

Z Company was founded in 2007, when the Semiconductor, integrated circuit (IC) and thin film transistor liquid crystal display (TFT-LCD) industry flourished, the company mainly for the sale of IC and TFT-LCD process used for cleaning and etching of high purity. Chemicals. Mainly in the way of local production and close service, at that time most of the high-purity chemicals imported from abroad or high prices to provide more choices, so that customers not only have the advantage of reducing costs, but also can make up for the lack of customer service in large factories. E also has gained trust and scale growth in the process of cooperation with customers.

In the early days of its founding, Z company offered TFT-LCD customer process technology solutions as its main business model, and then increased the number of competitors in the industry. And began to transform into the sales process of high-purity chemicals and materials and in response to customer needs to set up a team of laboratory clothing testing, the main business model changed to local diversification of product agents and sales-oriented. It also relocated to Tainan as a business base to provide fast service and maintain good customer relationship in order to cooperate with new electronics factories built in Tainan Science Park.In recent years, company E's growth has slowed down and profits have declined, partly because of market competition and customer response to government environmental policies.

Policy requirements, there are some manufacturers wanton discharge of untreated waste liquid, waste gas, waste and other social environmental issues triggered. Attention. Then, customers are asked to help suppliers to provide solutions and establish and join the green supply chain management department.

4.2 Interview Content

Table 4-1 Interview content arrangement green research and development and green production.

Interviewees	Z production and R & D Manager and storage and transportation supervisor
Interview topics: green R & D and green production	Answer
1. Can you explain the methods of green R & D and green production currently used by Z company?	At present, the raw materials used in R & D are selected in the development process. As far as possible, raw materials with less environmental impact will be selected. Such as toxic chemicals or heavy metals such as lead, cadmium and manganese. Genus. And optimize the production process to reduce energy consumption. Waste generated from the production process can be used again. Reduce waste.
2. Is there any difference in output and quality between using and without green R & D and green production?	Production of raw materials with low environmental impact is bound to increase. The cost of recycling contains more impurities. Later processing may lead to cost.
3. Can green production methods effectively reduce the pollution or waste generated in the manufacturing process?	In accordance with the company's practice, it is known that foot products are produced under the production process. There are ways to reuse the wastewater generated in the process
4. Can green production improve internal production efficiency, R & D capability and environmental performance?	It can also be recovered and reused, and the waste heat generated by the process can be exhausted. It can be collected for other heating processes. Materials are also reused to reduce direct discarding machines.
	This method can certainly reduce the production process to the environment. But it is not positive for production efficiency and R & D.There will be many additional methods and investigations.

5. Need to change the production process and management from the equipment and use more expensive but environmentally friendly raw materials to make it?	Part of the process must be transformed to achieve the goal of reducing waste. However, it is necessary to evaluate whether the results can bring benefits. The company is good. The raw material part still depends on the customer. Can accept, after all, price for customers to choose products. One of the important inspections, but the same price
6. How do we deal with the waste generated during the production process?	Choose environmentally friendly materials.Waste treatment should be divided according to the type, such as the waste liquid part: valuable will be recovered after treatment and reuse, no use value or difficult to deal with will take waste treatment. Some of the packages can be classified as electronic liquid waste packages can be downgraded for industrial customers to use, industrial customers can be recycled and cleaned can be used for waste liquid loading, its life cycle can be broken and finally made into PE recycled material reuse, will maximize the use value.

Table 4-2 Interview content arrangement green supplies

Interviewees	General manager and business manager of Shandong Jiangyuan Chemical Co, Ltd
Interview theme: Green Supply	Answer
1. Does the EU's three directives and China's environmental policy have any impact on the company?	Environmental policy requirements have an absolute impact on suppliers, such as RoHS prohibited substances, some customers will require suppliers to provide products to obtain third-party inspection unit certification and sign a guarantee. Both marketing and cost need to be investigated.

2. Does the management and planning of the Green Management Supply Chain System (GMSC) required by customers have an impact on the company's resources and human resources? Does it affect the cost and the selling price?	Green supply chain management is to add more elements to the original supply chain, many of which are required to increase manpower, purchase equipment, adjust the process, and increase services and management, so it is bound to affect the cost and price.
3. Do customers' requirements for environmental concepts create business value and produce environmental performance?	Yes, similar products, similar prices, yes. A more environmentally friendly image is a bonus.
4. How to stand out in the face of market competition?	Green Supply Chain is a new experiment for Shandong Jiangyuan Chemical Co, Ltd, providing more environmentally friendly product design to reduce customer waste production, indirect waste reduction and after-sales solutions, and increasing added value in the quality and price of its competitors. Especially at present, the amount of waste disposal in China is approaching saturation, and the price of waste disposal is rising day by day.

Table 4-3 Interview content arrangement green sales

Interviewees	Produce's Shandong Jiangyuan Chemical Co, Ltd business manager and storage and transportation supervisor
Interview theme: green sales	Answer
1. Is sales of green recycled products helpful in sales?	This has both advantages and disadvantages. The advantage is that it is fairly easy to sell green products to customers who need them, but the relative price is higher. For example, in countries with more unlimited environmental policies, such as Southeast Asia, the incentive

	is not great. It is even expected that customers will consider substandard products for price requirements because of recycling products.
2. How to stand out in the face of market competition?	When offering similar products and services to competitors in the same industry, companies need to examine their own strengths and weaknesses first to amplify their strengths. For example, some of our raw materials have a more advantageous cost, with the recycling of waste package materials and waste liquid medicine. We should adopt integrated marketing rather than just after-sale service, increase customer service and enhance trust.
3. Is optimized transportation and reverse recovery useful for inventory and sales?	Some, the reverse recovery can be recovered at the same time after delivery, improve the utilization rate of each vehicle; reasonable scheduling can reduce the waste of time and energy. The delivery date is one of the important topics that customers attach importance to.
4.Can electronic commerce and marketing increase sales?	Yes, this approach can shorten the supply chain and improve the efficiency of sales, reduce customer development costs can be directly interactive, increase exposure and expand the market can also break the rules of economies of scale so that we can make small bets.
5. Is the revision of the company's business mode and marketing method helpful to sales volume?	Yes, the adoption of e-commerce and green services in the market allows us to have more exposure and uniqueness to help sales. However, the market and environment are changing rapidly, and the marketing methods must be changed with time.
6. Can the integration of green concept into business strategy;	Corporate image is the first impression of customers, adding the concept of environmental

corporate marketing and culture enhance consumer recognition and corporate image?	protection can make the image greatly increased, and can pave the way for future cooperation and even other customers.
7. How can companies improve customer-purchasing intention and enhance environmental performance?	Customer purchasing willingness is related to demand and price, but environmental issues, making our products more acceptable to customers, can produce additional value. And after-sales services to provide solutions to help customers in the use of the process and after-use waste disposal, to reduce the impact on the environment.

Table 4-4 Interview Content Arrangement Green Consumption

Interviewees	Shandong Jiangyuan Chemical Co, Ltd purchasing manager and finance manager.
Interview theme: green consumption	Answer
1. Does the EU's three green directives and China's environmental policies have an impact on the company's raw material procurement?	Yes, if the customer asks for it, we must look for the materials that conform to the specification. Because in ISO specification, data traceability is very important. Therefore, it is impossible to speculate on cheap but substandard raw materials, which may result in losses to customers and claims against suppliers. Therefore, the cost will increase in procurement.
2. Will the company's willingness to purchase green products be affected by corporate social responsibility and social perception?	Yes, one can improve the business of its own customers. The value of image is also the responsibility of enterprises to society. Only in this way can we continue to operate.

3. When choosing supplier, will the supplier with ISO14001 green certification have a better chance?	Certainly, ISO certified manufacturers have certain requirements for product and data integrity, which is also one of our procurement evaluation standards.
4. Previous purchasing behavior does not need to examine the part of green purchasing. Will purchasing personnel ignore environmental problems and their possible impact on the environment because of cost and price incentives?	Yes, after all, the competition is fierce in this industry. The cost is one of the key factors for survival. The question will be listed later.
5. Will suppliers be asked to propose solutions for recycling and waste disposal?	Yes, some of the waste generated by our company is not processed. The original factory will assist it.

Table 4-5 Interview content reorganization green recoveries

Interviewees	Shandong Jiangyuan Chemical Co, Ltd Storage and transportation supervisor, production and R & D Manager
Interview topic: green recycling	Answer
1. Is green recycling the trend of industry at present?	Yes, the reduction, recovery and reuse of resources are at present. Industry trends can also reduce company costs.
2. Can the waste be recycled and regenerated after the end of the life cycle of the product?	Depending on the product characteristics, some products have their own characteristics. Once used and cannot be recycled, it must be used. Reduce use. If it can be recycled, it must be investigated again. The cost to availability is beneficial to the company.
3. Will rising prices of raw materials affect customers' willingness to reclaim suppliers?	For valuable waste customers, dealers will be taken. Sale and processing.
4. Does recycling chamber affect purchasing and processing prices due to increased recovery?	Yes, the processing industry will take account of its volume and market demand. Price adjustment, but current Chinese waste

	The market demand is expanding day by day, and the price of processing is getting more and more. High. So it is common to dump hazardous waste and so on. News is mainly due to the high cost of processing. It makes people desperate.
5. Will suppliers be asked to propose solutions for recycling and waste disposal?	Yes, some of the waste generated by our company is not processed. The original factory will assist it.

Table 4-6 Interview content reorganization - green consumption - Shandong Jiangyuan Chemical Co, Ltd

Interviewees	Commissioner of material Department of Shandong Jiangyuan Chemical Co, Ltd
Interview theme: green consumption	Answer
1. Does the EU's three green directives and China's environmental policies have an impact on the company's raw material procurement?	The final product will be exported to Europe. We will require suppliers to comply with the requirements. Ask and sign the closing book.
2. Will the company's willingness to purchase green products be affected by corporate social responsibility and social perception?	Yes, because the resources of the earth are very limited. The environmental management system will minimize the impact on the environment. Low. And this is the business objective to carry out business activities.
3. When choosing supplier, will the supplier with ISO14001 green certification have a better chance?	Yes, because our company owns ISO 14001, the supplier of ISO 14001 will be one of the research factors.

4. Previous purchasing behavior does not need to examine the part of green purchasing. Will purchasing personnel ignore environmental problems and their possible impact on the environment because of cost and price incentives?	No, our company will improve the sustainability of environmental protection to practice 3R (Reduce; Reuse; Recycling), implement environmental education to help form the framework of a recycling society and comply with relevant environmental laws, norms and agreements. Therefore, raw materials procurement will examine the subsequent impact on the environment.
5. Will suppliers be asked to propose solutions for recycling and waste disposal?	Yes, after all, this is our company's production cost. First, a better solution will be adopted.
Shandong Jiangyuan' s green recycling helps	Extra recycling and disposal can be provided for waste. Can greatly reduce our company's handling of manpower and cost.

4.3 Product Market Positioning and Segmentation

The supplier may divide the target market into multiple markets, depending on the buyer's response to product demand and acceptance of sales. Groups and types, and thus develop different sales strategies to optimize the use of company resources for maximum benefit. This is market segmentation. But the customer's demand for the product, the reason for purchasing, ideas and practices are different, so it is difficult to use a product at the same time. And satisfy all customers' needs. Differentiation and market segmentation must be carried out. The target market needs to choose similar consumer groups. Group, in order to implement sales strategy.

Shandong Jiangyuan Chemical Co, Ltd is mainly based on the industrial attributes of customer segmentation, after the adoption of segmentation and differentiation market strategy, the target market segmentation is as follows: process chemicals and materials.

A. High-purity chemicals of a single component: acids, alkalis, solvents, etc. have a wide range of uses for Industry and use. To specialize in business, and to accumulate knowledge about the use and usage of such chemicals through the sales

process. In the electronics industry, the rest are mostly traditional industries, pharmaceuticals, processing, and synthetic customers.

B. Customized and Special Chemicals and Materials: Chemicals of multiple formulations or special uses, with single-purpose customers concentrated in specific areas, assigned special business responsibility for customized development with R&D units of the company.

C. Laboratories: Supply of high-purity chemicals and consumables for testing, with RD (Research and Development) or QC (Quality Control) laboratories, school research units and testing units attached to various types of industries as the main customers.

4.4 Product Positioning

Helping products to locate within a specific range of markets through product positioning, enabling them to be most consistent with the market area. The best way to achieve maximum benefit is to match each other and improve market acceptance. Shandong Jiangyuan Chemical Co, Ltd of products are mainly defined as industries to be supplied by price, specifications and use. There are four categories of products with sales records as follows:

(1) Industrial grade: Conventional chemicals without special requirements for general industrial use, the main customers are wastewater treatment of traditional industries or electronics industries.

(2) Electronic Class: Mainly used in the electronic industry customer process, for purity, impurities, evaporation residues and other requirements.

(3) Drug Test Level: Applied customers are RD (Research and Development) or QC (Quality Control) laboratories, school research units and testing units affiliated to various industries. As high-purity chemicals used in the testing process, their products are required to be more electronic-grade, with the exception of purity impurities such as UV absorption.The characteristics of collection and so on are different according to different uses.

(4) Specialty Chemicals: Specialty Chemicals are customized or special-purpose chemicals that need to be developed in conjunction with customers, not ready-to-buy. Shandong Jiangyuan Chemical Co, Ltd of profit base is built on the above products, but if the following products are added, the green supply chain will be more complete.

4.5 Marketing Activity Portfolio Variables

Business and marketing strategies need to be adjusted according to the environment and market conditions. The profit optimization theory can maximize the use of marketing expenditure in the combination of marketing activities. Using SWOT analysis and five forces analysis, we can pre analyze the company's own capabilities as shown in table 4-7 below.

Table 4-7 SWOT analysis of Shandong Jiangyuan Chemical Co, Ltd

Internal correlation	
Advantage	The company's organization is flat, flexible and fast. In geological services, short delivery time. New product development capability and speed of introduction. Industry and market are informal, business is extensive. Small quantity customized orders acceptable. Provide diversified packaging Product recycling capability
Inferiority	No brand, popularity, exposure and so on. High cost Weak R & D and manufacturing capability
External correlation	
Opportunity	Small quantity and special customization needs Conversion from raw material to finished product sales Localization of imported products Interbank price and service competition
Threaten	Supplier price increase Customer price requirement Famous brands also depreciate in response to customers.

It is suggested that Shandong Jiangyuan Chemical Co, Ltd may adopt the following 4P marketing mix as a business and marketing strategy, as illustrated in

Table 4-8:

Table 4-8 4P marketing mix

4P	Content description
Product	1. Industrial products are bought and sold with price-oriented strategies. 2. Electronic grade and special chemicals take persimmon to pick soft food and extract high profit and high threshold products. For the purpose, look for cooperation omen and customer development. 3. Establish special specifications of chemicals, supplemented by marketing techniques for brand building. 4. Because customers are mostly 24 hours production line, they have more rigorous procedures for product quality. 5. Product development, manufacturing, warehousing, transportation and so on all need relevant data and procedures to ensure products. There is no danger in quality. 6. With the diversification of products and customization, good quality control systems must be combined.
Price	1. The strategy adopted by Shandong Jiangyuan Chemical Co, Ltd in the market should be price-oriented, with specific items cut into the market at low prices and then adopt strategies to combine other related products to maintain the overall price, the main purpose of which is to deepen and expand the product line. 2. part of the special chemicals will be marketed on the market and strive for evaluation opportunities. 3. The existing customers will take the gift or other extra services to maintain the selling price.
Place	1. Process chemicals take direct marketing to reduce the loss of intermediate interests. 2. Drug-testing products adopt diversified channels, such as direct selling customers, distributors and transnational agents, online sales.
Promotion	1. Promotion means adopt low cost to get exposure opportunities, so long-term advertising targeting special items and oligopoly markets should be carried out, and when the benefits are achieved, more

	attractive advertising should be put to target audience by guerrilla means, thus disrupting the market to obtain exposure opportunities. 2., discount, promotion, raffle, feedback and other activities will be promoted to raise customer repurchase rate.

4.6 Marketing Mixes Strategy

Product, price, channel and promotion are marketing portfolio 4P activities. The following is an in-depth discussion of Shandong Jiangyuan Chemical Co, Ltd's application in marketing and business strategy:

(1) Product Shandong Jiangyuan Chemical Co, Ltd should strengthen R&D and manufacturing capabilities, enhance product integrity and select items carefully.

Target customers and evaluate cases carefully, focusing on resources. And with the existing products and unique waste recycling services to create differentiation and establish a green supply chain management system, improve customer evaluation willingness and opportunities.

(2) Price Shandong Jiangyuan Chemical Co, Ltd's existing product price fixing adopts the trial method to infer the customer acceptance, or sells at a slightly lower market price sale. However, for the new development market, we should adopt low price and strong competition to obtain test opportunities, and quickly grab part of the market share. To enhance brand exposure and visibility. Therefore, the target market should choose products with large profit margins and a small scale.

(3) Channel Shandong Jiangyuan Chemical Co, Ltd acts as an agent dealer. Generally, the sale of process chemicals requires tedious customer communication, evaluation and testing. For small-scale customers, e-commerce and social media should be used. Distribution by means of on-line sales and physical distributors reduces the spread between intermediaries, transportation costs and increases. Plus direct contact with customer opportunities and other benefits.

(4) Promotion Shandong Jiangyuan Chemical Co, Ltd is a backward market, low market share, low visibility and low resistance to market competition. So more, resources should be devoted to exposure marketing to build brand and image so as to

enhance potential customers ‘willingness and evaluation opportunities.

4.7 Competition Strategy Analyses

According to Porter (1985) competitive advantage strategy theory, five-force analysis and differentiated market positioning model, the competitive strategy of Shandong Jiangyuan Chemical Co, Ltd is mainly based on product competitiveness and price competitiveness as described in Table 4-9.

Table 4-9 competition strategy of Shandong Jiangyuan Chemical Co, Ltd

Product	Competitive strategy	Explain
Industrial and recycled chemicals	Cost leadership strategy	1. Price competition is fierce. 2. Industry’s product similarity is high. 3. Price orientation
Electronic chemicals	Differentiation strategy	1. High quality requirements 2. Pre sale and after sale services 3.Investment in advertising and promotion 4., new product development capability is needed.
Specialty Chemicals	Centralization strategy	1. Customized products and services 2. Quick response to meet customer needs.

Shandong Jiangyuan Chemical Co, Ltd of overall resource allocation is not easy because its product competition strategy is different. However, the most important thing is that the management needs to fully assess and integrate existing resources. For example, the ability of recycling and reusing waste from the cooperative manufacturers is integrated into their own service capabilities. As shown in Figure 4-1, the life cycle of chemical products.

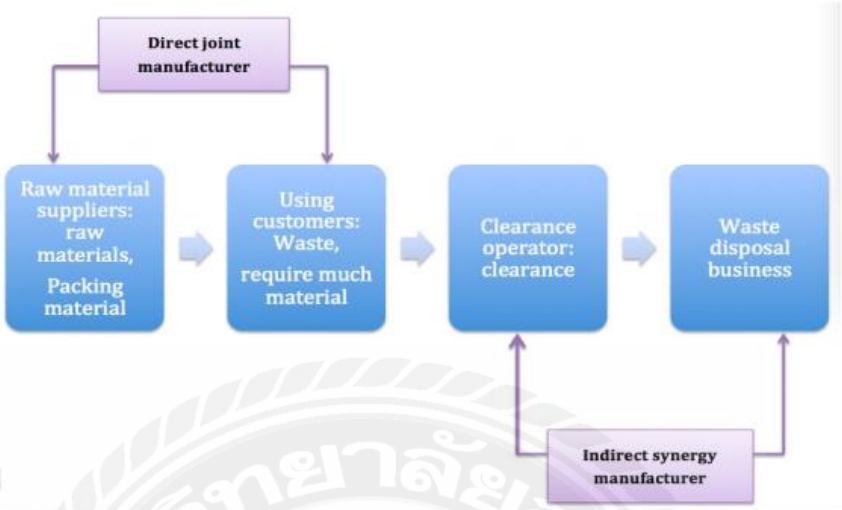


Figure 4-1 Life Cycle Diagram of Chemical Products

Display the value of the product with the existing competitors' products and services, as shown in Figure 4-2 below. And develop a review mechanism to understand whether the invested resources have achieved the desired results, in order to establish the value and status of advantages in business competition.

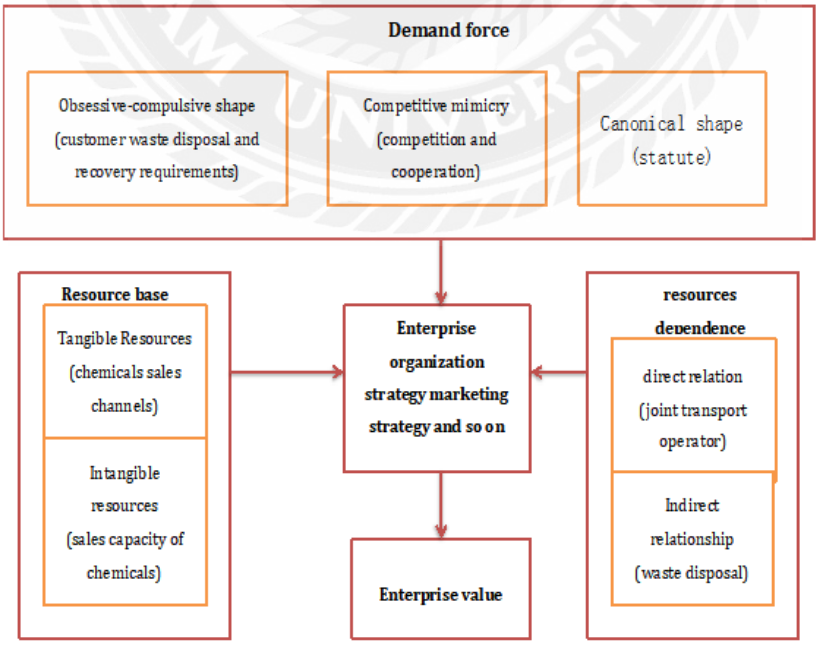


Figure 4-2 Shandong Jiangyuan Chemical Co, Ltd of Creates A Differentiated Market-Positioning Model.

With the integration of the above waste disposal strategies, the original chemical supply chain and waste disposal and reverse recycling process were reorganized, and the upstream and downstream of the supply chain were simplified into three parties: supplier, manufacturer and user, while the upstream and downstream roles became relative rather than absolute. As far as chemical supply is concerned, suppliers and manufacturers act as the upstream suppliers of raw materials. From the perspective of reverse logistics of waste recycling, the user becomes the upstream supplier and manufacturer, and also plays the role of raw material supply. Strategic alliance and industrial settlement are the foundation for establishing the whole green supply chain. By virtue of the role-playing of the relative upstream and downstream supply chain system, a closed green supply chain loop is formed. By means of reducing energy consumption, recycling and waste reduction, the goal of cost-saving and cost-saving in business management can be achieved, and the goal of sustainable development can be further revealed in both environment and profit-making. The feasibility of both sides.

4.8 Effectiveness Analysis of Reverse Recovery Strategy

The results of the Green Supply Chain Management and Reverse Recycling Strategy implemented by Shandong Jiangyuan Chemical Co, Ltd from 2016 to 2018 can be estimated by the sales volume, turnover, amount of cost recovery and reuse, recycling cost, waste disposal volume, treatment cost and other data provided by Shandong Jiangyuan Chemical Co, Ltd. As shown in Table 4-10, Reverse Recycling and Sales Data Table, the implementation of its recycling strategy can lead to an increase in the ratio of quantity to reuse, and a 20% increase in business benefits over green management strategies such as not implementing Reverse Recycling. As shown in Figure 4-4, the analysis of recovery volume and additional benefits, and figure 4-10, business interest analysis.

Table 4-10 Reverse Recovery and Sales Data Sheet

Year quarter	2015 Q2	2015Q3	2015 Q4	2016 Q1	2016 Q2	2016 Q3	2016 Q4	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2

Quantity of sales (pieces)	408	176	364	1256	756	631	1168	272	1043	1344	968	704	1536
Average turnover (RMB)	465120	200640	414960	1431840	861840	719340	1331520	310080	1189020	1532160	1103520	802560	1751040
Average raw material cost (RMB)	284376	122672	253708	875432	526932	439807	814096	189584	726971	936768	674696	490688	1070592
Quantity recovered (part)	569	322	590	1492	1071	715	1325	351	1176	1493	1131	1390	1019
Recycling rate (%)	72%	55%	62%	84%	71%	88%	88%	77%	89%	90%	86%	51%	151%
Cost of recovery (RMB)	26672	15094	27656	69938	50203	33516	62109	16453	55125	69984	53016	65156	47766
Amount of waste disposal (part)	161	146	226	236	315	84	157	79	133	149	163	686	
Waste disposal waste (RMB)	4830	4380	6780	7080	9450	2520	4710	2370	3990	4470	4890	20580	
Business interests (RMB)	149242	58494	126816	479391	275255	243497	450605	101673	402934	520938	370918	226136	632682
Recovery and reuse benefits	110634	45428	96232	348368	204498	176053	325834	74606	291179	375882	269054	178652	450198

(RMB)													
Interest difference (RMB)	38608	13066	30584	131023	70757	67444	124771	27067	111755	145056	101864	47484	182484
Rate of interest difference (%)	26%	22%	24%	27%	26%	28%	28%	27%	28%	28%	27%	21%	29%

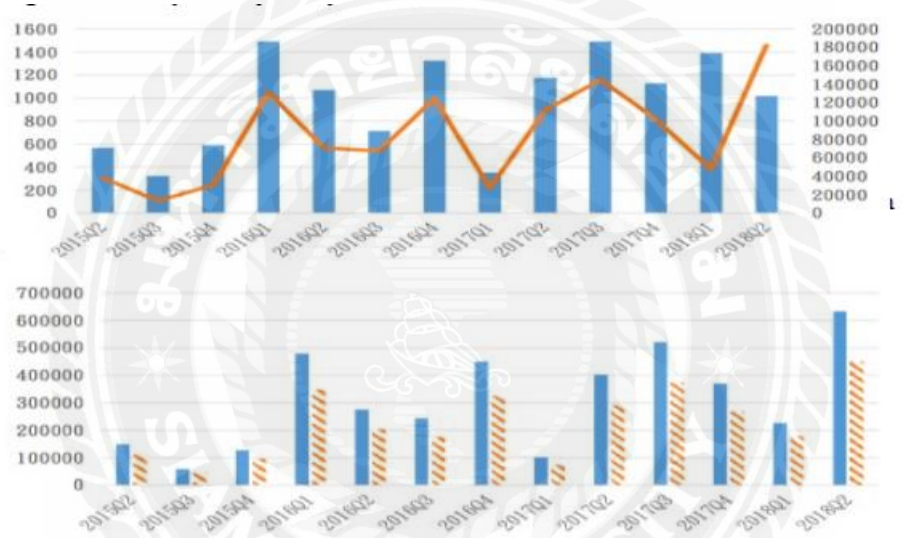


Figure 4-3 Analysis of Quantity And Additional Benefits.

The green product design (GPD) is generally defined as a useful method to decrease the environmental impacts of a product through product design, and it has become one of the most important practices for achieving sustainability. Companies can achieve and be benefited by waste management and material management, saving through the reuse of original product, reduce time to market, reducing human efforts and ecological risks, cost effectiveness, improving process efficiency, and creating products and processes that are environmental friendly throughout its life.

5.CONCLUSION AND SUGGESTION

5.1 Conclusions

The case study of green supply chain management (GSCM) takes a high purity chemical dealer as an example. The interviewees are focused on the relationship between suppliers and customers in the green supply chain. In recent years, the abnormal changes of the earth's weather and climate make natural disasters spread frequently, making environmental issues. Attention has been paid to the introduction of green concepts to management issues and supply chain management.

However,the environmental impact and energy consumption of chemicals used by traditional industries and electronics manufacturers in the production process (Stephen, 1990).

As a contribution, how to balance the profit and environment of such supply chain has become the goal of this study. And the entire chemical supply chain structure is in suppliers, manufacturers, distributors, users and waste disposal industry. On the other hand, with the support of industrial settlements and strategic alliances, the supply chain structure can form a seal. Closed green supply chain mode. Such a green supply chain model will help chemical distributors to enhance their brand image and product value in the execution of their business, and will be beneficial to the operation and sales of the company. The concept of 3R introduced by the green supply chain model can effectively reduce the impact of its production and use process on the environment, and also reduce the cost and expense of the green supply chain, thus forming a positive loop.

5.2 Suggestion

Marketing and Business Strategies must be Time-dependent, Environmental, Technological, Industrial Structure, and Inter-Industry Competition. The adjustment of change is by no means invariable. In addition to developing new customers, business continuity is the first priority for customer satisfaction. The maintenance rate of degree and improvement. While attracting new customers, we must retain old customers. Promotion through customer retention rate.

The profit and growth of the enterprise will increase naturally. It is the marketing policy to satisfy the customer's demand and create useful value for the customer.

However, environmental issues often lead to many management conflicts and contradictions. We expect the green supply chain model of this study.

It can help to alleviate the conflict and contradiction between profit making and natural environment. It is also expected to be in industrial settlement and strategic alliance. Cooperation can jointly promote transformation and upgrading of regional industries to achieve sustainable development.

It is suggested that Shandong Jiangyuan Chemical Co, Ltd should be led by the general manager to strengthen the added value of the green supply chain to the customers through alignment and differentiation with the waste disposal industry, so as to enhance the competitiveness of the enterprise and integrate the existing marketing, business, research and development, quality control, warehousing and logistics resources with the environment, market changes and depth. Analysis and review of business and business strategies with technological evolution.

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