

Chapter 2

Literature Review

After studying concepts, theories and related research, the researcher determines the research guidelines as follows:

1. Concept of cold chain logistics
2. Theories of customer relationship Management
3. Service quality theory
4. Theories of customer satisfaction
5. Related research on service quality of cold chain logistics

Concept of Cold Chain Logistics

1. Overview of cold chain logistics

The birth of the cold chain is closely related to the social chemical industry's development, dating back to the invention of refrigerants in the first half of the 19th century, which established a theoretical basis for the development of the cold chain, and then in the early 20th century, the refrigerator was born under the increasingly urgent need for food preservation. After over 100 years of advancement, the cold chain system has been more and more perfect (Huang, 2007, p. 223).

As a low temperature system engineering, cold chain is not only to carry out the temperature control of the whole link, but also to coordinate between the various subjects in charge. In the entire cold chain process, any chain break in one link will lead to inefficiency and destruction of the entire link, and the quality of the cold chain depends on the level of cold chain control of the weakest link. The definition of cold chain is a logistics network that ensures the quality of goods according to the characteristics of commercial crystals and is in a low temperature state in the production and consumption process. (Wang, 2011, pp. 80-82, 84).

Based on the typical process of the cold chain, the cold chain is divided into these parts: the first part is cold at the production end and the sales end Chain, including origin pre-cooling, production and sales in a low temperature environment. The second part in the storage stage, set the cold chain temperature level suitable for the commodity and keep it constant, which can create higher time value. The third CRM capability in SMT usage and enterprise performance. The results show that both

institutional factors promote the use of smes, and their effects vary according to firm size, innovation ability, industry and market. Customer relationship management ability indirectly mediates the relationship between the use of smes and firm performance. (Florin, et al., 2019, pp. 563-575)

The study on customer relationship in China started from satisfaction management in the late 1980s. In recent years, with the Internet developing, domestic websites and consulting companies have accelerated the introduction and dissemination of the concept of customer relationship management, which has greatly shortened the gap in domestic research and application. To a certain extent, the Internet has played a vital part in the development of customer relationship management. On the whole, China's research achievements are still mainly concentrated after 2000, and the start and development are relatively late.

The specific evaluation index system of customer value is established to distinguish the groups of customers with different values, which has certain reference value and evaluation standard for enterprises to implement customer relationship management. This index system mainly emphasizes the contribution of sales volume and customers to the development potential of enterprises, so as to make a more comprehensive and effective application. (Ye, 2013, p. 725)

Based on the relationship and interaction between enterprise value and customer value, a value chain model is established, and the Angle of analysis is more comprehensive. From the analysis process, it is concluded that enterprises must analyze the value adding process of enterprises based on customer demand and from the perspective of customers, so that the realization process of customer value is more in line with the value goal of enterprises. At the same time, it is conducive to increasing customer perceived value in the process of realizing enterprise value, accurately satisfying customer transfer value experience, cultivating customer loyalty on the basis of improving customer satisfaction, and creating wealth in the benign interaction between enterprise value and customer value. (Hu, 2011, pp. 91-92)

According to the theory of customer life cycle, a four-stage model composed of investigation period, formation period, stable period and degradation period is proposed to analyze customer relationship management in detail, and part is in the transportation and distribution process to ensure that the quality of goods does not change due to spatial changes.

China's cold chain logistics first existed in the meat processing and export industry in the middle of the last century, and later experienced a. The development stagnated for a period of time, until the early stage of Reform and Opening up, the

State's emphasis on food safety issued related policies to promote this kind of logistics' development. In 2012, the General Administration of Quality Supervision, Inspection and Quarantine of China issued the corresponding definition of it, in which goods are in the specified temperature state in all aspects from production to sales. Logistics activities to ensure commercial crystal quality and reduce commodity losses (Wu & Tang, 2015, pp. 59-60)

By delaying the corrosion progress of microorganisms on cold chain products, we guarantee the quality of products. Secondly, the effect of temperature suitability of different products requires to consider. It can be concluded that the characteristics of cold chain logistics are:

First, the product timeliness requirements are high. Cold chain products are more sensitive to temperature, especially some fresh agricultural products, which have a shorter life cycle and need to be transported to the market through logistics in a shorter time to maintain higher crystal production quality (Shen, et al., 2005, pp. 671-676).

Second, the cold chain is expensive to put into operation.

The whole process of it needs the support of cold chain facilities and equipment, not only the initial investment cost is relatively high, including the procurement of refrigeration facilities and equipment and the construction of cold storage of these fixed assets investment, and for the normal operation of the entire logistics of cold chain also requires a large number of professional personnel for maintenance and maintenance. In the process of operation, real-time monitoring of temperature, humidity and gas is needed and corresponding intelligent sensor monitoring equipment is equipped, which also increases the cost of its operation to ensure the quality.

Third, high organization and coordination.

The link of it is long, according to the agricultural crystal cold chain logistics process, the raw materials need to be picked after the completion

In order to carry out the processes of origin pre-cooling, cold chain transportation, storage and sorting in warehousing and distribution centers, and terminal retail refrigeration, the coordination of various organizations should be maintained, unified and standardized operation procedures should be formulated, and the participants of the cold chain in the whole process should cooperate closely and share information timely to enhance the circulation efficiency of it. (Yang, et al., 2009, pp. 1-3).

Fourth, high operational risk.

Cold chain logistics improves people's quality of life, so that far away agricultural products break through the boundaries of space and time to thousands.

The kitchen table of tens of thousands of households has high requirements for the ability of that logistics operation and control. For one hand, its products are more sensitive to temperature, and temperature fluctuations will reduce the product quality and improve the loss of the product to a certain extent. Increase its circulation costs and security risks. On the other hand, the market value of products requiring a cold environment is more expensive than ordinary goods, and problems in the operation process will bring greater economic losses.

2. Research on the importance of cold chain logistics

The research of its industry in China is lagging behind, and there are few existing research results. At present, with the quick advancement of China's economy, the demand for meat products industry is also increasing, the relevant industrial chain is gradually adjusting and upgrading, and the majority of people are constantly improving in terms of consumer demand. These factors have promoted the continuous development of meat products processing enterprises, and the high-speed development of logistics technology and the gradual deepening of national strategies such as rural revitalization. The development level of the industry has gradually been a crucial factor affecting the introduction of processed meat products to consumers' tables.

Cold chain logistics technology began to be fully used and promoted in China's transportation industry in 2010, and this different technology category was used in the past. There are now research results related to the industry in China, and it is believed that China has a large population, a large base, and a large demand in production and logistics, so it provides a large living space and development potential for the development of this kind of food in the market. However, because the industry in China started relatively behind the time, in the use of technology, management and other aspects are not mature, the overall development level of its transport industry is still facing the initial stage of development, cannot fully meet the consumer demand proposed by consumers. For China, for the sake of achieving the leapfrog advancement of the industry, we must adhere to both production and this kind of logistics, explore and gradually establish a scientific and efficient industry system for it as an important development goal. With the passage of time, it is developing rapidly. (An, 2010, pp. 9-13)

It is inevitable for logistics enterprises to develop that if they want to become bigger and stronger. The development of it is very vital to the development of enterprises and is conducive to promoting economic development. (Wang, 2018)

People begin to notice more about food safety, and the logistics management and optimization of the food industry has always been an important research direction

for the future's development. With the cold chain logistics system gradually developing, the status quo of its management still needs further attention and optimization. (Wang, 2022, p. 667)

With the consumption level improving, people have required more about the safety and quality of fresh food. To meet the consumers' diverse needs for fresh food, it is necessary to construct that logistics better, which shows its importance. (Zhou, et al., 2022, pp. 76-78)

In addition to the above achievements, many scholars have discussed the significance of developing that logistics technology for food safety. It is proposed to strengthen the management, vigorously build and improve the product information traceability system, gradually promote its technological development, increase the publicity of its related knowledge, and fully protect its safety. (Yuan, et al., 2015, pp. 7-14)

Some scholars have proposed that the progress of its technology is an important prerequisite for fully guaranteeing the quality and safety of cold chain products, and that it plays a crucial role in the current social environment, and the use and promotion of this technology can fully guarantee the safety and quality of the products that need a low temperature. The development of this logistics has realized the rapid conversion of agricultural products from farmland to table, which is very helpful to the quality control of agricultural products. It is indicated that the logistics technology of cold chain has overcome the problems caused by the decay and deterioration of the cold chain food quality caused by the long distance and long time transportation in the past, and the promotion of this technology can fully guarantee the personalized requirements and conditions required for the cold chain food transportation, not only to ensure the quality of the product itself, but also to fully protect the vital interests of the operators themselves. (Yuan, 2018, pp. 167-169)

Concept of Customer Relationship Management

1. Basic Connotation

As for the definition of customer relationship management, because of the different perspectives and focuses of attention, the definition of it is also different. The scholars who first proposed this concept believe that customer relationship management refers to the all-round problem solving perspective provided by enterprises in order to improve their customer communication ability and maximize customer benefits. (Gartner Group, 1999, p. 399404)

Customer relationship management is a process management activity that must improve and systematize customer relationships in sales, marketing, customer service and product supply. (Hurwite Group, 2010, pp. 4-17)

Although scholars have different opinions on the definition of customer relationship management, in general, the concept of it can be summarized into the following meanings: first, it reflects the guiding ideology and development concept of new enterprise management, such as DL company in this paper is a new enterprise; second, it is an innovative enterprise management mode and operation mechanism; third, it is an innovative enterprise operation mechanism and management mode. Customer relationship management can be used in enterprise management with the help of information technology, which is not only a part of management activities, but also a collection of a series of methods and programs to achieve the goals of activities. In fact, this kind of management is the new leading city of the development of enterprise management theory, expanding a certain theoretical basis.

2. The role of customer relationship management on enterprises

The core competitiveness of enterprises can be reflected in the advantages of technology, quality, service and other aspects, which ultimately need to be purchased and evaluated by customers to generate relevant profits. Customer relationship management enables enterprises to timely understand the benefits and drawbacks of their own competitiveness, and improve satisfaction and loyalty of customers through the improvement of all aspects affecting competitiveness. Ultimately help enterprises improve their overall core competitiveness. The concept of it runs through the whole process of customer cognition. Effective customer relationship management must be based on a full understanding of customer loyalty, namely: customer characteristics description, customer value analysis, customer life cycle analysis, customer stickiness analysis. Customer loyalty analysis is to evaluate the daily behavior of customers, and enterprises guide business development according to the analysis, which plays a very important role in customer relationship management. Customers who are more loyal to the enterprise can bring better profits to the enterprise. (Meng, 2019, pp. 78-79)

Cultivating customer loyalty plays a vital role in enterprises:

1) Improve the economic benefits of enterprises

The higher the customer loyalty, the more recognized the enterprise products, the increased frequency of use, can bring a certain profit space to the enterprise.

2) Improve the value of customer information

Customers with high stickiness will pay more attention to the enterprise, and will put forward some opinions on the enterprise's products, which will play a

positive part in the operation of the enterprise. By optimizing the product, the enterprise can better improve the frequency of user use.

3) Improve the anti-risk ability of enterprises

For customers' favorite products, the rise or fall in price generally will not affect their use of the products, and these customers do not need to spend more marketing costs on it, as long as the enterprise can constantly optimize the product can maintain the relationship with these customers, to achieve the purpose of profit.

3. Relationship between customer relationship management and service quality

This management is service quality's foundation. Customers are the lifeblood of enterprise development, so whether it is small and medium-sized enterprises or large enterprises, how to do a good job in customer relations is very concerned. This system is based on the establishment of contact with each customer, through the contact with the customer to understand the different needs of customers, to satisfy customers' needs, so as to improve the efficiency of the enterprise, is the enterprise to do a good job in customer relations. The premise of customer care is to accurately classify and manage customers, understand the characteristics and needs of different customer groups, provide customers with appropriate service plans, and improve customer satisfaction. Customer Care before, during and after a transaction, customer attention leads to better customer loyalty, and the cost of maintaining loyal customers is much lower than the cost of acquiring new customers. Especially in recent years, with this kind of industry developing fast, the competition between enterprises has become more and more fierce, and there is little difference in specific logistics activities such as transportation and warehousing. Customers are more concerned about the experience in the process of using products, and expect to respond to the feedback problems. If you can better care about the needs of customers, then you can have better interaction with customers and improve the frequency of customer use of the product.

Customer specific cold chain logistics services, serving customers is a very key component, enterprises according to customer needs, further analysis of customer needs, so as to provide customers with better service, improve customer satisfaction, from all aspects including product packaging, transportation timeliness to meet customer needs, so as to enable customers to continue to use their own products. Provide guarantee for the development of enterprises that need it. (Xu, et al., 2016, pp. 2077-2084)

4. Research status of "Customer Relationship Management"

In the management field, customer Relationship Management (CRM) is one of the most concerned marketing and management strategies. In the era of customer-oriented marketing, early enterprise managers proposed that the survival of enterprises is based on customers, and then they analyzed the importance of customers to enterprises through empirical research. The role of social media technology (SMT) in enhancing CRM capabilities and improving company performance needs to be investigated. Starting from system theory and competence theory, they analyze the influence of customer compulsion pressure and competitor imitation pressure on smes' technology use. Secondly, we study the mediating role of CRM capability in SMT usage and enterprise performance. The results show that both institutional factors promote the use of smes, and their effects vary according to firm size, innovation ability, industry and market. Customer relationship management ability indirectly mediates the relationship between the use of smes and firm performance. (Florin, et al., 2019, pp. 563-575)

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satisfying customer transfer value experience, cultivating customer loyalty on the basis of improving customer satisfaction, and creating wealth in the benign interaction between enterprise value and customer value." (Hu, 2011, p. 912)

According to the theory of customer life cycle, a four-stage model composed of investigation period, formation period, stable period and degradation period is proposed to analyze customer relationship management in detail, and analyze the characteristics and characteristics of customers in each stage. In addition, the research on customer value has achieved certain results. (Wu & Tang, 2015, 59-60)

This cycle is divided into three stages, that is, the establishment, maintenance and recovery of customer relationships, and then each stage is divided into several specific stages according to certain standards, so that customers can better understand the needs of customers and demand trends, so that we can adjust the strategy according to the actual needs of customers." (Niu, 2012)

This paper puts forward the research on the value chain of customer relationship management, and analyzes the model in detail. The analysis shows that the products and services under this model can meet the individual needs of customers with unique aspects, so that enterprises can fully understand and understand customers, and then increase customer value. (Li, 2012)

Service Quality Theory

SERVQUAL stands for "Service Quality". SERVQUAL model is a tool to measure service quality, its five dimensions are tangibility, reliability, response, trust and empathy.

SERVQUAL theory, which was proposed by American marketers Parasuraman, Zeithaml and Berry in the late 1980s is on the basis of Total Quality Management (TQM). TQM theory raises a new service quality evaluation system of service industry, and its theoretical core is "service quality difference model", in other words, service quality relies on the difference between the service level perceived by users and the service level expected by users. The expectation of users is the premise of quality service, and the key to providing quality service is to surpass us. The model is $\text{Servqual score} = \text{actual score} - \text{expected score}$. SERVQUAL divides service quality into five levels: physical equipment, reliability, responsiveness, security and emotional investment. Each level is subdivided into several questions, and users must evaluate the expectation, actual perception and acceptable minimum value of each question through questionnaires.

The SERVQUAL model mainly consists of two aspects: one is to study the customer's expectation of the excellent enterprise in a service industry; The second

part measures how customers feel about a particular company in the industry, that is, the company being evaluated. The two scores were compared to arrive at a "gap score" for each. The lower the difference value, the higher the evaluation of service quality. The greater the gap between customers and expectations, the worse their evaluation of service quality. On the contrary, the greater the difference, the more unfavorable to the evaluation of service quality.

Model application

SERVQUAL model is used in the service industry widely to comprehend the service requirements and perceptions of the aiming customers, and to provide lots of methods to manage and measure service quality for enterprises. In the enterprise, SERVQUAL model is used to comprehend employees' perception of service quality, as a result, achieving the purpose of improving service. (Paranormal, et al., 1990)

Concept of Customer Satisfaction

Customer satisfaction is a concept in marketing management, which is manifested in two levels: from the individual point of view, customer satisfaction is the emotional response of customers to the consumption experience of products or services; From the perspective of enterprises, customer satisfaction is based on customer satisfaction to evaluate the overall level of service quality.

The characteristics of customer satisfaction are subjective, and customer satisfaction is closely related to customer values, education level, life experience and habits, and economic status. The result of customer satisfaction is subjective; Relative, when customers evaluate products or services, they will often compare with other similar products or services, and also compare with their previous similar experiences, so their evaluation is relative; Dynamic: With the changes of environment, time, technology, customers' own quality, economy and other factors, their expectations of products or services will also change, so their satisfaction with products or services will also change accordingly, and customer satisfaction shows constantly changing and dynamic characteristics. (Dai, et al., 2014, pp. 166-170)

Research on Cold Chain Logistics Service Quality

1. Logistics service quality concepts

With the economy developing, the status of logistics industry in the national economy continues to improve, experts and scholars notice more about the theoretical

study of logistics service quality, and the theoretical system is becoming more and more perfect. The quality of logistics service mainly includes two levels, the first level is the completion of basic logistics business and the quality of completion. The second level refers to the strategic quality that has an important impact on the logistics enterprises' future development. The quality of logistics service is the most important goal of logistics, to continuously improve the level of logistics service is imperative (Wang, 1995, p. 112).

The development of the theoretical system of logistics service quality is shown in the following table. With the theoretical system of logistics service quality developing, Perrault W.D. and Russ F.R. (1974) pointed out that logistics service quality should be delivered to the corresponding customers at the right time, place and price, with the right quality, goods and quantity. To satisfy customers' logistics needs. Lalonde, B. J., & Zinszer, P. H. (1976) believes that the concept of it based on marketing operation can meet customer requirements, ensure customer satisfaction and win praise from enterprises. Some experts fully consider customer factors, combine logistics and marketing into the traditional logistics service quality table, and build an evaluation scale with 26 indicators in three dimensions of quality, timeliness and availability.

2. Cold chain logistics service quality, customer satisfaction and customer relationship research

Many studies have concentrated on the relationship between service quality, customer satisfaction and customer relationship, laying a foundation for the research of the relationship between cold chain logistics service quality, customer satisfaction and customer relationship. By establishing a comprehensive model of service quality, some scholars have found the emotional mechanism between service quality and service price perception, word of mouth and repeated purchase intention. Some scholars believe that service quality, service recovery ability and product reputation have a aspiring influence on customer satisfaction and customer loyalty. The quality of logistics service is summarized into five dimensions: the corporate image of logistics enterprises, the timeliness of logistics services, the flexibility of logistics services, the professionalism of distribution personnel and the timely correction of errors. (Xie, 2016, pp. 123-127)

Related Research

Studying logistics service quality began in the 1970s, introducing product operation elements such as time and place from the perspective of logistics suppliers, and putting forward the 7Rs theory of logistics service quality, which was widely accepted at that time. It is believed that logistics providers complete logistics services by delivering goods to the right place, at the right price, in the right condition, at the right time, and accompanied by accurate commodity information. Affected by this, the most important concerns in the study of logistics service quality are the adequacy of goods, the on-time rate of order fulfillment and the rate of goods integrity during logistics transportation. (Perrault, et al., 1974, pp. 37-45)

1. With the deepening understanding of logistics service quality, scholars believe that logistics service should be aimed at serving customers and maximizing customer satisfaction, and relevant research should be based on the perspective of customer perception. (Lalonde, 1976, pp. 156-159) proposed a classic classification standard for logistics service quality, which specifically divided logistics service quality into physical commodity distribution service quality and customer marketing service quality from multiple dimensions such as personnel reliability, professionalism, timeliness, and commodity availability, laying a foundation for subsequent research on logistics service quality (Mentzer, et al., 1989, pp. 53-62).

2. Parasuramana, et al. (1985, pp. 41-50) proposed a SERVQUAL evaluation model according to the total quality management theory from five dimensions of tangibility, reliability, assurance, responsiveness and care and their subdivided 22 problem indicators, laying a foundation for future service quality evaluation in the service industry.

3. Mentzertr, et al. (1999, pp. 9-32) proposed a LSQ evaluation model with 25 indicators in 9 dimensions, including personnel communication quality, product quality, error processing quality, ordering process, order release quantity, timeliness, product accuracy, product integrity rate and information quality. Subsequent scholars proposed different LSQ evaluation models according to their own background in the logistics industry.

4. Zhou & Shi (2012, pp. 27-29, 34) analyzed the theoretical model of service quality of logistics enterprises based on SERVQUAL and LSQ models, determined the five dimensions of the evaluation index system including economy, tangibility, reactivity, collaboration and reliability, and screened out 16 indicators. The empirical study proves that this pattern is an efficient tool for service quality evaluation of logistics enterprises.

5. Based on the background of industrial integration, Wang (2016) believes that the evaluation index system of this kind of logistics service quality should cover four dimensions, including cold storage capacity, operation capacity, personnel communication ability and logistics information ability, and uses fuzzy comprehensive evaluation method to analyze the status quo of cold chain logistics.

6. Wang (2016) selected indicators based on four aspects, namely economic environment, logistics informatization, logistics demand and logistics supply, from a regional perspective to measure the logistics service capability of fresh agricultural products.

7. Zhao, et al. (2013, pp. 46-48) selected indicators from five aspects including transportation, warehousing, informatization, distribution and customer service from the perspective of agricultural product marketing, and evaluated the overall service quality of agricultural product logistics by using the commonly used analytic hierarchy process and fuzzy comprehensive evaluation method.

8. From the perspective of collaborative performance, Lin (2013, pp. 39-45) evaluated the service quality of that logistics under the agricultural and super connection mode, which attracted much attention, using the delivery timeliness, delivery accuracy, complaints rate and freshness of agricultural products and other dimensions of logistics services.

In summary, we can find that the construction of that logistics service quality system is mostly based on industry integration and regional perspectives, and there is relatively little investigation on the status quo and composition dimension of that logistics service quality from the perspective of customer relationship management. Some relevant theories and policies have emerged in the research on improving the service quality of that transportation, but a complete framework has not been established in the research on improving the service quality of cold chain logistics. Therefore, this paper decides to try to study the service quality of that logistics, and discusses the restrictive factors in the development of that logistics from the aspects of tangible facilities, reliability, responsiveness, guarantee and emotional input.