Research on the Evaluation of fresh product air cargo Service quality of HF Company based on AHP

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Abstract

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Under the background of the Internet + era and the increasingly developed and prosperous global logistics system, buying various fresh products through the Internet has gradually become the first choice of residents in various countries. In view of the particularity of fresh products, air transport has become the key link of fresh logistics. Improving the quality of fresh products air transport service has increasingly become an important topic for major airlines to strengthen the quality of service and improve the profit of cargo business. Under the background of the current air cargo industry, this paper takes the fresh air cargo service quality as the research object, analyzes the current development status and characteristics of fresh product air cargo through investigation, uses analytic hierarchy process to build the fresh product cargo service quality evaluation method system of aviation enterprises, and takes HF Company as the case. Based on the analysis of the development status and problems of the fresh product freight service of HF company, the service quality of the fresh product freight service is evaluated, and the countermeasures and suggestions for improving the service quality are put forward.

Based on the above research content, the main research conclusions of this paper are as follows:

Firstly, air fresh cargo service quality evaluation can be carried out from the dimensions of "reliability", "responsiveness", "assurance", "tangibility", "empathy" and "information". Second, the sub-item evaluation of fresh product cargo service quality of the case company shows that reliability, responsiveness and tangibility are the most important aspects in the evaluation of air fresh cargo service quality, while empathy is easily ignored.

Thirdly, the comprehensive evaluation on the service quality of the fresh product freight business of the case company shows that the improvement of service quality should focus on the following aspects: the safe arrival of the goods, delivery to the destination as agreed, convenient handling of freight procedures, notification within the preservation period, timely feedback and solution of online complaints, and double compensation for freight accidents. This is the case company fresh freight service quality improvement focus.

Fourthly, clarifying the fresh business direction, deepening the fresh service process and improving the fresh service performance in all dimensions are the aspects that HF company should focus on to improve the fresh freight service quality.

Key words
Fresh product；Air cargo；SERVQUAL；Case study

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1 Introduction

1.1 Research background

In recent years, with the improvement of people's living standards and the rapid development of e-commerce, fresh e-commerce trade has developed rapidly. "2021 China fresh e-commerce industry research report" shows that China's fresh retail market maintains steady growth, in 2020 China's fresh retail market scale exceeded 5 trillion yuan, fresh products as one of the basic consumer goods in China, with the increase of per capital disposable income and consumer spending, the development of the Internet of things and cold chain technology for the improvement of fresh transport provides conditions, It is expected that the fresh retail market will continue to grow in the future, and the scale of China's fresh retail market will reach 6.8 trillion yuan by 2025. Due to the special requirements of fresh product preservation, there are relatively few cold storage resources and cold storage transportation resources closely related to the development of fresh product logistics. Aviation has become an important form of fresh transportation and a key link of fresh logistics. Air transportation can greatly improve the circulation speed of fresh products, reduce circulation management costs, so that the freshness of fresh products in the market more competitive.

1.2 Research question and significance

Based on the evaluation of cargo service quality of fresh products in aviation enterprises, this paper makes a quantitative evaluation and analysis of cargo service quality of fresh products in HF company by combing relevant theories of cargo service quality of aviation enterprises and applying analytic hierarchy process (AHP) on the basis of establishing the evaluation index system of cargo service quality of fresh products in aviation enterprises. The research significance of relevant research conclusions is mainly reflected in the following two aspects:

Firstly, it provides some research support for the evaluation of fresh cargo service quality in the air cargo service industry. Nowadays, the aviation industry is facing extremely complex homogenous competition. Enterprise decision makers hope to improve the service quality and win the recognition of consumers by carrying out the evaluation of the cargo service quality of fresh products. They also hope to find the existing problems and deficiencies in the service process of enterprises by identifying benchmarking enterprises, sum up experience and improve the service quality. This paper is mainly to provide a comprehensive and reliable service quality evaluation system for the fresh product cargo of aviation enterprises, so that the fresh product service quality of enterprises has a quantitative model to rely on, and from all aspects to strengthen the fresh product cargo service quality management of enterprises.

Secondly, it provides reference for decision making for the improvement of freight service quality of fresh products in HF company. HF is an airline with the largest number of transport aircraft, the most developed route network and the largest annual passenger volume in China. The annual passenger volume of HF company ranks first in Asia and third in the world. Its fleet size ranks first in Asia and fourth in the world. HF is an airline with the largest number of flights, the densest route network and the largest annual passenger volume in China. It is also an airline with both passenger and cargo operations. In recent years, buying all kinds of fresh products through the Internet has gradually become the first choice of residents of various countries, and air transport has become the key link of fresh logistics. Therefore, the evaluation of fresh product service quality of HF company is carried out, and relevant research conclusions can provide decision-making reference for HF company to improve the service quality of fresh products, which has positive significance for improving the service quality of fresh products of HF company and developing freight business.

1.3 Research status of service quality at home and abroad

The concept of service quality was put forward and defined in the 1960s of last century, and has been recognized by some scholars. In the past 50 years, the theoretical research on service quality has been widely concerned by many scholars, and has become a relatively mature research content in the field of service marketing.

1.3.1 Domestic research status

Yongyu Chen and Tu Jiabin (2010) investigated 500 air cargo contractors in Taiwan and explored the correlation between service quality, customer satisfaction, relationship quality and customer loyalty. Service quality consists of two broad dimensions, including the actual result and the process of achieving the result. The quality of the actual result means that the service provider can satisfy the customer consistently, that is, to ensure the degree of customer satisfaction. The quality of the process is divided into two aspects: technology and perception. The former is the measurement index when the customer actually accepts the service, and the latter is the measurement index of the way of service delivery and service attitude.

Zhang Ke (2022) believes that improving the quality of logistics service can effectively improve the efficiency of logistics service, which is also the ratio of input and output. In the process of service, logistics enterprises need to simplify the service process, shorten the service time to the maximum extent, and effectively improve the service efficiency. Improve the quality of logistics service, help to improve the stability of logistics service, logistics service level tends to be standardized.

Zhang Changgen et al. (2002) proposed that logistics service quality mainly has five evaluation indexes, namely practicality, reliability, responsiveness, insurability and persistence. Ma Wensheng (2014) established a research model on the relationship between logistics service quality and consumer satisfaction, and divided logistics service quality into five dimensions: tangibility, responsiveness, empathy, assurance and reliability. Kwon Chunni et al. (2018) argued that currently cross-border logistics is faced with problems such as high transportation costs and tariffs, long transportation time, irregular channels, and ineffective protection of personal information security, and proposed that the quality of logistics services should be evaluated in terms of timeliness, security, reliability, and economy.

Dai Ying et al. (2021) studied the customer satisfaction of cross-border e-commerce logistics quality from five dimensions: economy, responsiveness, flexibility, reliability and empathy. Zhang Yanqi (2021) analyzed relevant studies on cross-border logistics and found that most studies divided the service quality of cross-border logistics into four factors: economy, timeliness, security and empathy.

1.3.2 Foreign research status

Gronroos (1982) proposed the concept of perceived service quality for the first time, believing that customers can only get the result after comparing the service they actually perceive with the service they expect, namely, service quality. This point of view points out that service quality can not be controlled by managers, it must be based on the expectations and needs of customers. More importantly, service quality is not an objective decision of quality, but customer subjective perception. Many scholars agree with this view, which provides a basic theoretical framework for the theoretical and business circles to understand the characteristics of services.

Parasuraman (1985) pointed out that customers' evaluation of service quality can reflect the degree of difference between customers' perception and expectation, and indicated that the service perceived by customers is not only the service itself, but also the process of providing the service. In other words, service quality is not one-dimensional but multi-dimensional. The service quality is defined by the difference between the expected service and the actual perception of the service after receiving the service, which is called perceived service quality.

Garvin (1984) believed that service quality could not be evaluated objectively, and its quality was determined subjectively by consumers. After Gronroos, through exploratory qualitative investigation, PZB (Parasuraman etal. 1985) studied the different views of managers and customers on service quality. They developed a model which shows that suppliers and customers

have different perceptions of customer service, and the actual service quality perception is lower than the desired level of service quality.

1.4 Research status of service quality evaluation at home and abroad

1.4.1 Domestic research status

Professor Wang Zhitai put forward four indicators to measure the quality of logistics services, including time, cost, quantity and quality. Tian Yu (2001) believed that logistics service quality could be measured from the perspectives of internal customers and external customers. Zhang Changgen and Zheng Jinzhong (2002) believe that there are five main indexes to evaluate logistics service quality, namely, practicality, reliability, responsiveness, insurability and persistence. Zhou Hongchun (2004) divided the third-party service quality indicators into technical indicators and process indicators. Yao Liang pointed out that logistics service quality should be evaluated from three aspects: efficiency, time and safety.

Zheng Bing and Jin Yufang et al. (2007) constructed a 7-dimensional evaluation index system of Chinese local logistics service quality, including time quality, order fulfillment quality, personnel communication quality, good quality, error handling quality, flexibility and convenience. From the perspective of customers, logistics enterprises and the communication between customers and logistics enterprises, Xu Jian and Liu Jianfeng et al. (2005) divided the index system into three parts: service quality performance index, service quality process index and service quality ability index. Domestic research on logistics service quality star mainly focuses on supply chain logistics, e-commerce logistics, port logistics, crowdsourcing logistics and other industrial logistics fields.

Qin Xuelian (2018) et al. pointed out that supply chain logistics has the characteristics of global, complex, dynamic and interactive. E-commerce logistics, as a gradually emerging logistics mode, involves many aspects, including fresh logistics, urban logistics, online shopping logistics and so on. In addition, cold chain logistics, port logistics and crowdsourcing logistics are also the focus of research on domestic logistics service quality in recent years.

Based on the special conditions and equipment needed by cold chain logistics of agricultural products, Song Bao 'e et al. (2016) established an index system that can fully reflect the characteristics of agricultural logistics environment, facilities and equipment, operation process and personnel quality. The weight of each index was determined by triangular fuzzy analytic hierarchy process, and the quality safety evaluation model of cold chain logistics of agricultural products was constructed by fuzzy comprehensive evaluation method. Wang Lei et al. (2013) constructed a modern port service quality evaluation index system and took Rizhao Port as an example to comprehensively evaluate its logistics service quality.

Jiang Yan et al. (2015) introduced the catastrophe progression method into the crowdsourcing logistics service quality evaluation, and built a crowdsourcing logistics service quality evaluation model that included 20 evaluation indexes from five dimensions of responsiveness, convenience, safety, reliability and assurance. In addition, Meituan crowdsourcing platform and Hummingbird Jipai crowdsourcing platform were selected for empirical analysis, and then countermeasures and suggestions were put forward to improve and enhance the quality star of crowdsourcing logistics service from the dimension and index element level.

1.4.2 Foreign research status

Service quality was proposed by Parasuraman et al. (1988), which was divided into five dimensions in the SERVQUAL scale: tangibility, assurance, reliability, empathy and responsiveness. Thus it can be seen that the service quality measurement method attempts to measure the difference between the customer perception and the various attributes of service provided to the customer.

Mentzer et al. (2001) refer to the Service that connects physically separated goods, customers and suppliers as Logistics Service Quality (LSQ). Logistics service quality LSQ is divided into three different stages, including personnel communication, goods, goods quality; 9 different dimensions, such as personnel communication quality, order release quantity, information quality, ordering process, accuracy rate of goods, good condition, quality star, error processing, timeliness.

Saura et al. (2008) believe that logistics research focuses on its ability to provide quality services and generate greater satisfaction with the services provided. Kersten et al. (2010) believe that logistics service providers should pay more attention to quality management, and suppliers should focus on service potential and service process to improve quality star (1%). Thai(2013) built a conceptual model and conducted empirical tests on the definition of the concept of logistics service quality and its related dimensions. The research results show that customer-centered quality is considered to be the most critical factor to improve the perception of LSQ.

Lai Youwei et al. (2014) proposed that the transaction volume of multiple cross-border e-commerce platforms keeps rising, but they are still not perfect in cross-border payment, foreign exchange settlement, cargo customs clearance and logistics, which also affects the development of the platforms. Among them, the low quality of logistics service is one of the main obstacles affecting their development.

In his research on logistics service quality, scholar Gomenison (1991) pointed out that the service quality model of four factors, namely design, relationship, delivery and production, is an important symbol of service quality. In the same year, based on the model of Bolton et al., a multi-stage

model of quality and value evaluation was established, which laid a solid foundation for accurately evaluating service quality. In his published works, Kim · Parker (1995) pointed out that service perception, service expectation, customer satisfaction, corporate image and service value are all factors influencing air cargo service. Then, he established an analysis model through the analysis of these factors, and then summarized the previous experience on the basis of this model. At the same time, it also adds the analysis of behavior intention, and expounds the quality of service from many angles.

1.5 Research status of aviation service quality evaluation at home and abroad

To sum up, the main research content has three overlapping fields: the first is the research on air cargo, the second is the research on airport service quality, and the third is the research on the integration of air cargo service quality.

1.5.1 Domestic research status

He Tao (2002) made a comparative analysis. He believed that aviation logistics and traditional logistics have strong similarities, but aviation logistics takes aircraft as the main means of transportation and has greatly improved transportation efficiency. Meanwhile, aviation logistics has a set of strict management system, which can maximize customer satisfaction.

Li Jie (2003) expanded the research horizon and believed that aviation logistics is an organized and planned integration. In addition to the use of aircraft as a means of transportation, successful aviation logistics also needs the support of ground infrastructure, information command technology, extensive business chain, etc., organic cooperation in many aspects, seizing market opportunities and focusing on customers. In order to make aviation logistics better development of its personalized.

Qin Zhanxin (2004) studied aviation logistics from the perspective of economics. He believed that aviation logistics integrated the advantages of scale economy, scope economy and network economy. Rong Zhaohe took transport logistics as an example to define network economy, that is, transport enterprises form a network management under effective organization and coordination, and make use of economies of scale and scope to continuously reduce unit costs under the condition of integrating various resources, which is embodied in the density of service and the coverage of network.

Zhu Ling (2005) made a breakthrough in the study of aviation logistics. After analysis, he believed that the biggest difference between aviation logistics and traditional logistics was the difference in

transportation or storage methods. Aviation logistics could undertake a wider range of businesses, such as emergency transportation tasks.

In her published paper, Huang Wen (2013) took the service quality as the starting point, focused on the literature related to the evaluation and improvement strategies of air cargo service quality, summarized the relevant theoretical review and previous research results, and conducted an empirical analysis under the new economic environment, taking C Airlines as an example, and discussed the key factors affecting its air cargo service quality. A model of service quality improvement is established, and the theory of service quality management is applied to air freight companies. This paper hopes to provide theoretical and practical guidance for other Chinese air freight companies to establish and operate cargo service quality management system.

Wu Mengshi (2014) studied the airport service quality based on customer satisfaction and established the corresponding model. With the help of model results such as the path coefficient graph and customer satisfaction index of the airport service quality evaluation model, she analyzed the weak links in the airport service quality and drew the following conclusions: To improve airport service quality and passenger satisfaction, efforts should be made in the aspects of corporate image and perceived quality, especially passenger responsiveness and empathy. Finally, the sustainable improvement strategy of service quality of Nanjing Lukou International Airport is proposed based on ISO9000 quality management method.

1.5.2 Foreign research status

Lester (2011) pointed out in his published work that the improvement of air cargo service quality also depends on other factors. Therefore, in establishing a good model, he regarded some other factors, such as whether the service network is perfect, whether the personnel quality is good, whether the new service concept is introduced, as important factors affecting the service quality. And the comprehensive analysis from these aspects has laid a solid foundation for the development of aviation service industry.

In his published work, Paul Batz (2013) established various index models through computer simulation, and on the basis of these models, conducted in-depth analysis on the factors affecting the quality of air cargo service, and pointed out that the transfer time is the most fundamental factor affecting the efficiency of cargo service. In order to measure the service quality of airlines, Truitt and Haynes took boarding process, visa transfer convenience, baggage handling, punctuality, seat comfort, food and beverage quality, and customer complaint handling as service quality measurement criteria, and found that service expectation has a significant impact on perceived service quality. B. Bowen and D. Hadley measure air service quality using on-time arrival, mishandled baggage, denied boarding, reservations, ticketing and boarding problems, fares, refunds, customer service, advertising, frequent flier programs, aviation safety and other criteria. With the deepening of the research, scholars' evaluation of aviation service quality is no longer limited to the division of dimensions, but puts the research perspective in the cross-cultural background.

In 2000, Sultan and MC Simpson Jr applied SERVQUAL model to the measurement of air service quality under international background to determine whether customers' expectations and perceptions of air service quality were different due to nationality differences. After empirical analysis, SERVQUAL was considered The applicability of the model should be improved with different background environment. MA Robledo added the customer service dimension in addition to the five dimensions of tangibility, reliability, responsiveness, assurance and empathy. After empirical study on the service quality of three airlines, Ma Robledo proposed that understanding customer expectations is a prerequisite for providing quality service and proposed a model for managing customer expectations.

In 2002, Chang and Yeh constructed five dimensions, namely comfort, staff, reliability, convenience and accident handling. Based on questionnaire survey, they adopted fuzzy multi-attribute analysis method to measure Taiwan passengers' perception of aviation service quality, so as to measure aviation service quality. Chang added the in-flight meal dimension to the original five dimensions of SERVQUAL scale to measure aviation service quality, and found through comparative study that the SERVPERF scale has more advantages than the SERVQUAL scale in the reliability and validity of customer satisfaction measurement.

1.6 Main research content

Under the background of the current air cargo industry, this paper takes the fresh air cargo service quality as the research object, analyzes the current development status and characteristics of fresh product air cargo through investigation, uses analytic hierarchy process to build the fresh product cargo service quality evaluation method system of aviation enterprises, and takes HF Company as the case. Based on the analysis of the development status and problems of the fresh product freight service of HF company, the service quality of the fresh product freight service is evaluated, and the countermeasures and suggestions for improving the service quality are put forward.

1.7 Research ideas

1) Conduct field investigation and questionnaire survey on HF company to collect data, and use the network to search relevant information about fresh product air cargo of HF company.

2) Make full use of domestic and foreign scholars' research examples and results on fresh product air cargo, analyze and summarize research methods.

3) Analyze the current situation of fresh product air cargo of HF Company, study the existing problems, and put forward reasonable suggestions by applying the content learned in the courses of air cargo, procurement management, logistics and other courses and relevant principles.

1.8 Research methods

1) Literature research method. By reading and sorting out the literature related to new retail and instant distribution at home and abroad in recent years, the theoretical knowledge is studied, and the research results of scholars are summarized and analyzed, which provides a theoretical basis for optimizing the air cargo of fresh products of HF Company.

2) Questionnaire survey. The questionnaire was issued to understand customers' consumption habits and satisfaction in choosing fresh product air transport, and the analysis and collation of survey data provided a basis for determining the factors influencing enterprises' choice of fresh

product air transport, and at the same time provided support for optimizing the direction of fresh product air transport of HF Company.

3) Case analysis. Taking HF Company as an example, this paper studies the evaluation of air cargo service quality of fresh products based on analytic Hierarchy process.

1.9 Research structure

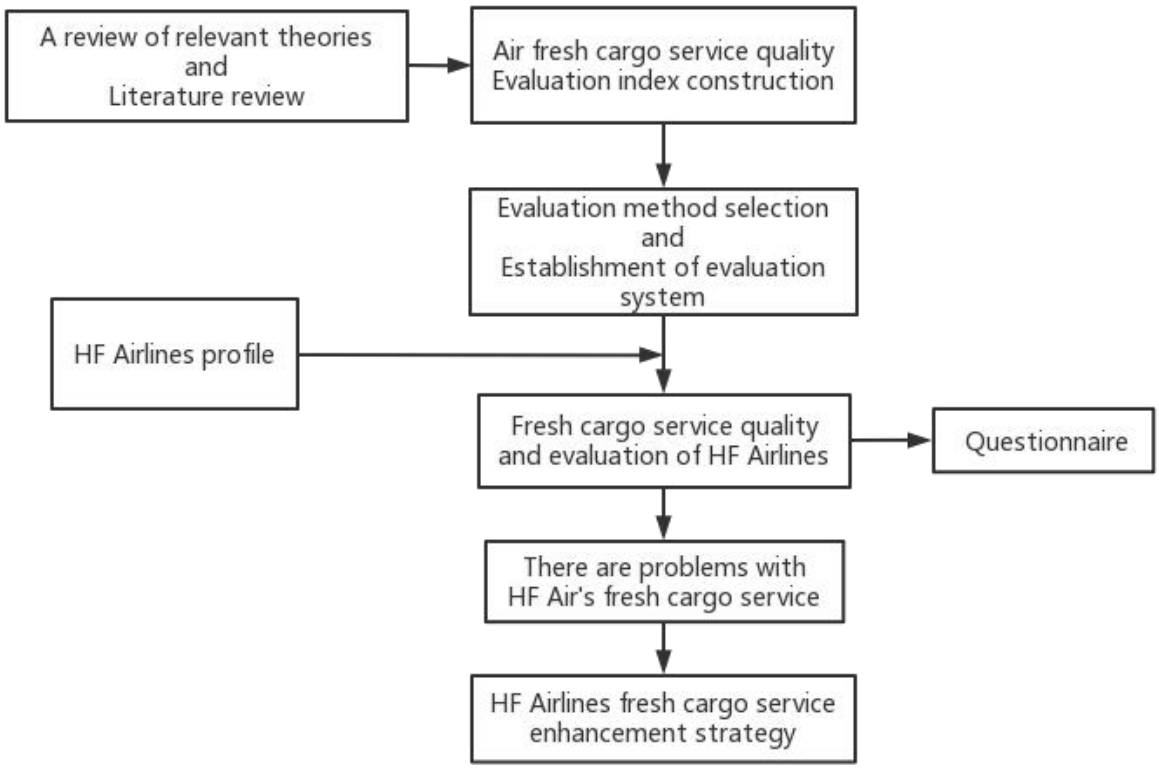

Figure1-1 Research structure of This Study

2 A review of related concepts and theories

2.1 The concept of fresh products and the basic characteristics of fresh product logistics

2.1.1 Basic concepts of fresh products

The concept of fresh products originated from foreign retail enterprises. As the name implies, it is the products that have not been further processed, but have been packaged and processed for the convenience of transportation and storage, such as seafood, raw meat, vegetables, fruits and so on. This kind of product is easy to deteriorate, so it needs to be frozen, refrigerated and other ways to preserve, at the same time, it needs a fast mode of transportation to the destination, to meet the needs of customers. In the actual daily operation, many sellers put it in the same category as other food items, such as DAIRY products, frozen and refrigerated foods, bulk cereals, candied confectionery, etc. Fresh products transported by air mainly fall into six categories: meat food, raw materials of fruits and vegetables, raw materials of rice, noodles, grain and oil, dry aquatic goods, seafood (river fresh) and frozen products.

In summary, aviation fresh products have the following characteristics:

First, it puts forward certain requirements on preservation, because the product deteriorates quickly, so it needs to take a special way to store; And in the process of transportation, but also to consider how to place, how to ensure the arrival of the specified time, etc.

Secondly, it puts forward certain requirements on the transportation time. The product cannot increase the transportation time without limit, but should arrive at the destination within the specified time, so as to ensure that the product can better meet the requirements of customers.

Third, the product packaging also put forward requirements, because the product quality requirements are higher, so the product should be packaged through some provisions of packaging, in order to ensure the quality of the product.

2.1.2 The basic characteristics of fresh product logistics

Because fresh cold chain logistics is different from other logistics modes, plus fresh products themselves are also perishable, so the logistics and transportation of fresh products obviously has different characteristics from general logistics, which are basically reflected in the following aspects:

First, the focus of fresh product logistics is to ensure the quality of products. A major customer of fresh products freight service is fresh e-commerce enterprises. Compared with buying a product in a physical store, consumers often cannot see the real thing when they buy a product on the

Internet. When they buy a product for the first time, they decide whether to buy it or not only through the description of the product, so it is extremely important for consumers to get their first experience. From the point of view of the supply of the whole product, through the establishment of fresh products management system, can make the quality of all kinds of products in a controllable state, and timely response to it, so that fresh products will be trusted by consumers, and let them rest assured to buy. The life cycle of fresh products is obviously shorter than that of other products, so in this case, the storage and preservation of products from the purchase to the transportation process have put forward new requirements, only in the situation of personalized demand to do a good job of product preservation work, can make the fresh products market increasingly mature and perfect.

Second, it is sensitive to the cost and timeliness of logistics itself. All products have to go through logistics transportation, to ensure profitability, it is necessary to strictly control logistics costs. Although the management cost of fresh product logistics is much lower than that of other products, more expenditure is needed to ensure the normal operation of the cold chain system. Quite a few airlines do not establish their own logistics, but introduce third-party logistics, so the cost of third-party logistics should be controlled. How to ensure product quality and reduce the cost of fresh logistics to the most reasonable limit is the focus of current aviation enterprises. Many fresh products are easily spoiled, so the timeliness of logistics distribution is relatively strong, requiring the whole work to be fast and timely, and not so that consumers spend too much or unnecessary expenses, in order to ensure that customers have a higher satisfaction and a better sense of experience. Nowadays, the customers of airline fresh products are mainly office workers, belonging to the upper-middle income group, and reasonable charge is one of the criteria to judge the service quality. In addition, their receiving time is also limited to a certain extent, which puts forward higher requirements for product logistics and distribution. Many e-commerce enterprises have implemented intra-city distribution, and a considerable part of products can be delivered to customers the next day, ensuring the delivery service.

Third, the logistics technology and equipment put forward higher requirements. Packaging and transportation and related technologies will have a direct impact on the quality of fresh products. Nowadays, many fresh products contain more water, and the preservation time is not long, so the logistics packaging and other supporting technology put forward higher requirements. Therefore, the logistics equipment used to keep fresh and refrigerate is also an extremely important link. But to maintain the operation and updating of equipment requires a certain amount of capital and skilled technical workers, also because of this, resulting in the air logistics of fresh products to increase the difficulty. Fourth, fresh products to ensure safe transportation, safe transportation is mainly to ensure the quality of the product itself, many fresh products in the process of

transportation lead to deterioration, or can not keep up with the needs of customers, which will affect the production and sales of products.

2.2 The concept and characteristics of service quality

Service is a kind of intangible commodity, because it can not be materialized, so people need to personally feel, or through other channels of publicity to evaluate it. The evaluation of commodity quality needs to combine its practicability and service. Only when both aspects can meet the needs of customers, can it be regarded as high-quality commodity. As a kind of commodity or a part of commodity, the quality of service must be paid attention to.

Although service is a kind of commodity, but because of the different form, it has its special form of expression, and the quality evaluation content of tangible goods is slightly different. Service quality is the sum of features of satisfaction and demand, the degree to which the service provided can satisfy the object served, and the evaluation of service providers or service consumers on the satisfaction of the service they provide or consume. Measuring the level of service quality has a great relationship with customers, such as the degree of customer perception, customer maturity, customer expectations, if the whole process of service in line with customers' thoughts or expectations, then customers will have a high evaluation of it. (Xu xinjian 2009)

The characteristics of quality of service are:

1) Efficacy: service quality must meet certain needs of customers, so as to achieve its efficacy, otherwise it will lose the necessity of existence.

2) Low cost nature: Generally, customers do not get the service for free, they need to pay corresponding fees. The low cost of service quality is to provide the most cost-effective service.

3) Security: In the whole process of providing services, the goods of customers should be protected from loss. Firstly, the security of the goods entity should be protected. The property and personal safety of customers should not be endangered because of the services of the enterprise. Secondly, to ensure that the customer spirit is not hurt, not because of the service let the customer in anxiety and fear.

4) Efficiency: high-quality services need to be comprehensive. In addition to perfect service content, it is also necessary to grasp the timing, to ensure that customers' goods can reach the designated place on time and quickly, so as to save the transaction time for customers.

5) Comfort: the quality of service in addition to the efficacy, safety, cost and time to meet the needs of customers, but also need to surprise, so that the service and customer workflow fit, so that the whole service process is full of comfort.

6) Civilization: the service should not only meet the business needs of customers, but also provide them with a harmonious communication environment, so that customers can feel respected and valued. When the service meets these conditions, it reflects its civilization.(Li xin & Yu bo 2004)

2.3 Service quality evaluation method and model

2.3.1 Service quality evaluation method

The intangibility of service quality, the indivisibility of production and consumption, the heterogeneity, the non-storage and the centrality of people make the method appear particularly important in the evaluation process of service quality. However, there has never been a unified method for service quality, not only because scholars cannot reach an agreement on this, but also because the evaluation methods of service quality have their own emphasis and advantages and disadvantages. For the service quality evaluation of fresh products, because its customer base attaches particular importance to individuation and safety, it is necessary to establish a more perfect evaluation system to provide support. Before establishing the system, we need to subdivide the method, namely, the evaluation method considered from the customer side and the evaluation method considered from the enterprise perspective. When selecting the evaluation method, it is best to improve it from the perspective of customers. At present, there are two main mainstream methods:

1) SERVQUAL

The method began in 1988, and the PZB proposed, mainly with customer's feeling. The scholar puts forward the theory of quality related to service, and establishes a very perfect investigation system. See figure 2-1.

Tangible service refers to the service we can perceive through our own feelings. The impact of this type of service on service quality can be reflected in the following aspects, for example: First, the use of advanced science and technology to improve transport services can greatly improve transport efficiency and save time; The second is to use professional handling tools in freight services to avoid damage to goods caused by handling, protect the integrity of goods, and enhance the goodwill of customers. This kind of service can also make customers directly feel that

the enterprise can use its own characteristics to show its own capabilities and achieve the purpose of improving its corporate image.

Responsiveness means that service personnel actively provide help to customers and can help customers solve problems in a targeted way.When problems arise, they can be solved in time.

Reliability refers to the reliability of the service, that is, whether the service provider can provide real and reliable service for customers. This kind of Service to customers can be practically perceived, and it is also the main factor affecting customer evaluation of enterprise service quality.

The guarantee is that the attitude of service personnel in the service directly becomes the standard for customers to judge the service quality of enterprises. If the service staff has this kind of characteristics, the more it can meet the needs of customers, the more it can enhance the confidence of customers in the enterprise, so that customers are willing to enjoy the service of the enterprise, and help the enterprise to get more customer groups.

Empathy means that enterprises can provide targeted services to customers according to their actual needs, so as to make customers better. All requirements can be met to enhance the customer's goodwill.

In practice, the questionnaire is prepared according to the contents listed in the figure above, and the form of assessment is professional assessment. Customer expectations and feelings are respectively investigated. The difference between the two data is the service quality score (Qi=Pi - Ei). We can determine the overall service quality according to the following formula.

$$\mathrm{SQ} = \frac{1}{22}\sum_{\mathrm{i}=1}^{22}(\mathrm{Pi} - \mathrm{Ei}) \tag{2-1}$$

SQ-- overall score of service quality;

Pi-- perceived service quality score of question i;

Ei-- Expected service quality score for question i.

This evaluation method focuses on the self-feeling of customers and calculates the service quality they feel. Based on the calculation, the difference between customers' expectations and real feelings is found, so as to obtain the final service standards of enterprises. Therefore, through this evaluation method, the statistical data can be calculated in detail, so as to understand the real ideas of customers and get the service level of enterprises.

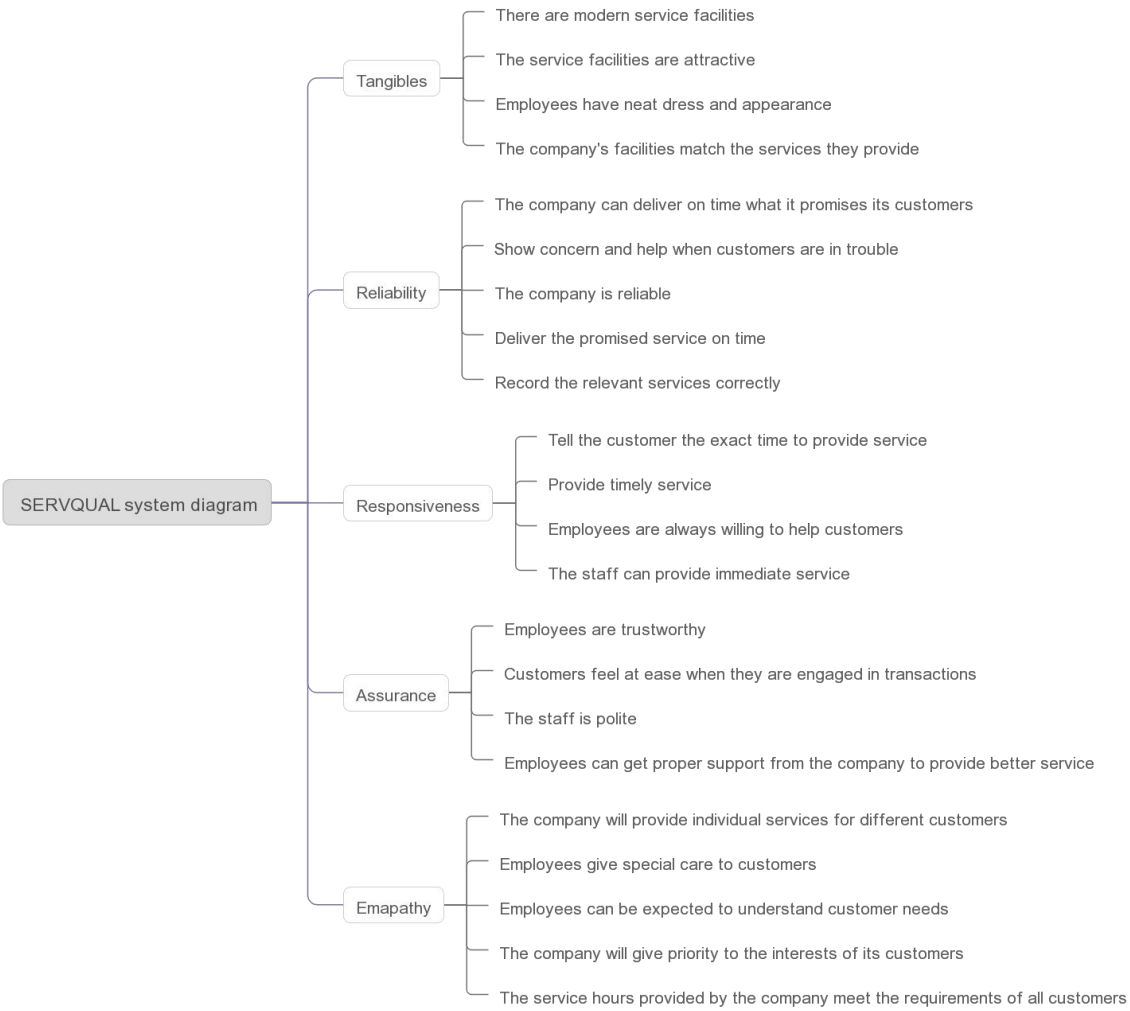

Figure 2-1: SERVQUAL architecture diagram

PZB is also constantly revising this evaluation method, such as further subdividing the indicators contained in the original evaluation method to make the contents contained more specific, and changing the form of the question so that customers can accept it more easily. This revised evaluation method is more perfect than the original method. In addition, the PZB also emphasizes the following points:

a. This evaluation method has no industry limitations, but in order to ensure that it can adapt to the specific needs of different industries, the investigation content should be adjusted according to specific content during application.

b. When exploring different types of enterprises, the dimensions can be adjusted according to the actual research.

2) SERVPERF evaluation method

In the practice of service quality evaluation, researchers gradually found that expected value and sensory value are two factors to measure. There are certain defects in the service level of enterprises: customers will treat the service quality of enterprises after receiving a service. Quantity produces a concept, this concept is constantly changing, if according to the above calculation method to calculate the service quality of the enterprise. Quantity level, there may be the possibility of double calculation, resulting in the calculated results can not truly reflect the reality. For these cases, Cronin and Taylor proposed a new evaluation method, SERVPERF method.

The SERVPERF method is the performance - aware service quality measurement method. The biggest difference between SERVQUAL and Servqual is that it does not adopt the difference analysis method, but directly measures the performance of customers in the process of perceived service. The SERVPERF method still adopts five factors and 22 indexes to carry on the inheritance and development of SERVQUAL, but it is superior to SERVQUAL in terms of reliability and validity, and the index system is simple and the model application is convenient. However, SERVPERF is not superior to SERVQUAL in every respect, so for different industries or enterprises, according to The most important thing is to choose the appropriate service quality evaluation method.

2.3.2 Service quality evaluation model

Based on the previous introduction, we have a general understanding of the connotation and characteristics of the quality of service. The following is a specific description from the aspect of the quality of service model. Domestic and foreign scholars have done a lot of research on service quality models, which are currently recognized as follows: the service quality model established by Grous through the study of customer perception and the five gap model of PZB. The following two evaluation models are introduced in detail.

(1) Grolus Customer perceived Service Quality Model

In 1984, Grolus proposed the customer perceived service quality model, which he established from two aspects, namely technical quality and functional quality. With the development of the service industry, after 2000, Grolus adjusted his service quality model according to the actual situation and added the corporate image into the model. The specific process is shown in Figure 2-2. We can find the relationship between traditional sales service and modern service quality concept. For example, every customer will have an expectation for the product before they get it. They will compare the product with the expectation. If it exceeds the expectation, they will affirm the product quality; if it is lower than the expectation, they will feel bad even if the product quality is no problem.

Although Grolus has long argued that there are clearly levels of customer perception that are not just the result of a single transaction. This can be found in the second edition of Grolus' book Service Management and Marketing. There are some relevant contents in the book, and the chapter on relationship management reflected in the subtitle occupies a large amount of space. In fact, the relationship between relationship management and marketing is the main line of Service Management and Marketing. The 1992 edition of Service Management and Marketing has fewer chapters on relationship management. This change indicates that Grolus has transformed from the initial service contact to two levels in terms of the composition and connotation of customer perceived service quality management, namely "service contact" and "long-term relationship". But it is a pity that Grolus did not delve into this question again.

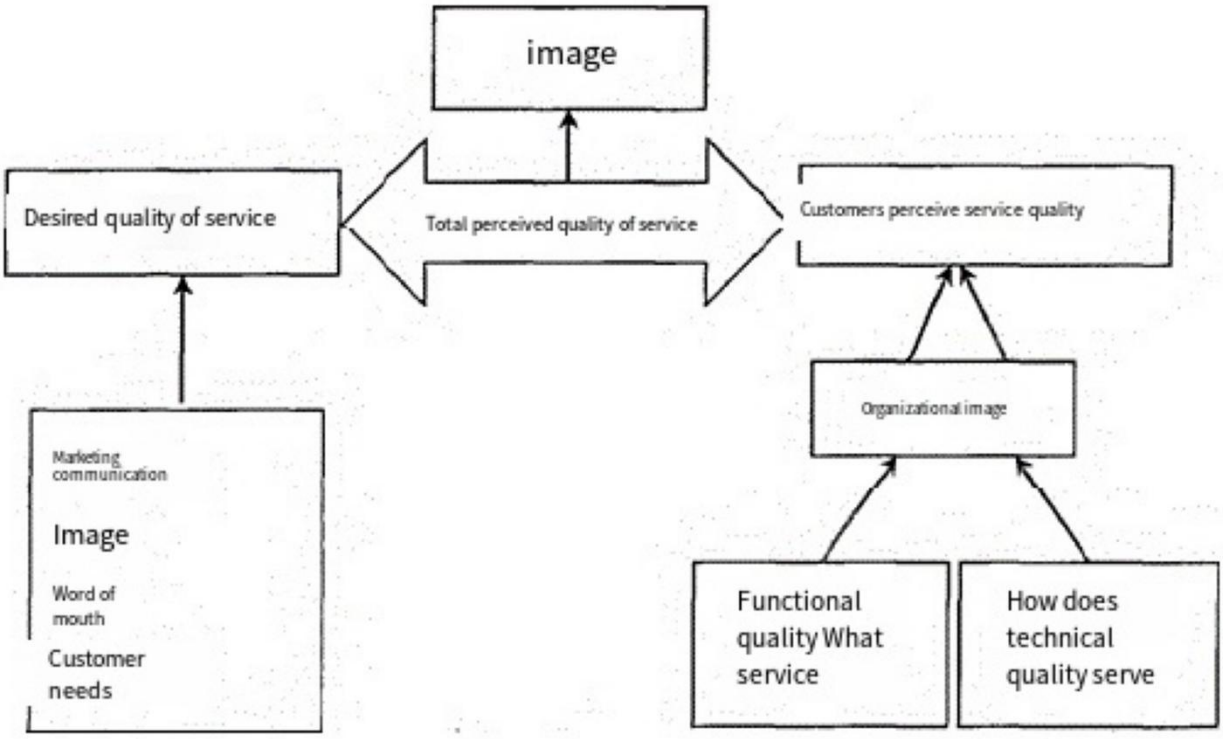

Figure 2-2: Grolus customer perceived Service quality model

Source: Grolus, Service Quality and Perception, 1982

(2) PZB Five Gap Model

In 1985, PZB followed Grolus and proposed the gap model. He studied service quality in different ranges of customer perception. The general process of the model is shown in Figure 2-3. As shown in the figure, after analyzing the four gaps, the gap between customer perception and

customer expectation is finally obtained, which is designated as gap 5. From 1 to 5, the gap is progressive with customer perception. Among them, gap 1 is the distance between customer expectations and enterprise management. Generally speaking, management has strict control over products and has relatively little contact with customers, so the closeness between them is poor and the distance is relatively large. Managers can go deep into the masses, understand the real needs of customers and market changes, communicate with customers and contact more, shorten the gap with customer service expectations. Gap 2 believes that managers do not take customers' service expectations seriously and fail to quantify them into service standards of the enterprise, thus reducing customer satisfaction.

The reason for this is that management wants to close the gap immediately and does not connect expectations to service quality from the source of management. Gap 3 refers to the relationship between employees and customers, that is, the effect achieved by employees when providing services. Narrowing the gap 3 can be achieved through training, strengthening management, improving the quality of employees and other means. Gap 4 represents the difference between the expected value and the actual value of the service provided by the enterprise, that is, the ability of the enterprise to deliver on its promise. The main reason for this gap is that enterprises overestimate their own service level, or fail to effectively deliver service objectives to front-line employees. Narrowing the gap can be carried out from two aspects: one is to improve the service awareness of employees; the other is that enterprises should commit to external service standards according to the actual situation.

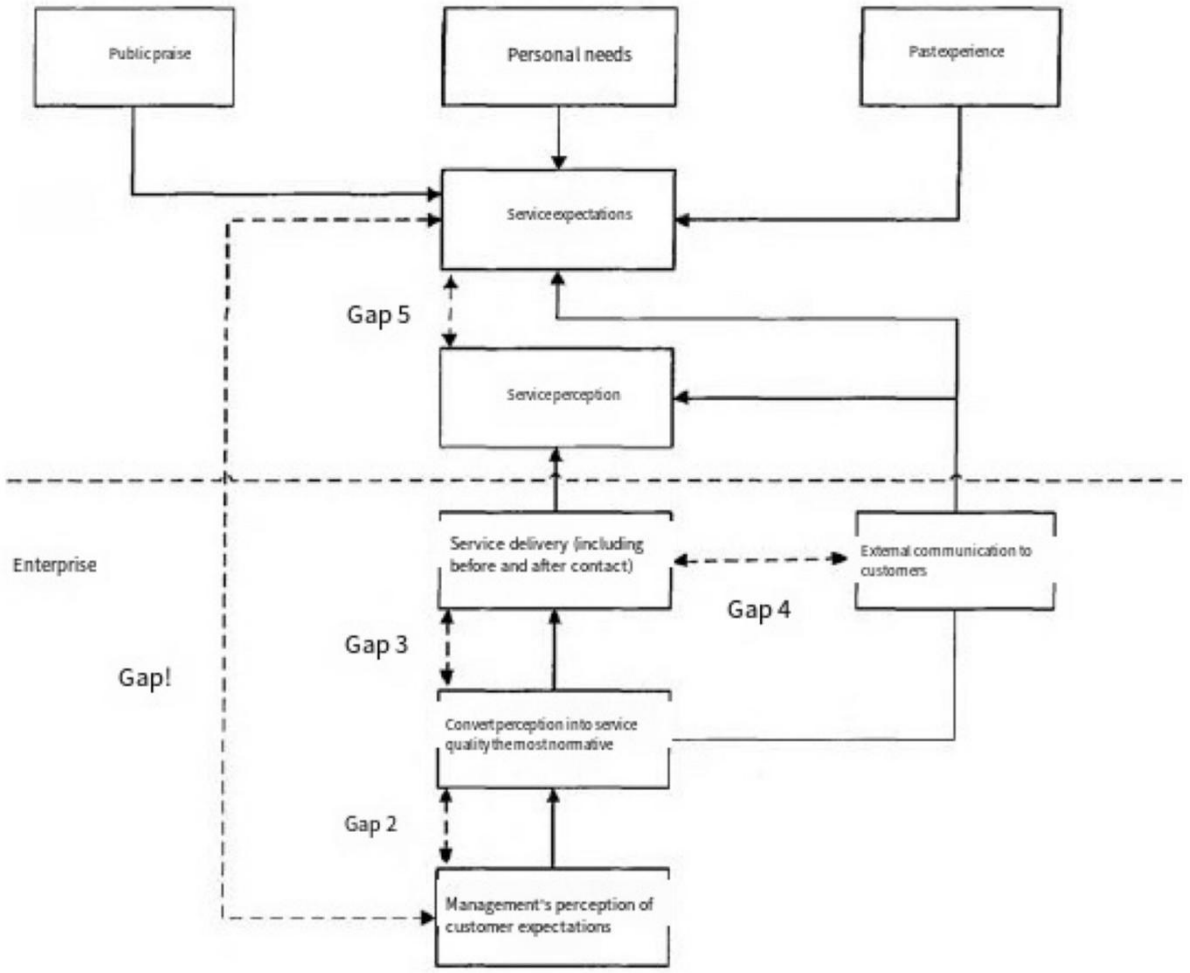

Figure 2-3 PZB quality of Service model

Source: Grous, Service Quality and Measurement, 1983

In addition, Gabbie, Oeill and Antony carried out a more in-depth empirical study on the above model based on the hotel industry. Through quantitative analysis and qualitative analysis, the existence of five gaps is clarified. The research results show that five gaps analysis can play a positive role in improving and enhancing the service quality of the hotel industry. Some scholars have used quantitative analysis method to analyze the first and the last of the five gap models and come to a conclusion. The analysis of gap 1 shows that in most cases, managers can correctly predict and perceive customer expectations, but also tend to overestimate customer expectations. Qin Yuanhao drew some opposite conclusions in his analysis of three-star hotels in Chongqing. Only the tangible dimension indicated that managers' perception of customers exceeded expectations, while the other four dimensions failed to exceed expectations. The related research on Gap Five shows that even though the management may overestimate the customer's expectation, the hotel service quality is difficult to meet the customer's expectation, indicating that

there is still a great room for improvement. Ingram and Daskatakis conducted a study on the hotel industry in Crete, Greece, and showed that only the reliability dimension showed that customer perception was lower than expected, and everything else exceeded expected.

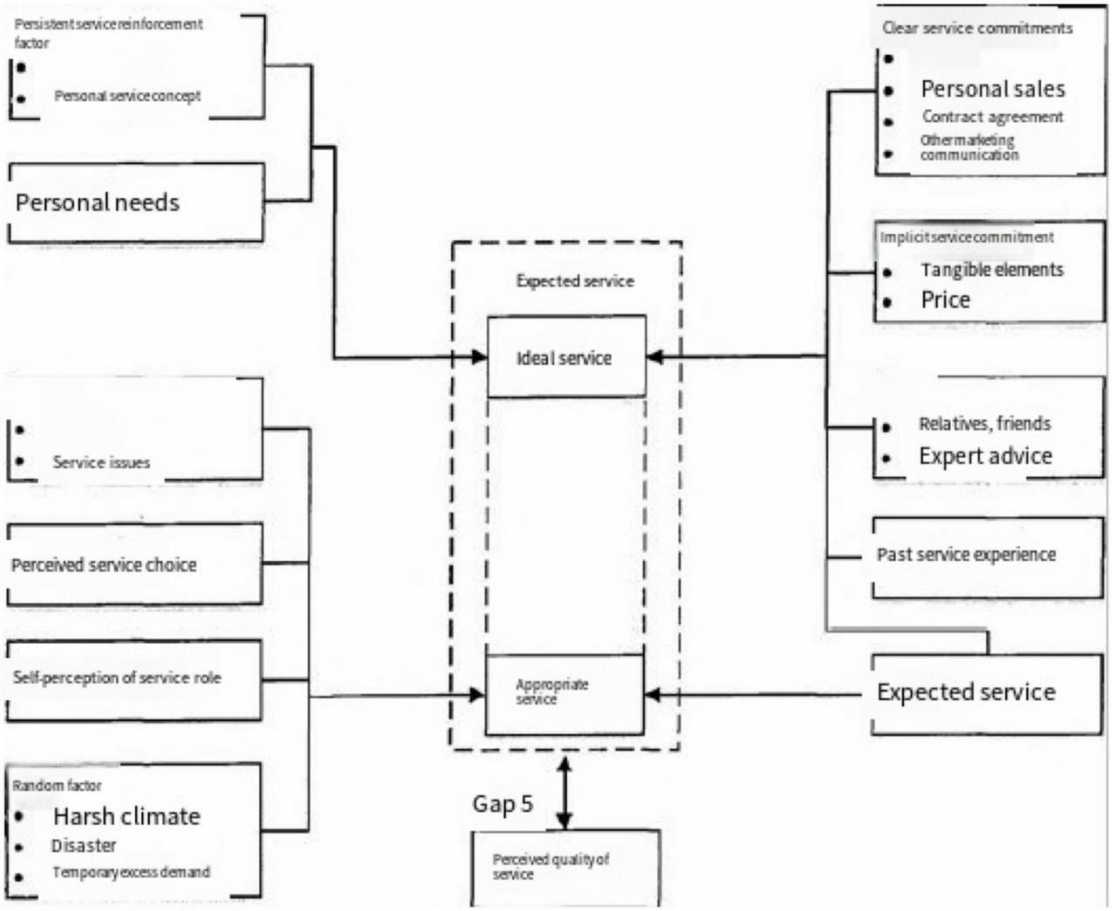

Figure 2-4 Service quality model improved by PZB

Source: Grous, Service Quality and Measurement Standards, 1984

With the development of the market, the gap model has some deficiencies. PZB (1993) improved it by subdividing the expectation degree of customers and adding the tolerance area factor. The specific content is shown in Figure 2-4.

PZB believes that customers have different levels of service expectations, namely the most ideal level and the level of basic satisfaction. In his research, he proposed that the expectation level set by customers develops in the same direction as the factors provided by enterprises, that is, the service promises made by enterprises in the way of publicity, the service standards shown by

enterprises in actions, etc. In addition, the expectation level of customers has a certain relationship with external uncontrollable factors, such as weather, economic conditions, national policies, etc. Therefore, among the indicators in the figure, introductions of friends and relatives, long-term service influencing factors, and temporary service stimulation factors are all related to customers. Generally, factors not controlled by enterprises, such as corporate advertising and personnel promotion, are carried out by enterprises and can achieve the expected purpose through control.

The service quality model of PZB can enable enterprises to start from each level of subdivision and continuously improve the service quality. At the same time, in the design of strategic planning, it can clearly integrate various influencing factors into it.

In the next chapter, SERVQUAL evaluation method will be adopted in this paper, which is a more specific and detailed implementation path proposed by PZB, to find out the optimal solution suitable for fresh freight service quality evaluation from the comparison between SERVQUAL and SERVPERF. Through the introduction of the service quality evaluation model, in-depth research can be conducted on the air cargo service quality evaluation of fresh products, mainly from the product quality, whether it can meet the customer's personalized service, and whether it can respond in time and other aspects. In the next chapter, the SERVQUAL method will be introduced to evaluate the quality of fresh air cargo service.

2.4 Overview of analytic Hierarchy process

2.4.1 Method introduction

Analytic Hierarchy Process (AHP) is a relatively perfect, easy to calculate, suitable for multi-objective, multi-criteria system evaluation method. AHP is the American operations research scientist Satie (T.L. Suaty) in the 20th century. It was created in the early 1980s. It combines quantitative and qualitative analysis, people's thinking is organized, hierarchical, for each alternative.The schemes are ranked according to their advantages and disadvantages, featuring practicability, systematicness and simplicity

2.4.2 Basic steps of AHP method

Table 2-1 AHP method steps

sequence number	procedure	details
1	Establish the analytic	After in-depth analysis of practical problems,

	hierarchy structure model	**related factors are divided into target layer, index or criterion layer and scheme layer from top to bottom. The upper factor is affected by the lower factor, and each factor in each layer is relatively independent.**
2	**Construct a contrast matrix**	**The factors belonging to the same level and the factors of the upper level are compared in pairs, and their relative importance is determined according to the evaluation scale, so as to establish the judgment matrix A. The paired comparison matrix of each layer against each factor of the upper layer is constructed by the paired comparison method and the scale of 1 ~ 9.**
3	**Calculate the weight vector and do consistency check**	**The eigenvector of the judgment matrix is calculated to determine the relative importance of each element. For each pair of comparison matrices, the maximum eigenroot and eigenvector are calculated, and the consistency test is carried out. If it passes, the eigenvector is the weight vector.**
4	**Calculate the combined weight vector**	**Through the calculation of comprehensive importance, various scheme elements are sorted, so as to provide the basis for decision making. The combined weight vector can be used as the quantitative basis for decision making.**

2.4.3 Characteristics of AHP method

(1) Systematic. This method regards the research object as a system, subdivides the system into multiple factors, and then makes a comparative analysis of each factor, and finally makes a comprehensive analysis.

(2) Practicability.combines quantitative and qualitative, can analyze many practical problems, and has a wide range of application, methods and steps are easy to understand, decision-makers can directly use, increase the effectiveness of decision-making.

(3) Conciseness .The principle of this method is easy to understand and the research ideas are simple and clear, which can be quickly understood and grasped by decision makers.

3 Construction of air fresh cargo service quality evaluation method system

3.1 Service quality evaluation method and model

In order to better evaluate the service quality of fresh goods transportation, we should first choose a feasible evaluation method. The following compares the two methods described in the previous chapter. For details, see Table 3-1. Through the contents listed in the following table, we can find that SERVAQUAL's new evaluation method is formed on the basis of the original evaluation. The new evaluation method uses the way of direct investigation to evaluate the service quality of enterprises. Compared with the original evaluation method, it is more convenient. Moreover, this new evaluation method is more optimized and can obtain the evaluation information more effectively. In this paper, the main purpose is to understand the enterprises and customers on the fresh product freight service quality and its influencing factors.

Table 3-1 Comparison of service quality evaluation methods

method / project	SER VQUAL	SERVPERF
Research subjects	Telephone, insurance and finance, logistics	Banking, pest control, dry cleaning, etc
Sample size	1,800-1,900 per industry	660 people
Number of questions	44 items	22 items
Response scale	Seven degrees	Seven degrees
Number of essential elements	5 Elements	5 Elements
Reliability	0.80-0.93	0.849-0.964
validity	Difference scores explain 0.57 to 0.71 variation	Have high efficiency
Variables	Customer expectations and perceptions of service	Customer perception of service
Industry versatility	is	is

Through the above comparison, we can find that the new evaluation method has more optimized operation. In the study, combined with the actual situation and characteristics of the industry, adopt

a professional evaluation method, through the appropriate adjustment of the evaluation method, can be more efficient and convenient to establish a set of fresh product freight service quality evaluation system.

The customer's self-feeling as the basis for evaluating the quality of service, the service content is subdivided, especially for the use of fresh freight customers, the most prominent dimension and dimension closely related personality indicators become the main basis for influencing customer satisfaction, distinguish fresh products and non-fresh products.

The form of rating is used to understand which services customers think are important and which are secondary, so as to provide basic data for subsequent research.

In order to keep up with the development of the situation, the SERVQUAL method and questionnaire survey are used in this paper, which can better evaluate the quality of fresh air cargo service.

3.2 Construction of air fresh cargo service quality evaluation system

3.2.1 The construction principle of fresh product service quality evaluation index system

We collect fresh product service quality problem information to analyze, need a perfect the evaluation system provides support for it, but the establishment of the system needs the support of indicators, and indicators need to be adjusted from a specific Angle Check the object for analysis, only by combining all the indicators together, can reflect all the objects have features.

The establishment of the evaluation system is the basis of analysis, only with the support of the system, we can learn more analysis of the influence between factors, more thorough analysis of the content, and finally get the information we want.

Combined with the reality of the service quality of the fresh product freight industry, the following aspects should be considered when establishing an evaluation system in line with the actual situation of the industry:

(1) Systematic. This characteristic refers to the index can reflect the fresh industry service quality more comprehensively, in the selection of indicators to pay attention to the different Angle, in order to explore the impact of fresh freight service quality all factors.

(2) Pertinence. It refers to whether the index can effectively reflect the factors affecting the quality of fresh cargo service.

(3) Independence. Indicators must be independent and there cannot be any relationship between indicators.

(4) Hierarchical. Hierarchical setting, to divide the importance of indicators.

(5) Feasibility. It means that the determined indicators should be practical, and each indicator should have its corresponding evaluation criteria to ensure the effectiveness of the evaluation results. The indicators should not be too much, and too much data is not conducive to future analysis.

3.2.2 Establish an evaluation index system

In this paper, based on the original evaluation system scale, combined with the fresh freight industry's own characteristics, established a suitable in line with the industry's index system. Air fresh cargo service quality evaluation system pays more attention to industry characteristics when selecting indexes.

To meet customer needs, in this case, it is necessary to consider the index and the degree of compatibility of the field, and at the same time through the above points we also understand the specific characteristics of the fresh freight service industry and the characteristics of the evaluation indicators of the industry, in the selection of indicators must meet the real needs of fresh freight , so as to follow the objective law of service quality evaluation at the same time more cut reflect the real industry characteristics, highlight the customer orientation. Table 3-2 lists the measurement indicators.

Table 3-2 freight service characteristic index of fresh products

FEATURES	pattern correspondence index
security	Exchange rate (fresh-keeping, safety, etc.)
	Freight accident rate (pollution rate, wastage)
punctuality	Accurate delivery rate (end customer)
	Aviation operating speed (" Warranty Period "speed)
	On-time arrival rate (no delays)
accuracy	On-time delivery rate (Fresh delivery)

	On-time delivery rate (fresh deliveries)
convenience	**Owner's stay at the airport (when holding cargo)**

After full consideration of the above factors, 6 dimensions and 22 indicators are finally selected as the basis of the evaluation system, as shown in Figure 3-1. The indicators contain the following contents:

(1) Reliability. That is to say, the air cargo terminal can provide corresponding services for customers according to the promised content. For example: to deliver customers' fresh products to a specified location within a specified time, while not charging for packaging and refrigeration, ensuring that the charges are reasonable.

(2) Responsiveness. It means that the air cargo terminal can improve its service quality in a shorter period of time, so as to constantly meet the actual needs of customers for fresh products. For example: Optimize the procedure mode, after fresh products arrive at the destination, timely notify the other party, delivery procedures are more convenient than other products, when customers encounter problems, can take the way to solve complaints, when customers complain online, the website should also establish fresh problem library or arrange fresh line customer service timely solution, timely help customers to solve the problem.

(3) Guarantee. Refers to the freight transport personnel in their own industry and specific business knowledge. For example: the staff's own ability is strong, not only familiar with the freight service process, but also have fresh product knowledge, can help customers to solve all problems, in providing services can also be patient, for the sake of customers, try their best to help customers solve problems.

(4) Empathy. That is to say, it is necessary to let customers feel the importance of their own, the staff need to provide differentiated services for customers, stand in the perspective of customers to see the problem, for example, the warehouse member supermarket can suggest the use of air cargo yard, station transit logistics into the fresh-keeping link and transfer the delivery right. This also places high demands on the competence of staff. For example, when providing services to customers, the staff should first understand the actual needs of customers who buy fresh products and provide targeted services.

(5) tangibility. It means that what the air cargo terminal does can be felt by the customer. For example, the layout of reasonable refrigerated storage space, the construction of automatic

partition sorting, intelligent temperature control and other advanced and perfect cold storage infrastructure.

(6) Information. It refers to the electronic degree of fresh cargo business, as well as the convenience brought by the adoption of advanced methods. For example, customers can search the classified information they want through the website. Some large airlines take the lead in trying to build the Internet + fresh food service platform.

Figure 3-1 Freight service quality evaluation system structure diagram of fresh foods

3.3 Questionnaire and data analysis

3.3.1 Principles and contents of questionnaire design

(1) Principles of questionnaire design

Service quality survey mainly relies on the self-feeling of customers. Relevant information can be learned from customers in the form of questionnaires. Only after the information is integrated can we know which factors have an impact on service quality, so as to provide references for the industry to improve its own quality and meet customer needs. Before the investigation, the group to be investigated should be determined first, and then the form of the questionnaire should be

determined. The survey objects selected in this paper are mainly the customers of fresh cargo service of HF Airlines. Whether the setting of the questionnaire is reasonable and whether it can effectively reflect various factors has a great impact on the final survey results. In the design of the questionnaire, the following aspects are considered:

1) Specific questions are set up for different indicators to ensure the independence of the questions, avoid crossover, and prevent the understanding difficulties of the respondents;

2) The expression of the question should be as simple as possible. The setting of the question should tend to be simple and intuitive to express the question, so as to avoid the interpretation deviation caused by the problems of the respondents themselves;

3) Index classification design In order to facilitate future processing, problem types should be divided during design;

4) The questionnaire should not be too long. The questionnaire should not contain too many questions to prevent the respondents from losing patience. However, too few options will reduce the amount of information collected from the questionnaire and the effectiveness of the evaluation results.

(2) Content of questionnaire design

The questionnaire adopted this time is designed according to the evaluation method and the characteristics of fresh air cargo service quality of A company. According to the content of the questionnaire, it can be divided into preface and main body: preface includes purpose and explanation; The subject is mainly composed of questions, asking respondents to rate the service quality according to their own experience, so as to know which services are important and which are not.

The main dimensions of the questionnaire include empathy, tangibility, information, responsiveness, reliability, assurance and 22 indicators. The indicators were created by combining SERVPERF standard questions with the characteristics of the fresh product air cargo service. The questionnaire is in the form of three columns, allowing the respondents to understand the service recognition degree of each indicator to score, and finally asking them to score the important level of each dimension, which is the premise for the weight of the criterion layer. In order to test the respondents' perceived attitude towards service quality in a concise and intuitive way, this paper uses Likert's seven-point scale method for reference. People surveyed rated the quality of service on a scale of 1-3 from "fair" to "satisfactory", which can be found in the appendix.

(3) The way of investigation

When the questionnaire is designed, the actual investigation will enter the stage. When evaluating service quality, the most important thing is to collect relevant data by means of appropriate survey means. The main methods of investigation are as follows:

The first is the interview style. Generally, after people accept the questionnaire, they fill in the content by themselves, and the investigator is there to assist them. This method is widely used. With the assistance of surveyors, the accuracy of questionnaires can be improved. However, this method requires a large amount of time, relatively high cost and high quality requirements for surveyors.

The second way is telephone interview. That is, using communications tools to collect data from surveyors. Although this method saves time, it is highly likely to be rejected, which requires the conciseness of the questionnaire and the relevant information of the interviewees. In the survey conducted by the author, due to the geographical dispersion of customers, it is inevitable to use a certain number of telephone surveys, and for corporate customers, this method also reduces the resistance of the author to carry out the survey to a certain extent.

The third way is by mail. That is, questionnaires are sent to people in the mail to fill them out and then returned. In this way, the surveyed people can have enough time to think, and the scope of the surveyed people is not limited, but the amount of recycling is low, the recycling time is long, and the reading comprehension of the respondents is required. Therefore, this paper gives up the adoption of this investigation method.

The fourth is to reserve the questionnaire receipt. In other words, questionnaires will be sent to the respondents, and the time for receiving the questionnaires will be specified. The investigators will collect the questionnaires at the specified time. This method has the advantages of the former, but the disadvantage is that it causes a large increase in time and labor costs. The last one is online questionnaire survey. It means sending questionnaires to respondents by means of questionnaire survey website and E-mail. In this way, the initiative of interviewed customers can be guaranteed, saving time and consuming a small amount of funds. However, the accuracy of the target group cannot be guaranteed. Only among network users, relevant network information of the target group is needed at the same time, and even one person may be repeatedly surveyed.

In the test survey, we found that one person from the same single customer took the questionnaires for many people. Later, we asked them to print out paper questionnaires, write them by hand, scan them or take photos, and then send them through the network, which was much better.

In the previous investigation on the status quo of fresh freight service quality, the author learned that the customers of HF company have different cultural levels, different degrees of familiarity with the network, low degree of spatial distribution concentration, and a few unit customers' office locations are distributed around the freight station. In view of the above situation and combined with the advantages and disadvantages of several investigation methods, Finally, the questionnaire survey was conducted for customers in the same city by face-to-face interview. The customers in the city were mainly telephone, while the customers outside the city were mainly network questionnaire.

4 Evaluation of fresh cargo service quality of HF Airlines

4.1 Status and problems of fresh cargo service quality of HF Airlines

4.1.1 Overview of HF Airlines

HF Aviation Co., Ltd. is a joint enterprise of Chongqing Municipal People's Government and China Southern Airlines Group Co., LTD., jointly funded and established by China Southern Airlines Co., LTD and Chongqing Urban Transport Development Investment (Group) Co., LTD. The main operation base is located in Chongqing Jiangbei International Airport, with registered capital of 1.2 billion yuan, 60% of which is held by China Southern Airlines and 40% of the development investment. Among them, China Southern Airlines invested A320 series aircraft and some aviation materials (equivalent to 720 million yuan), and invested 480 million yuan in cash, mainly engaged in domestic passenger and cargo transport business, the main base is Chongqing Jiangbei International Airport. The initial capital scale of Chongqing Airlines Co., Ltd. is the first among local airlines in China, and it will develop into the largest airline in western China in 3-5 years, with about 40 aircraft and an asset scale of 5 billion yuan, and is committed to building a modern large airline company in China in the 21st century.

HF currently operates a total of 30 Airbus A320 family aircraft, including the first Airbus A321neo ACF configuration aircraft for civil aviation in China. Since its establishment, HF Aviation has steadfastly cultivated and served Chongqing, taking supporting the political, economic, cultural and social development of Chongqing as its own responsibility. Relying on China Southern's advanced safety management system, experience and rich resource advantages, HF Aviation has continuously consolidated the safety foundation, strengthened the safe operation capacity construction, and continued to carry out the bidding and training work. With a group of excellent pilots with superb skills, excellent style and rich experience, the company has opened up plateau and high plateau routes to Lhasa, Nyingchi, Dali, Shangri-La, Tengchong, Lugu Lake, Shennongjia, and conquered Daocheng Yading Airport, the highest civil airport in the world. In the process of continuous summary, HF Aviation has accumulated rich experience in flight support and has maintained excellent flight safety record since its inception. As of July 2021, HF Aviation has sustained flight, air defense and ground safety for 169 months. In 2019, HF Dangerous Goods Air Transport Safety System (SMS-DG) system project successfully passed the acceptance review of Civil Aviation Administration, becoming the first aviation enterprise approved to enter the trial operation of SMS-DG within the jurisdiction. In August 2020, HF Aviation implemented CCAR-121-R6 standard operation, realizing the docking of safety level with the highest domestic standards and providing strong support for safe and high-quality development.

HF Aviation serves the construction of Chongqing inland open highland and international aviation hub, providing passengers with convenient and fast travel experience, accelerating the introduction of the latest Airbus models, deploying advanced cabin facilities and equipment, focusing on the construction of high-speed, high-quality and international airline network, and continuously improving the quality of airline network. At present, HF aviation domestic service points cover Beijing, Shanghai, Guangzhou, Shenzhen, Chengdu, Hangzhou, Nanjing, Nanchang, Ningbo, Wenzhou, Qingdao, Harbin, Dalian, Hohhot, Wuhan, Changsha, Kunming, Huizhou, Zhuhai, Shantou and other major commercial route cities, as well as Sanya, Xishuangbanna, Chifeng, Tongliao and other major tourist route cities. In addition, it has opened a number of international routes from Chongqing to Singapore, Bangkok, Hanoi, Ho Chi Minh, Colombo and so on. It is responsible for the management and operation of Chongqing route of the parent company China Southern Airlines, and effectively connects with Guangzhou, Beijing and other hub networks of China Southern Airlines, providing air express for the interconnection between regions.

4.1.2 Current situation of fresh cargo service of HF Airlines

Through the investigation of the air cargo of the company in the past three years, the main fresh cargo business of HF company can be summarized into the following aspects:

(1) Freight transport process

The freight transport department of the company has formulated freight transport specification and guidance documents at the three levels of the company, department and position, which further strictly implements the working procedures and gives guidance to employees at all levels and departments in terms of freight transport responsibilities. Such systems as "Large-scale Flight Delay Information Release Plan" and "Large-scale Flight Delay Emergency Response Plan" have also been fully implemented and implemented by the company. Subsequently, the department responsible for fresh food service also issued a series of documents, clearly defining different duty groups and operating processes of various fresh products, and standardizating and operating the service personnel in terms of their behavior, dress, environment and other aspects according to the freight service standard process. This series of measures on fresh products freight service has a positive guiding role, service process gradually toward normalization, fresh freight service quality has also been improved to a certain extent.

(2) Brand building

In order to achieve service standardization, establish a good image of the company, and ultimately provide customers with quality service, the company's freight service department to modern enterprise management concept as the lead, launched fresh "top speed pass" brand creation. In

the process of fresh freight brand construction, the company issued the relevant operating procedures and work evaluation program, clarified the significance of brand construction, target customers, service scope and operation process. The company focuses on the fresh freight service to strengthen the standardized management of service process, and strengthen the horizontal communication with other departments, to achieve traceless docking, to ensure that in the process of providing one-stop service, let customers enjoy more comfortable service. The establishment of the brand makes full use of the advantages of the network to serve customers, promotes the establishment of an e-commerce platform integrating one-stop delivery service, fresh storage guarantee price and terminal logistics delivery, and realizes real-time fresh goods information inquiry, online payment and other functions. At the same time, with the help of the established freight call center, add fresh products service line, and constantly improve supporting services; In consulting, ordering, insurance and other freight services, and opened free delivery, free fresh-keeping, city delivery and other fresh preferential projects. At the same time, expand the "Top Speed Pass" brand service content, such as: day in the province, holiday special offer, random half-price discount, "free storage within the week", constantly meet the needs of different types of customers.

(3) Ground support

By promoting the development strategy of "popularization, differentiation and refinement", HF Company has improved the level of various services. To facilitate the transportation of fresh goods, the company has also opened direct air transport services to some major Chinese cities. For example, through the opening of high-speed rail lines, the "combined transport service" will be launched, and through the opening of high-speed rail terminals, passengers will be able to complete the check-in service in just five minutes. The establishment of the combined transport system integrates transport resources and effectively connects with the service terminals set up at the airport, making the connection between air and rail more smooth and improving the fresh consignment service system, especially for the convenience of customers in the southern region.

(4) Department integration

In order to meet customers' requirements for better service quality of fresh products, the company has carried out department integration, has set up loading service team, logistics and administrative team, distribution service team, VIP service team; And the deployment of experienced, responsible department director responsible for fresh cargo business. At the same time, in the company's official forums and employee groups, the fresh business section of the freight Department has created a variety of photo publicity sections, focusing on enhancing

employees' confidence in the new position, improving service skills, and improving customer satisfaction.

(5) Management training

HF Company has formulated specific documents specifically for the fresh food department to conduct management and assessment of employees and strictly regulate the staff line. To reward hard work and punishment lazy, reward good and punishment poor, irresponsible behavior will be notified and criticized, and with the salary bonus hanging purchase, To ensure the improvement of performance, the final service of fresh customers. At the same time, the freight service department of the company issued the "Freight Service Training Management Measures", in accordance with the method of full personnel training and making up the difference, through the use of internal and external instructors, etc., to conduct comprehensive training. The Fresh Cargo Service business aims to improve its training programme with the aim of increasing business skills and improving service quality. The internal training content is mainly on how new recruits are familiar with the characteristics of airline business, basic cargo service knowledge, storage and transportation methods of special agricultural and aquatic products, etc. In addition, the recent training has added the reception norms, warehousing transfer process, electronic platform transportation information uploading and maintenance, etc.

(6) Complaints handling

The customer Information Consulting Service Center of the company is responsible for customer complaints, and this department arranges special personnel to deal with them fresh business complaints. If a customer is not satisfied with the service, the specialist will make a preliminary determination at the first time if necessary in such cases, personnel will be dispatched to the scene to investigate the incident and further verify the relevant facts. General situation Next, the complaining customer will be first arranged to negotiate with the fresh business department to reach an agreement. If the situation is more complicated, or guest If no agreement can be reached between the household and relevant departments, the freight department manager shall intervene to organize further communication and negotiation.

4.1.3 Problems existing in the quality of fresh cargo service of HF Airlines

With the company's operating mechanism and management process more and more standardized, the company's fresh business after a short period of exploration, achieved rapid growth, but fresh cargo business is still facing many problems, fresh cargo service quality is increasingly. It has become the short board of the whole company's freight service quality, which has affected the improvement of the company's freight service quality to a certain extent.

(1) The concept of fresh freight service is backward

From the perspective of the development of the international fresh industry, the companies with developed international fresh business generally have strong overseas business, mature operation mode and good reputation in the aspects of custom demand, convenient delivery, service commitment, cost control, staffing, complaint handling, etc., while HF company has been focusing on air passenger business, with a low proportion of cargo. Fresh cargo is even less. Some of the company's management of fresh business development lack of understanding, even the same level of competitors and the combination of e-commerce, such as the opening of freight shop, as "business".

HF company does not have its own fresh cargo characteristics, not only does it not launch targeted fresh cargo service brands aimed at large enterprise customers, but also does not distinguish target customers and treat fresh business as other businesses. HF fresh cargo is limited by cargo capacity. The aircraft model of the company is mainly A320-200. Its biggest feature is that it is good at short - and medium-range transportation, which is suitable for low-cost short - and medium-range route operation of airlines, and the sailing distance is about 5,000 kilometers. As a result, the overseas fresh business development of HF Airlines is limited, and the international fresh product cargo business scale is relatively small. Company management lack of pioneering consciousness and fresh industry strategic vision. Due to the many approval procedures and difficulty of opening new routes, the management of the company is generally afraid of difficulties and lack of development consciousness in domestic route expansion, which directly limits the possibility of further developing the fresh market of HF company. At the same time, the management of HF company did not have the strategic vision to develop the fresh industry, but only saw the homogenized competition and did not have the courage to find opportunities in the service gap, which restricted the improvement of the fresh freight service quality.

(1) The airport supporting service level is insufficient

Due to the lack of fresh cold chain infrastructure and scientific and reasonable fresh business risk prevention and control measures, the airport service level in the actual operation process is not satisfactory. At the same time, HF company lacks fresh transportation experience, and its internal storage conditions are relatively old. Many cold chain services need to rely on the airport. Although it has reached preliminary cooperation intention with cold chain enterprises specializing in logistics distribution, the two sides have not reached in-depth consultation on further distribution standards, and the supporting foundation of the airport is weak. On the one hand, it is the problem of the operation mode and experience of the aviation enterprises, on the other hand, it is also the restriction of the storage conditions of the airport and the airport terminal. The investment of the

early infrastructure is huge, and many loading machines and tools are not matched and faced with upgrading.

3) Fresh cargo acceptance and delivery services are not in place

In terms of consignment and distribution of fresh products, HF company has certain problems in market and decision-making. Although Dali has developed air routes and developed overseas fresh product market distribution business with the opportunity of opening international routes and exploring overseas markets, facts have proved that the short-term improvement of transportation conditions and the slow increase of transportation capacity have not strong competitive benefits under the circumstance that the advantages of domestic and international air networks are not obvious. And some of the specific content of the service is not implemented in place, fresh pieces to the destination city due to contact with the delivery unit in the absence of any preservation measures under the condition of delayed distribution.

In the fresh food distribution business of first-tier cities in China, the acceptance and distribution of Chilean cherries, Arctic sweet shrimp and other single products with relatively large profits do not take the lead in the market competition. Especially since 2016, when the peer companies play the differentiation service card, timely launch the aging fresh air transportation, fast service (6 hours), standard service (12 hours), economic service (24 hours, 36 hours) to the threshold, HF company has not adopted a practical and effective differentiated freight service strategy. The same price speed is not good, the same speed service is not good. Also did not grasp the business sales peak period of the traditional express capacity saturation and other key nodes, timely launch of guaranteed capacity, doorto pick up, overtime delivery return freight and goods quality warranty period deterioration or loss of double compensation and other service commitments, often lose some sticky customers.

(2) The fresh cargo information system is not perfect

Fresh cargo management system information degree is not high, the system is not easy to use, the content and use of old, in reform measures make up the number, the actual effect is not big, but consumes a huge cost of service. It is worth mentioning that in the civil aviation industry in the development of SITA, many domestic aviation enterprises continue to innovate and adopt this advanced system to make air cargo more efficient Plus accurate, clear, can achieve the effect of real-time monitoring. Under this general trend, the cargo department of HF Airlines did not carefully transform the cargo system in combination with the fresh business, and implanted the actual operation of fresh cargo work into the cargo management system. The dynamic growth amount of fresh cargo and marginal cost changes of fresh service and other information could not be clearly displayed in the total cargo data base, and its networking effect was not very good. Can not realize

the immediate sharing of fresh cargo information, such as customers after shipping procedures, can not be in the company's website real-time view of the flow of fresh goods; Other airports to the company's telegraph signal reception quality is not good. If these problems are not solved properly, it is likely to continue to affect the company's competitiveness and market share.

(3) Large number of fresh customer complaints

In recent years, the number of complaints about fresh products from customers of HF Company has increased, which is mainly due to the large increase in freight orders as a whole the service capability of the company fails to improve with the increase of degree, which shows several outstanding problems: hardware design has no less loopholes and defects, mixed fresh products and other products, resulting in customer complaints; Fresh service line clerk although hot love, but the lack of knowledge, responsibility heart is not enough, customers can not answer a lot of questions, encountered critical customers and impatient be annoyed; A few employees of the company were careless in their work, and some freight items did not scan the fresh prompt bar code, resulting in the product was contaminated by the time the bulk goods reached the customer.

All the above problems require HF company to correct and improve the defects in system design within its capacity, find out the crux restricting the improvement of fresh product service quality through in-depth and detailed research on fresh customer service quality, implement targeted improvement measures, and do a fine job in fresh product freight business.

4.2 Evaluation of fresh cargo service quality of HF Airlines

4.2.1 Survey of service quality

Determine the research object. According to the current situation of HF airlines and the main problems existing in fresh cargo service quality, the object of this paper's service quality investigation is mainly the unit customer base of fresh cargo business of HF airlines and some representative individual customers with long-term cooperative relations. In order to carry out a better investigation in all aspects, the author made a preliminary understanding of the current situation of fresh freight service quality through the internal personnel of HF company in the early stage, and then determined a part of local customer base. When summarizing the paper materials of the company's related business, the author obtained a large number of customer information. With the strong support and assistance from the leadership of HF Company, the contact information of some target groups related to fresh products has been determined from a large number of customer data. The actual survey results show that the majority of respondents, accounting for more than 90%, are private enterprise business managers and ordinary staff, and most of them have a bachelor's degree or above, relatively familiar with fresh business.

Research preparation and implementation. Investigators conducted surveys on customers using air cargo business in the cargo handling hall of HF Airlines and nearby logistics companies, and the number of questionnaires distributed was 50. The investigators made a brief introduction to the respondents, sent questionnaires to the respondents to fill in or wrote them for themselves on the basis of consulting the respondents, answered the questions that the respondents understood vaguely, and asked the respondents to answer in an objective and fair manner as far as possible.

Data collection and collation. The customer roster itself has certain commercial sensitivity. In addition, because the customers who use the fresh product freight business of HF company are scattered in different regions, it is impossible to directly talk with the managers of relevant departments and obtain drawings and data like the internal investigation of the fresh product business of HF company. Some customers use non-Mandarin in other places, and after simple communication, It is difficult to carry out accurate communication survey because of the language barrier. Some do not cooperate with the investigation, after answering a few questions have the idea of retreat, hurriedly hang up the phone; Some customers call directly refuse to answer; Some local delivery of goods to the customer when filling in the questionnaire while delivery, answer hastily; Some people surveyed in the process of filling out suddenly unwilling to continue, for some questions are not willing to answer; Some of the evaluation indicators of all the items are satisfied or not satisfied with the actual situation. A total of 50 questionnaires were distributed, and 48 questionnaires were finally collected. By eliminating some unfinished questionnaires with the same score or obviously incorrect attitude, 45 valid questionnaires were obtained, accounting for 90% of the total sample. If the recovery rate is too low, the effectiveness of the survey will be affected, and the representative of the sample will be weak. Generally, the recovery rate above 65% is acceptable. The recovery rate of this survey is in line with this requirement.

4.2.2 Weight calculation

Through investigation and research, we obtained customers' scores on the importance of 6 dimensions and 22 indicators of air fresh cargo service quality. Taking 6 dimensions and 22 indexes as comprehensive scoring indexes to evaluate air fresh cargo service quality, Delphi method was used to determine the weights of each first-level index and second-level index, and 30 aviation college teachers, scholars, aviation enterprise executives and other experts with years of experience in air cargo service industry and fresh products were asked to fill in. The collected written data are added and averaged, and then fed back again to determine the weight coefficients of each item in the table.

The analytic hierarchy method includes three levels: target level, decision level and scheme level. Through the constructed air cargo service quality system diagram, it can be seen that the target

level is the evaluation index system of HF airline cargo service quality, and the decision level is the evaluation dimension level, including tangibility, reliability, responsiveness, empathy, assurance and information. Scheme layer refers to each detailed evaluation index under each evaluation dimension layer.

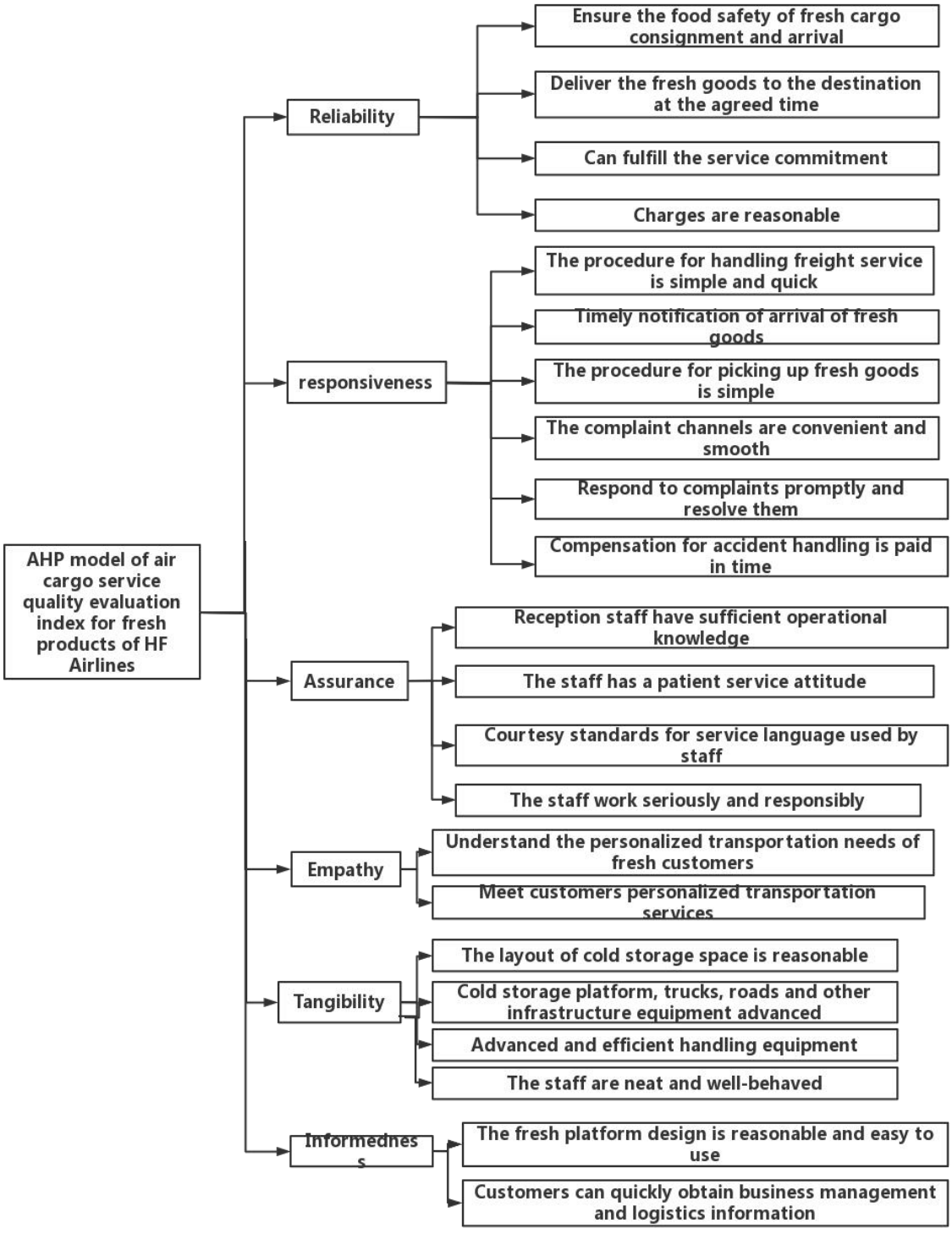

Figure 4-1 AHP model of air cargo service of fresh products for HF airlines

Calculation of comprehensive weight Ci coefficient: comprehensive weight coefficient of each indicator Ci = comprehensive weight coefficient of each subindicator × weight coefficient of corresponding dimension.

Cumulative weighting method: Weighted accumulation method is one of the calculation methods in the comprehensive scoring method. After quantifying the indicators of fresh cargo service quality evaluation, weighted accumulation method is used for evaluation. The formula is:

$$S = \sum_{i=1}^{n} Wi\ Si \tag{4-1}$$

Wi is the weight of the I index, and Si is the importance score. Based on the above calculation methods, Table 4-1 shows the calculated dimensions and index weights:

Table 4-1 Dimension and index weight table

Dimensionality	Each dimension importance score	The weight of each dimension	index	Each index importance score	The weight of each dimension index in its dimension	The weight of each indicator
Reliability	6. 165	0. 189	Q01	5. 819	0. 279	0. 049
			Q02	5. 275	0. 30	0. 050
			Q03	4. 515	0. 218	0. 10
			Q04	4. 729	0. 228	0. 038
			Q05	5. 210	0. 20	0. 050
			Q06	6. 080	0. 179	0. 048

Responsiveness	5. 825	0. 179	Q07	4. 60	0. 139	0. 24
			Q08	4. 779	0. 150	0. 038
			Q09	5. 888	0. 178	0. 048
			Q10	5. 985	0. 179	0. 047
Assurance	5. 35	0. 169	Q11	5. 535	0. 238	0. 035
			Q12	5. 258	0. 248	0. 046
			Q13	4. 29	0. 210	0. 040
			Q14	5. 778	0. 280	0. 049
Empathy	4. 14	0. 129	Q15	3. 620	0. 470	0. 029
			Q16	4. 10	0. 528	0. 029
Tangibility	5. 735	0. 183	Q17	6. 120	0. 269	0. 049
			Q18	6. 170	0. 269	0. 060
			Q19	5. 990	0. 270	0. 029
			Q20	4. 278	0. 20	0. 029
Information	4. 773	0. 149	Q21	4. 350	0. 448	0. 045
			Q22	5. 228	0. 545	0. 036

4.2.3 Service quality evaluation results

The score of customers' perceived service quality of each index in the questionnaire was calculated according to the calculation method listed, and the score of each dimension was obtained. Finally, the total score of perceived service quality after weighting was obtained.

In Table 4-2, the total score of fresh cargo service of HF airlines was 4.625, which was in the range from general satisfaction to relatively satisfaction. It indicates that the service quality of HF company is basically up to standard, and there is no obvious service quality shortage. Service quality is at a more balanced, not outstanding and not bad level, but there is still room for improvement. Based on the detailed analysis of the content in the table, the score ranking of the six dimensions is tangibility, reliability, information, assurance, responsiveness and empathy. Tangibility, reliability and responsiveness are all relatively important dimensions. In addition, most of the evaluation results of fresh cargo service of airlines are above 4 points, and only the score of empathy is 3.970, indicating that empathy is an easily ignored dimension in the evaluation of fresh cargo service.

In evaluating the service quality of HF Company, although there is little gap in each dimension, there is a big gap in specific indicators. The higher the index score is, the more satisfied the company is with the related services. It can be clearly seen that in the dimension of information, the score of "customers can quickly obtain fresh business handling and logistics information" is 2.760, which is the highest value among all indexes. It can be seen that HF airlines takes the maximum convenience for customers to handle business and related logistics information as the most critical evaluation criteria in the evaluation of service quality. Similarly, in the dimension of responsiveness, the score of "the company's complaint acceptance channel is dedicated, fast and convenient" is the lowest, which is 0.609. It can be seen that in the evaluation of fresh cargo service quality, complaints related to disputes caused by service quality are not the core of service evaluation, and customer demand should be anchored according to the characteristics of air fresh cargo service.

Table 4-2 Service quality score sheet

Dimensionality	Index	Index score	Dimension score	Total points
Reliability	Q01	1. 429	4. 820	
	Q02	1. 282		
	Q03	1. 088		
	Q04	0. 989		
	Q05	0. 680		

Responsiveness	Q06	0. 910	4. 217	4. 625
	Q07	0. 690		
	Q08	0. 609		
	Q09	0. 720		
	Q10	0. 645		
Assurance	Q11	1. 220	4. 280	
	Q12	1. 009		
	Q13	0. 860		
	Q14	1. 188		
Empathy	Q15	1. 870	3. 970	
	Q16	2. 110		
Tangibility	Q17	1. 588	5. 580	
	Q18	1. 620		
	Q19	1. 380		
	Q20	0. 976		
Information	Q21	1. 88	4. 750	
	Q22	2. 760		

5 Fresh cargo service quality improvement strategy of HF Airlines

Based on the analysis of the evaluation results of the fresh freight service quality of HF Company, aiming at the existing problems of the fresh freight service quality of HF company, this chapter firstly outlook from the strategic level of the company, then rationalizes the fresh service process of the company, and finally puts forward the strategic suggestions to improve the fresh freight service quality of HF company from the three dimensions of the evaluation results of the service quality.

5.1 Clear fresh business development direction

Fresh products cargo business in our domestic, the development level between different regions, industries, airlines there are great differences, in addition, some regional policies are still serious local protection, heavy passenger light cargo is more serious, and in foreign routes face more problems, foreign customs for special fresh products set a high threshold, increase barriers.

In the context of unsound fresh market environment, HF company wants to develop fresh cargo business, it must first strengthen the reorganization of fresh departments, strengthen personnel staffing, and improve the status of fresh business in the company's cargo assessment. Only change the "heavy customer light goods" strategy and ideas, in order to fundamentally save costs, profit, improve fresh service quality.Furthermore, to effectively improve the quality of fresh product service, we must adopt a differentiated strategy.

First,it is necessary to segment the target market and distinguish target customers. HF company's customer base should also be positioned in fresh electricity suppliers and large enterprise customers who are familiar with the fresh market conditions and have large-scale operation organizations, rather than limited to some dried fruit shops and aquatic products shops.

Second, adopt differentiated marketing strategies. To change the previous passenger-oriented marketing mechanism, strengthen the study and training of fresh cargo marketing knowledge, and improve marketing strategies to improve service performance.

Third, improve product strategy. In the case of homogeneous competition of fresh products, in order to achieve results and status in the field of fresh business, from other competitors there a share of the pie, must improve product strategy, strengthen cold chain management, improve product quality.

Fourth, we will improve our pricing strategy. HF company must strictly control the cost, adopt the idea of project management, reduce the cost of fresh transportation, and improve the level and efficiency of fresh product freight service.

5.2 Deepen fresh service process

In order to improve the quality of fresh cargo service, it is suggested that the management of the company hold a special meeting to study the reform plan and improve the overall quality of fresh product cargo service. Changes to the fresh freight service process should be considered in the following aspects:

1. Acceptance method, simplify acceptance procedures, improve the service content, and change some restricted content for the convenience of customers;

2. In terms of transportation, the actual needs of customers should be considered more thoughtfully;

3. Adjust the charging method, make the charging more transparent, and prevent the problem of arbitrary charging;

4. Improve the content of logistics services to cover a wider range of logistics services.

(1) Freight acceptance method

When fresh customers of HF company have delivery needs, they must go to the airport for handling, and there are many procedures. It is suggested to reform, so that customers can request the freight specialists to provide on-site services through the website or telephone. If approved by the customer, the freight specialist can also help the customer fill out the waybill, saving the customer's time. After sending the goods, customers can also know the transportation of the goods through the form of network inquiry. Through the reform of acceptance mode, it will greatly optimize the service mode of freight service department and make the procedures more convenient.

(2) Changes in transportation organization

After the fresh customers of HF company fill in the order, they still need to wait for a long time before they can send the goods. It is suggested to reform the handling process of fresh container freight. After filling in the order, if the customer wants the freight department to provide freight service for him, he only needs to pay in the specific payment window. In the past, after filling in the order, customers still need to apply for the delivery plan of the next month long in advance. After the reform, customers can apply through the relevant website, which can save the application time. In this way, the speed of freight approval can be improved, and the speed of goods delivery can be improved.

(3) Standardize freight charges

It is suggested to unify the charging situation of each airport terminal, adopt the calculation method of the company's official website for pricing, and formulate different charging standards according to the different needs of customers. Make the charging method and result more transparent, so as to reduce some unreasonable charging items, safeguard the interests of customers.

(4) "Door to door" logistics service

For the customers with such needs, they should be able to contact the cargo transportation company through independent choice or agent form, and the cargo transportation company will provide the service quotation for the customers, and then the customers will choose the specific service form according to the actual situation. Using this form of service, will be able to meet the broader needs of customers.

5.3 Distinguish different dimensions of fresh service indicators, precise policies to improve customer satisfaction

Personalized demand should be moderately innovative service content, show service characteristics. The fresh market is complex, scattered and suitable degree of innovative service content, using different models for scale operation, there are benefits of diluting costs and avoiding risks. Officially launched as soon as possible on the official wechat platform, mainly on the basis of booking space, flight inquiries, to open VIP VIP reservation, booking parking payment, airport navigation, air transport process panorama, fresh shopping mall, discount card coupons and other features.

In the aspect of personalized transportation, some fresh products have a high demand on time, so they can be transported by express. But some products do not need to be delivered immediately, but to consider the economy of transportation costs, can consider the use of general goods mode of transport or sea transport. And the impact of sea and land transportation on the delivery of goods is relatively small, only by the airport to change port, logistics port, does not affect the customer delivery procedures and time, it will not affect customer satisfaction.

To fulfill the service commitment, transportation, storage, circulation, processing, packaging, loading and unloading, handling, distribution, customs declaration, Inspection, inspection, information processing and other transport links. Diluted delivery cost. Reduce deep processing items in circulation. HF Airlines can appropriately cut down all kinds of non-essential services such as unpacking, re-labeling and re-packaging of cargo in cold chain logistics centers. Providing additional value-added services in the aspect of circulation processing causes shipping enterprises

to incur larger circulation costs, which is not conducive to improving customer satisfaction under lower customer expectations. It is the seller's job to label the packaging and then distribute it to different countries and distribution channels. HF company should focus on transportation and spin off the sorting business. According to the supermarket's demand, the distributor completes the sorting of fresh products in the airport and directly delivers various kinds of goods to the corresponding shelves.

In order to ensure the freshness of products, air logistics enterprises should greatly adjust the distribution methods provided by customers, from what kind of distribution products they only need to provide, what kind of distribution services customers can accept, to what kind of distribution services they require, what kind of distribution products they will provide, that is, to begin to change into a customer-centered product service model.

In order to make the product arrive safely, the most important thing is to implement safety management. At present, HF Company has carried out risk assessment, strengthened special risk management and other means, timely issued safety risk notice, identified new sources of danger, developed risk control measures, etc., and has a certain risk prevention ability. But to achieve the "pass forward", also need to carry out safety supervision and inspection, safety audit, SMS effectiveness review, "carpet" comprehensive safety inspection, with the "rectification implementation month", safety inspection "look back" and other full staff activities, in order to truly ensure the safety of fresh products cargo work closed loop management. In addition, on the premise of establishing and improving the emergency plan, emergency desktop exercises should be conducted regularly to turn emergency support into regular support, strive to improve the safety responsibility chain, and encourage all front-line freight service personnel to actively discover problems and seek to solve them in the first time. For each piece of information voluntarily reported by employees, the leadership should formulate feasible solutions and track and verify them, so as to improve the ability to deal with emergencies.

Another important part of arriving safely and by appointment is packing. Modern logistics requires customers to transfer all kinds of fresh packaging directly to the corresponding logistics company. In order to better carry out the corresponding transportation work, it is necessary to pay more attention to the packaging of all fresh products to a certain extent.

The initial work of air transport enterprises is to carry out corresponding transport services, which is its biggest advantage in the field of fresh transport. To get the product to the destination in time and quickly according to the agreed time, it is necessary to work on the mode of transportation. With the continuous improvement of air cargo environment, comprehensive logistics mode has become the mainstream direction of fresh cargo development. In some foreign countries with more

developed air logistics, the new way of freight transport from airport to desk has gained rapid development, and achieved full penetration of fresh industry.

Improve airport service level, improve delivery efficiency. We can transplant the model and experience of agent receiving, calculate the cost, and use the existing network and third-party services to provide pre-delivery services. In many cases, what customers care about is not the loss itself, but the attitude of the management to deal with the problem. It is particularly important to have a group of high-quality customer service specialists. Emphasis should be placed on training part of staff who provide "on-site service" business, dispatching part of staff who are familiar with the business to track the whole transportation information, monitor the transportation status in real time, coordinate and solve problems in the whole process from picking up the goods to signing for the goods, and maintain close communication with relevant departments of the company. In this way, the needs of all parties can be fully coordinated to achieve the best treatment results in case of emergency.

Innovate the claims process. On the basis of quick verification of the situation, we should issue the goods damage report within a limited time, take the initiative to help customers fill in and submit the claim application form, accelerate the report and review speed, and the financial department should transfer the dynamic price data list from the standing delivery system as soon as possible, so as to realize the rapid claim settlement. Compensation for overdue complaints varies according to the length of time.

For HF Airlines, its goal is to build a first-class airline enterprise that is "safe and reliable, preferred by customers, flexible mechanism and full of charm". However, at present, its biggest deficiencies in fresh product business are not enough understanding of the market, not smooth fresh service process and chaotic handling of service indicators of various dimensions. This paper tries and explores from these aspects. In particular, through the fresh service quality questionnaire, I understand the fresh product demand of HF Company's customer base. If we can cooperate with the improvement measures to improve customer satisfaction, the fresh business of the company will be further expanded and the fresh product freight service quality will reach a new level.

6 conclusion and prospect

This paper takes fresh air cargo service quality as the research object, through the construction of fresh product cargo service quality evaluation method system of aviation enterprises, and conducts a case study on the fresh cargo service quality of HF airlines. Based on the content of the case study, the main research conclusions of this paper are as follows:

Firstly, air fresh cargo service quality evaluation can be carried out from the dimensions of "reliability", "responsiveness", "assurance", "tangibility", "empathy" and "information".

Second, the sub-evaluation of fresh product cargo service quality of the case company shows that reliability, responsiveness and tangibility are the most important factors in the evaluation of air fresh cargo service quality, while empathy is easily ignored.

Thirdly, the comprehensive evaluation on the service quality of the fresh product freight business of the case company shows that the specific indicators that should be focused on to improve the service quality are: safe arrival of the goods, delivery to the destination according to the agreement, convenient handling of freight procedures, notification within the preservation period, timely feedback and solution of online complaints, and double compensation for freight accidents. This is the case company fresh freight service quality improvement focus.

Fourthly, clarifying the fresh business direction, deepening the fresh service process and improving the fresh service performance in all dimensions are the aspects that HF company should focus on to improve the fresh freight service quality.

The innovation of this research is mainly reflected in the following two aspects:

First, further refine and enrich the research content of air cargo service quality evaluation. In this paper, the specific object of air transport service quality of fresh products is selected. By evaluating the cargo service quality of fresh products, the key factors hindering the development of cargo service of air enterprises are found, and countermeasures and suggestions are put forward to improve the service quality of fresh products cargo business. This will further expand and enrich the existing research field of service quality evaluation of air cargo business. It will also help deepen the study of the whole fresh product logistics chain.

Second, improve the fresh products freight business service quality evaluation method. Based on the current situation of service quality of fresh product cargo business of HF Company, this paper uses analytic hierarchy process (AHP) to construct a service quality evaluation index system suitable for the fresh product business of aviation enterprises. On the premise of establishing the

quantitative evaluation method system of fresh business service quality of aviation enterprises, the existing evaluation method of cargo service quality of the aviation industry is improved, which provides decision-making reference for the improvement of service quality of fresh product cargo business of HF company and the development of fresh product cargo business of aviation enterprises.

Shortcomings of this paper: the survey sample did not cover all customers, only selected some representative customers with large market shares; The improvement strategy is given only from the analysis of various indicators, which does not correspond to the current situation of the company. In the long run, the index weights and satisfaction scores of the existing customers for each area are constantly changing. In the future, efforts should be made to build a more comprehensive, flexible and dynamic evaluation method system.

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Appendices

Appendix 1. Questionnaire on service quality of fresh product freight business of HF Company

1. Interviewee's personal information section

1) What type of unit are you in?

A. State-owned enterprises

B. Private enterprises

C. Foreign-funded enterprises

D. Other

2) What is your present position?

A. Department manager

B. Business Manager

C. Clerical staff

D. Other

3) What is your educational background?

A. Bachelor degree or above

B. Senior High School (Vocational High)

C. High school and below

4) Knowledge of fresh cargo?

A. Familiar with

B. Basic familiarity

C. Not familiar

2.Fresh Cargo Service Quality Survey (please tick " √ ")

Serial number	Options	Be satisfied	Not satisfied	In general
Q1	The company can ensure that the goods arrive fresh and safe			
Q2	The company can deliver the goods to the destination as agreed			
Q3	The company's freight work can fulfill the promise of preferential service			
Q4	The company's fresh cost control is reasonable, relatively low charges			
Q5	The company handles freight service more quickly			
Q6	Notice of arrival of the company's goods within the preservation period			
Q7	The company has a simple process of picking up goods			
Q8	The company complaint acceptance channel dedicated, fast and convenient			
Q9	The company responds to online complaints promptly and resolves them promptly			
Q10	The company can get double compensation in time for freight accidents			
Q11	The company hospitality staff shipping and fresh business knowledge			
Q12	The staff of the company are very helpful			
Q13	The service language of the company staff is more polite			
Q14	The staff of the company work seriously and			

	diligently			
Q15	The company understands the custom needs of shippers			
Q16	The company can provide personalized shipping services for fresh customers			
Q17	The company's cold storage space layout is scientific			
Q18	The company platform truck road refrigeration facilities, such as complete, advanced			
Q19	The loading and unloading equipment of the company is highly intelligent, advanced and efficient			
Q20	The company's staff are neat and well-behaved			
Q21	Platform design in line with fresh characteristics, easy to use			
Q22	Customers can quickly obtain fresh business handling and logistics information			

Appendix 2. Evaluation table of each evaluation index of satisfaction of fresh freight service in HF Company

Serial	**Dimension specification**	**Very**	**Generally**	**very**

number		unimportant		important			important	
1	Reliability --Fresh cargo Department The door can be reliably and error-free The service commitment of the line to the user	1	2	3	4	5	6	7
2	Responsiveness -- Fresh Cargo Department Door to help customers quickly lift for the corresponding service, processing customers household problems and needs	1	2	3	4	5	6	7
3	Assurance -- employees are serving there are quite a few in the process specialty in fresh and shipping knowledge	1	2	3	4	5	6	7
4	Empathy -- truly caring for life fresh customer demand, and for all customers provide personalized service	1	2	3	4	5	6	7
5	Tangibility -- Fresh cargo Department Physical equipment, facilities, The appearance of machinery, service personnel,Etc.	1	2	3	4	5	6	7
6	Information - fresh cargo pipe electronic management of service systems And high degree of information technology	1	2	3	4	5	6	7