Evaluation of cabin service quality of 3u Airlines based on customer satisfaction

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Abstract

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The recovery from the pandemic and the globalization of the world economy are rapidly advancing. Air passenger transport is an emerging mode of transportation, with advantages such as speed, long-distance travel capability, and convenience. During this period, competition among airlines has become increasingly intense.The study of 3U cabin service quality is based on service quality theory and aviation service quality theory, using research methods such as literature review and questionnaire survey. Therefore, evaluating the quality of cabin services is particularly critical, as it directly affects customers' travel experience and satisfaction. However, there remains a gap between cabin service quality and customer expectations.

This paper investigates the current issues in 3U Airlines' cabin services and proposes targeted policies to enhance cabin service quality, thereby improving the company's market competitiveness. This study is based on service quality theory and airline service quality theory, and uses literature review and questionnaire surveys as research methods to identify the shortcomings of 3U cabin service.. The passenger questionnaire was designed based on the SERVPERF model and tested for reliability using SPSS. This research examine cabin satisfaction across the five dimensions of the SERVPERF model. Through the questionnaire survey, it analyzed the problems in 3U Airlines' cabin services, including onboard facilities, staff attitude, and response time.

Finally, by analyzing the data, the research identifieied certain issues in cabin services and proposes targeted solutions to improve 3U Airlines' cabin service standards, thereby enhancing its market competitiveness. This research not only helps to improve the cabin service quality of 3U Airlines but also provides a reference for improving the cabin service quality of other similar airlines.

Keywords
3U Airlines Cabin Service Quality SERVPERF Model

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1 Introduction

1.1 Research Background and Objectives

1.1.1 Research Background

Enhancing customer satisfaction and loyalty: By researching and improving cabin service quality, airlines can ensure passengers receive a sense of fulfillment and positive experiences during service, thereby increasing their satisfaction and loyalty toward the airline. Boosting airline competitiveness: In the increasingly competitive aviation industry, high-quality cabin service has become a key differentiator for airlines. Improving cabin service quality helps airlines stand out in the market and attract more customers. Optimizing service processes and standards: In-depth research on cabin service quality can identify existing issues and shortcomings in service processes and standards, enabling optimization and improvement to ensure efficiency and compliance. Preventing and addressing service failures: Research on cabin service quality also helps airlines identify and prevent potential service disruptions while formulating corresponding countermeasures to ensure service stability and reliability. Promoting sustainable development for airlines: By continuously improving cabin service quality, airlines can gain more customer trust and support. Using SERVQUAL to analyze the issues and root causes in the airline's cabin service quality, this study proposes strategies and recommendations for service enhancement. Next, we will use the SERVQUAL scale to evaluate 3U Airlines' cabin service quality, diagnose and analyze problems in the cabin service process to identify their root causes, and explore improvement methods.

1.1.2 Research Objectives

To ensure the sustainable growth of the civil aviation industry, we need to constantly improve our service level to provide passengers with a high-quality experience. This is crucial for our revenue and profitability. To achieve our strategic goals, we must keep striving and constantly pursue excellent service. Nowadays, due to the continuous expansion of the aviation market, competition in the civil aviation industry is becoming increasingly fierce. Therefore, how to improve the service level of flights, accelerate the development of airlines, and enhance overall competitiveness

has become increasingly important. Among them, cabin service on flights is particularly concerned, as it can directly affect passengers' travel experience and determine whether airlines can win consumers' trust. Although most of the focus is on the development of the aviation industry, there is insufficient attention, effective analysis, and solutions for cabin services of airlines, which leads to poor customer experience. After in-depth investigation and research, 3U Airlines' cabin service has many problems, and the root cause of these problems may be due to the insufficiency of cabin service quality. Therefore, it is crucial to find methods to improve service quality through scientific analysis.

1.2 Literature Review

1.2.1 Research status at home and abroad

Service quality

Lewis (1983) first proposed that service quality is a tool that can help companies judge whether their service level can meet customer expectations Gronroosd (1984) defined the concept and influencing factors of service quality, pointing out that the technical and engineering elements paid by service providers determine the level of service quality. Medjoudj, Aissani, and Haim (2013) found through multi-dimensional empirical research that the customer satisfaction factor should be the first consideration when enterprises plan to improve the quality of customer service. Chi Jian and Ge Jintao (2020) proposed that the information system can be improved, a scientific management system can be built, the detailed operation can be strengthened and the talent introduction mechanism of the enterprise can be improved to improve the service quality. Yuan Jiamei, Zhang Lili (2020) and others can rely on big data and other methods to analyze the work intensity of our employees, we need to improve their working environment, and then enhance their work enthusiasm, so as to indirectly improve the quality of service. Cheng Di (2021) established a hypothetical model for public satisfaction research on service quality, Zhao Yichen and Tang Dengyue (2022) proposed that major airlines should make good use of big data as a tool to grasp customer service demand and make targeted deployments to improve airline service quality. Li Xue (2017) introduced the concept of technology access and service contact by using the theory of service contact, which provides important

theoretical support for companies to improve service quality.

Cabin service quality

Jiang Qun (2015) believes that cabin service is a very important part of civil aviation service, and the improvement of cabin service needs to start from the perspective of customer demand, from the perspective of theory and practice, and innovate cabin service measures to improve customer cabin service satisfaction. Wang Jiyin (2014) through the study of the new concept of civil aviation cabin service, that the important part of aviation service is cabin service, the most important thing in cabin service is the service personnel, airlines should pay attention to personnel management, innovate the work system, improve the overall quality of service personnel to meet the service needs of customers. Wang Jing (2020) focused on the etiquette of aviation service in his research, and explained in detail how aviation service personnel should let customers get the service they feel satisfied with, emphasizing that each customer has a different way of service, and emphasizing the diversified needs of today's aviation customers. Ren Shunhong (2019) proposed in the research that in today's accelerated life, air flight is not the only mode of transportation, in the face of such fierce competition, the service quality of airlines will directly affect the choice of customers, and the most direct service feeling for customers is our cabin service. Zhao Ying and Wang Tiantian believe that if you want to improve customer satisfaction and guest warehouse service, the most fundamental thing is to increase the emotional interaction with customers by comparing hearts with hearts. Zhao Yichen and Tang Dengyue (2022) proposed that major airlines should make good use of big data as a tool to grasp customer service demand.

1.3 Research Methods and Research content

1.3.1 Research content

This paper takes 3U as the research object, takes the 3U cabin service quality problem as the starting point, finds the key to the problem, and finds the solution to the problem. Therefore, this paper first analyzes the current situation of 3u airline cabin service quality based on the company's internal data and the data published by the third-party civil aviation service evaluation agency, and hopes to obtain a

questionnaire through the SERVPERF scale as a theoretical basis. The gap that exists between the values of hope. A comprehensive analysis of the problems existing in 3U air services. And develop a promotion strategy for promotion.

1.3.2 Research Methods

This paper systematically collects, sorts, analyzes and summarizes the existing literature to obtain relevant information and theoretical basis for the research of service quality and cabin service quality. Systematically understand the field of research The direction of research and the research status and progress of cabin service quality at home and abroad lay a theoretical foundation for determining the research questions and contents of this paper.

1.3.3 Questionnaire survey

In this paper, a reasonable and scientific questionnaire was designed according to the purpose and content of the study. Through this questionnaire, it is hoped to understand the situation of the respondents and solicit their opinions and suggestions on cabin service. According to the five dimensions of the SERVPERF scale, the passenger questionnaire was designed, and the characteristics of 3u Airlines were combined to set the secondary indicators to ensure the rationality of the questionnaire design, so as to effectively investigate and evaluate the cabin service quality of 3u Airlines, and provide a strong basis for subsequent improvement.

2 Definition and Theoretical Basis of Relevant Concepts

2.1 Service quality

Service quality is a comprehensive concept that essentially measures the ability of service providers to meet or even exceed customer expectations. Service quality is not determined by a single factor but is composed of multiple interrelated factors, including both objective service performance and the customer's subjective perceptions and experiences. Essentially, service quality is first reflected in the reliability of the service provider, which is whether they can deliver on their promises accurately and consistently, such as timely product delivery and avoiding service errors. This consistency is the foundation for customers to build trust. Secondly, responsiveness emphasizes the proactivity and efficiency during the service process, such as quickly answering questions, flexibly responding to urgent needs, or promptly handling complaints, which directly affects customers' intuitive sense of service efficiency. Additionally, the assurance of service is closely related to professional competence, such as the knowledge base of employees, their communication attitude, and the ability to convey a sense of security. These factors can alleviate customers' doubts and enhance the credibility of the service. Empathy focuses on personalized care, requiring service providers to pay attention to the unique needs of customers, such as providing facilities for special groups or showing emotional support during the service process, thereby enhancing customers' emotional recognition. Finally, tangibility serves as the material carrier of the service, shaping customers' first impressions of service quality through perceivable details such as the physical environment, equipment, and even employee appearance.

2.2 Cabin service quality

Cabin service quality is the ability of airlines to meet passengers' explicit and implicit needs through the cabin environment, facilities, service processes, and the behavior of crew members. It encompasses basic needs (such as safety, punctuality, comfort) as well as emotional needs (such as respect, personalized care, and pleasant experiences). The entire process of cabin service covers everything from boarding to deplaning, including welcoming passengers, dining, communication, and emergency response. Cabin service quality is a combination of hardware and software: on one hand, it relies

on physical facilities (such as seating and entertainment systems), and on the other hand, it depends on service interactions (such as the attitude of the flight attendants and problem-solving abilities).

2.3 Service quality evaluation model

Through the literature review, it can be seen that most of the studies on the service quality evaluation of service-oriented enterprises are based on the PZBSERVQUAL model and the SERVPERF model of Cronin and Taylor. The SERVPERF model focuses on directly measuring customer satisfaction with the service they have received. The gap between the expected value and the actual value is not compared. This allows the focus to focus on how satisfied the customer is with the airline, rather than where it is expected to be. It can also find out where the airline makes customers feel deficient and make targeted improvements. Secondly, compared with the SERVQUAL model, the measurement process of the SERVPERF model is relatively simplified, and feedback and data can be obtained more quickly by directly asking customers about their satisfaction with the services they have received. Finally, the SERVPERF model can focus on several key key dimensions such as physicality, reliability, responsiveness, assurance and empathy, so that airlines can more effectively understand all aspects of customer satisfaction. So as to make targeted measures to improve customer satisfaction.

2.4 The five dimensions of the servperf model

The model adopts a five-dimensional evaluation system, and the five dimensions are: tangibility, reliability, responsiveness, security, and empathy.

Materiality

Refers to the hardware services provided to passengers in the cabin, such as the beverages and meals in the cabin, the newness of the seats, and the fun of the entertainment facilities.

Reliability

It refers to the ability to promise reliable travel services, and the reliability of airlines is mainly reflected in the point rate of its flights, the protection of customer

information, the safe transportation of luggage, and so on.

Responsiveness

Refers to the ability of a service provider to respond quickly to the needs of passengers and provide efficient and convenient services to passengers. The responsiveness of an airline refers to the ability to respond quickly to the needs of passengers, such as the friendliness and enthusiasm of the service staff.

Guarantee

It refers to the degree to which the service staff completes their jobs and the degree of customer satisfaction with their services. For example, the professionalism of cabin crews, including professional knowledge and skills.

Empathy

It means that the service staff can think about the problem and deal with the problem from the customer's point of view. Cabin service mainly refers to the service ability to meet the customer's personalized requirements. For example, the ability to meet customer expectations.

3 Analysis of the current situation of airline cabin service quality

3.1 Introduction to 3U Aviation

Sichuan Airlines Co., Ltd., referred to as Sichuan Airlines, with IATA code 3U and ICAO code CSC, is one of the leading airlines in western China. The company was established on September 19, 1986 and officially opened sail on July 14, 1988. Headquartered in Chengdu, the main operating bases are Chengdu Shuangliu International Airport and Chengdu Tianfu International Airport, and there are branches and operation bases in Chongqing, Kunming, Beijing, Hangzhou, Xi'an, Harbin and other places. The nature of the enterprise is a state-controlled airline, and its main shareholders include China Southern Airlines, Shandong Airlines, Chengdu Ginkgo Jinge Investment, etc. As of 2024, Sichuan Airlines has a fleet of about 200 aircraft, mainly Airbus series aircraft, including A320, A321, A330, A350, etc., and is one of the largest all-Airbus fleet airlines in China. The route network covers major cities in the country, especially the plateau routes such as Lhasa, Jiuzhaigou and Nyingchi, and at the same time opens international routes to Copenhagen, Rome in Europe, Vancouver in North America, Los Angeles, Sydney in Oceania, Melbourne, Bangkok in Southeast Asia, Singapore and other international routes, and also operates regional routes from Chengdu and Chongqing to Hong Kong, Macao and Taipei. The brand concept is beautiful Sichuan Airlines, excellent and fashionable, highlighting the combination of Sichuan regional culture and modern aviation services. Special services include providing authentic Sichuan-style meals such as dandan noodles, bell dumplings, and string of incense, which have been rated as China's top ten airline meals for many times; To build the brand of Panda Road international routes, and integrate panda elements into aircraft livery and cabin supplies; Experienced in high-altitude route operation with a professional flight team; Launched the Golden Panda Club frequent flyer program, offering mileage accrual and benefit redemption. In 2002, it completed the shareholding system reform and became one of the first airlines in China with the participation of private capital. In 2013, the first A330 wide-body passenger aircraft was introduced and intercontinental route operation began. In 2018, flight 3U8633 was diverted due to the movie Chinese captain prototype incident, which attracted wide attention and demonstrated its safe flight strength. In 2021, Chengdu Tianfu International Airport was put into operation,

and Sichuan Airlines became one of the main base airlines. It has been awarded the Five-Star Award for Flight Safety of Civil Aviation of China and the Top Ten Airlines for Passenger Satisfaction for many times. Participate in public welfare activities such as earthquake relief and medical material transportation. Promote green aviation and introduce new models such as the A350, which is more energy-efficient. In the future, it plans to expand more international routes and strengthen Chengdu's status as an international aviation 。

3.2 Comparative analysis of cabin service quality of 3U airlines

3.2.1 Overview of the Civil Aviation Passenger Service Assessment System

The air passenger service evaluation system is a set of professional systems for comprehensively evaluating the service quality of airlines, which systematically monitors and analyzes all aspects of air service through scientific methods and diversified data collection methods. This system not only focuses on traditional service indicators, but also integrates modern technology and the deep -seated needs of passenger experience, and has become an important tool for airlines to improve service quality.CAPSE (Civil Aviation Passenger Service Evaluation) is an authoritative third-party service quality evaluation system in the field of civil aviation in China, which is approved by the competent national authorities to specialize in passenger service evaluation. Through scientific and multi-dimensional data collection and analysis, it provides accurate service improvement guidance for civil aviation enterprises. Data neutrality: Collect more than 20 million real passenger feedback (covering flights, airports, OTAs and other scenarios) every year to avoid the subjective bias of airlines and airport self-assessment. Industry benchmarking system: Establish 36 benchmark indicators in 7 categories of China's civil aviation services (such as 71.5% benchmark value of in-flight WiFi satisfaction and 8.2 minutes benchmark value of airport security check efficiency), and support airlines and airports to benchmark against international standards (such as Skytrax and IATA). The content of this article will be based on data from the Q2 2023 report published by CAPSE

3.2.2 The current state of overall passenger satisfaction of 3U Airlines

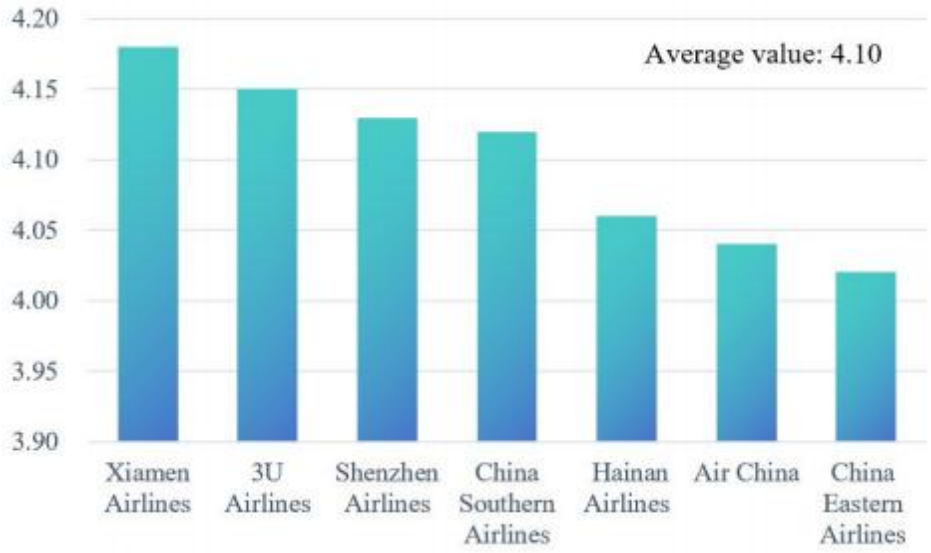
This study will use the in-flight service evaluation indicators set by CAPSE institutions, including flight attendant service, in-flight broadcasting, in-flight catering, cabin facilities and environment, and in-flight entertainment to conduct a comprehensive analysis of 3u Airlines' cabin service. The specific indicators of the CAPSE Civil Aviation Service Assessment are shown in Table1 below

Table1 CAPSE metrics

Evaluation items	Primary indicators	Secondary indicators
Cabin service	Air stewardess service	attitude towards customers
		service mode
		Service responsiveness
	Over the air	Radio volume
		Broadcast pronunciation standard
	In-flight entertainment	Entertainment facility playability
		The types of recreational facilities
	Cabin facilities	In-flight seat
		Toilet on board

This study uses the indicators set by CAPSE to evaluate the in-flight service, including flight attendant service, in-flight broadcasting, in-flight catering, cabin facilities and environment, in-flight entertainment, to conduct a comprehensive analysis of 3u airline's cabin service. In the first quarter of 2023 assessment, CAPSE selected 32 airlines and published passenger satisfaction data on cabin satisfaction, including 20 full-service airlines in Chinese mainland and 12 airlines with personalized service. Xiamen Airlines ranks first with a score of 4.18 in the in-flight service scores of full-service large airlines Table2, which is closely related to their core values, and they always adhere to the concept of "four truths", serving customers with sincerity, retaining customers with sincerity, moving customers with sincerity, and repaying customers with truth. Xiamen Airlines always considers how to provide good service from the customer's point of view, which is the most critical reason why it can achieve the first rating. 3U Airlines also achieved a high score of 4.15, which is also 0.15 points above average. The main difference between it and Xiamen Airlines is that Xiamen Airlines' service process is more international. The training system for flight attendants is stricter and the service is more standardized. In terms of aircraft comfort, Xiamen Airlines is also much better than 3U Airlines, and the seat comfort of passengers in the economy class of Boeing 787 aircraft is better. During

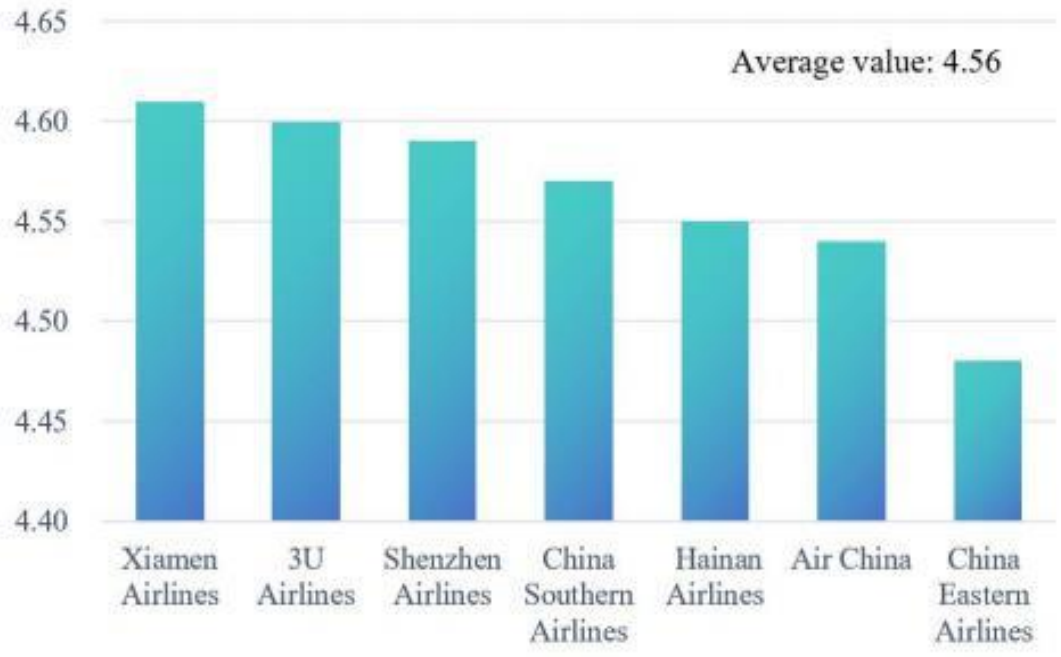
the festival, the cabin layout and catering design are more ceremonial, and Xiamen Airlines will send mooncakes and special gift boxes during the Mid-Autumn Festival. And 3U Airlines does not.



Fight1 Comprehensive score of cabin service of full-service large airlines in the Mainland

Flight Attendant Services

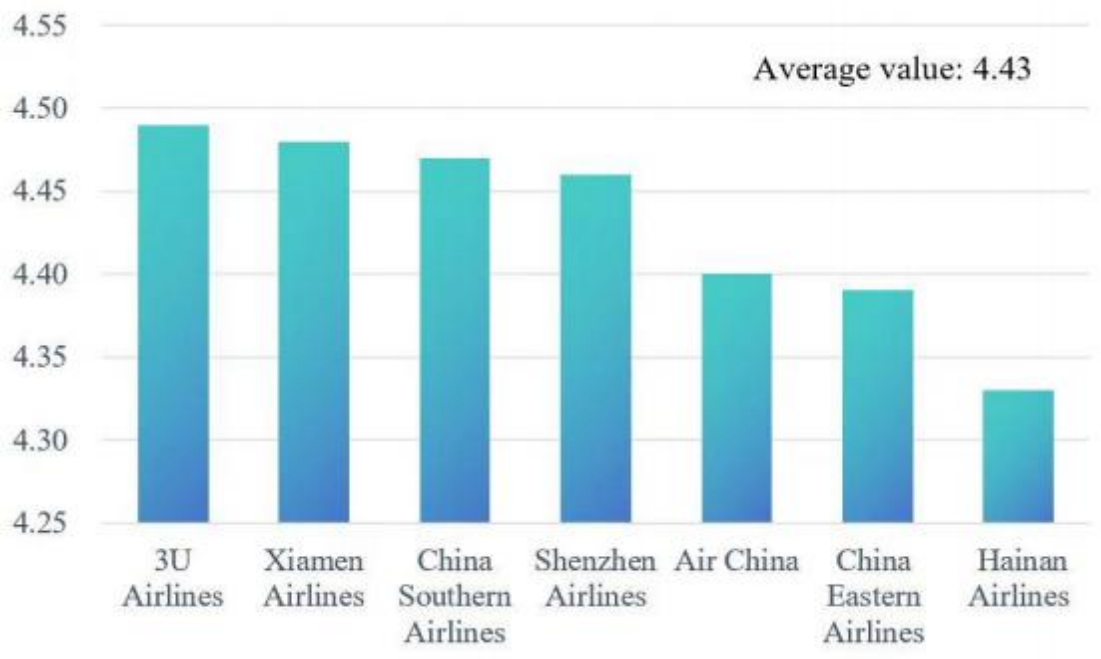
In terms of flight attendant service, several large airlines scored an average of 4.56, while 3U Airlines achieved an excellent score of 4.6 above average (see Table3). In terms of flight attendant service, Xiamen Airlines still ranks first with a score of 4.61, which is closely related to their training process and the professionalism of the training, they have the professional knowledge to know how to treat expatriates and customers with physical disabilities, so that they can also have a comfortable travel experience. This is also an important reason why they can achieve such a high score, and I think this is a very commendable place, which reflects the professional humanistic care. This is where 3U Airlines' disadvantage lies in flight attendant services, and flight attendants generally do not have a high level of English. In the same way, 3U Airlines also did a lot of very good things, which also made them achieve a high score of 4.6, their flight attendant service is very positive and friendly, giving others a very close and friendly experience, so that the elderly and children can feel warm.



Fight2 The overall score of flight attendant service of full-service large airlines in mainland China

In-flight broadcasts

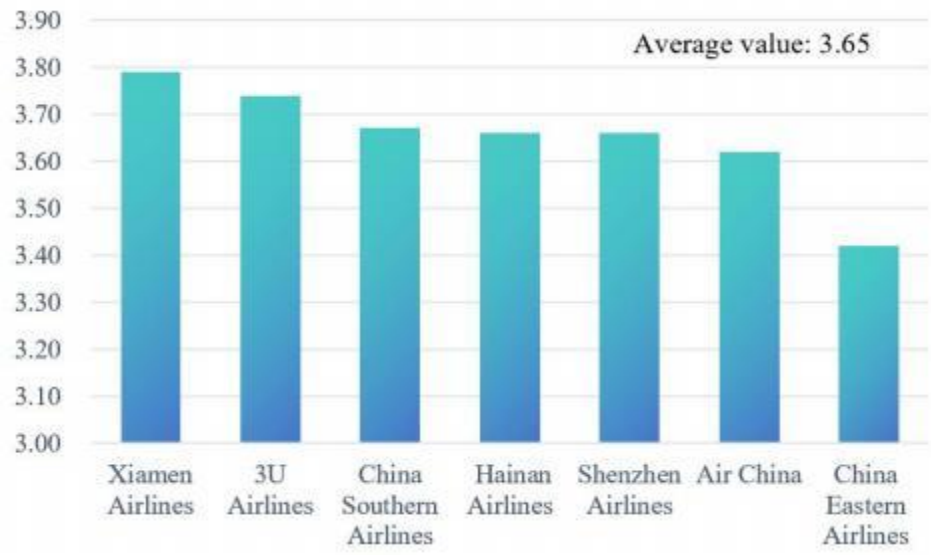
In-flight broadcasting is an indispensable part of aviation services, not only as a tool for information transmission, but also as an important means to ensure safety, enhance passenger experience and build brand image. The most critical features are safety messaging, including announcements like passengers on the location of emergency exits and the use of oxygen masks for life jackets. Synchronized with flight information, such as in the event of a delay or early arrival, customers can be informed in advance through the in-flight announcement, so that customers do not feel anxious. You can also promote your brand image and local character through radio. As shown in Table4, 3U Airlines ranked first with a score of 4.48. It shows its superiority in broadcasting on board, but the advantage is not very obvious, and it is hoped that it can continue to maintain its advantage. And actively strive to improve



Fight3: The overall score of the drivers of full-service large airlines in the Mainland

In-flight dining

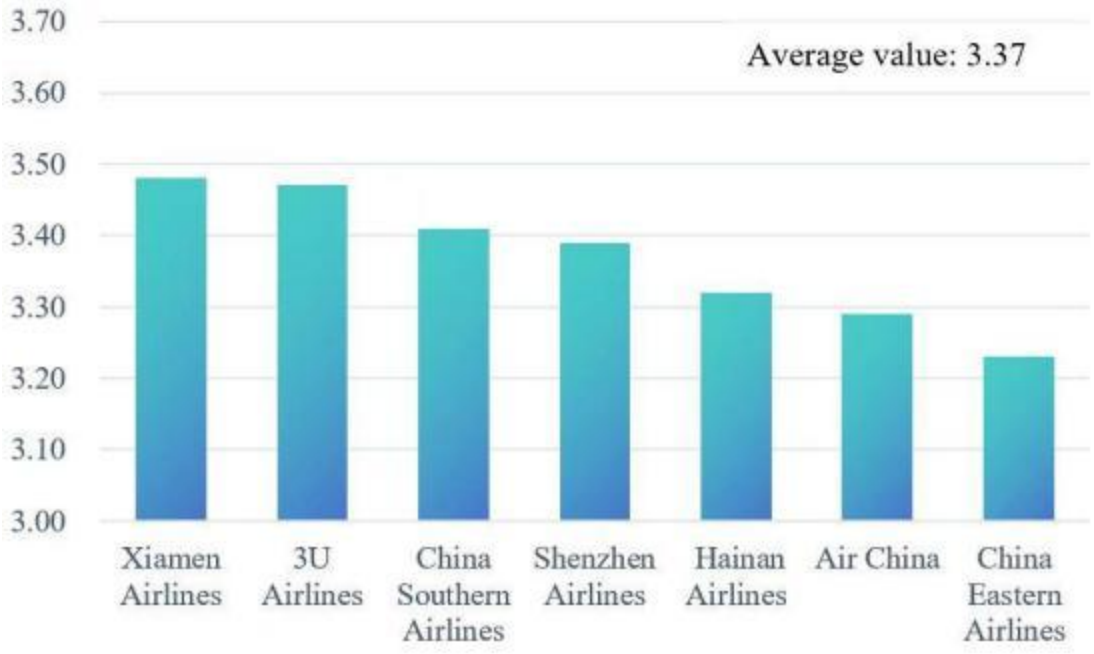
As an important part of aviation services, the content design of in-flight catering needs to balance practicality and experience, not only to meet the physiological needs of different passengers, but also to integrate the service concept and cultural characteristics of the airline. Although there are differences in catering standards for different classes, routes and airlines, they still follow a certain logical framework to enhance passengers' in-flight dining experience through diversified collocations and detailed optimization. 3U Airlines' special service in food and beverage service is very attractive, and has launched "Red Classic" and "Pink Beauty" packages. For this reason, some passengers choose to fly with 3U Airlines. That's why a high score of 3.74 can be achieved. Table5 shows that the average score of catering on the comprehensive score of full-service large airline drivers in the mainland is only 3.65, which is lower than that of other sectors, and the reason is that in-flight meals are expensive and difficult to produce. Therefore, the production of in-flight catering should be further innovated.



Fight4: Mainland full-service large airline drivers on the overall score of catering

In-flight entertainment

The overall rating of in-flight entertainment is only 3.65, which is the lowest level among all data indicators, which also reflects the strong dissatisfaction of customers with in-flight entertainment, and also forms a significant difference from airlines in developed countries. Most airlines only have small TVs on board to show movies, and the number of TVs is small and there is no sound. It is simply not possible to provide customers with the effect and feeling of entertainment. As shown in Figure Xiamen Airlines and 3U Airlines, which have the highest overall score for entertainment on board the Table full-service large airlines in the mainland, are only 3.48, indicating that the major airlines are unable to meet the spiritual pursuit of customers in in-flight entertainment. 3U Airlines should invest more in airport entertainment and innovate to meet the growing entertainment needs of customers. At the very least, there should be 1 seat and 1 screen for users to choose entertainment or rest, which is also the biggest part that I think 3U Airlines can improve in cabin service.



Fight5 comprehensive score of full-service large airline drivers in the mainland

brief summary

To sum up, based on the CAPSE evaluation data for the second quarter of 2023, this section can roughly see the shortcomings of 3u airlines in the cabin service link and the gap between them and airlines of the same class, and also find out their advantages in cabin service. The main indicators that affect the quality of cabin service of 3u airlines are in-flight entertainment and flight attendant service, and the solutions and improvement strategies of these problems will be put forward one by one in the following article, most of the data provided by the CAPSE evaluation network are biased towards the traditional cabin service, and there is little design for the personalized aspects of airlines today, so in order to better understand the needs of customers, we need to conduct questionnaires for customers, therefore, In Chapter 4, this paper will use questionnaires and methods to study how to improve the quality of cabin service of 3U Airlines.

4 Survey and Analysis of 3U Airlines' Cabin

4.1 Questionnaires

4.1.1 Questionnaire design

In the process of designing this questionnaire, the Consumer Affairs Center of the Civil Aviation Administration of China and domestic and foreign airlines (existing research on questionnaire design and service quality were taken into account, and the first draft was formed after extensive study of literature directly related to service quality and data review . The design of this questionnaire aims to combine the problems of the cabin service quality evaluation system and the specific problems in the cabin service of 3U Airlines and my flight experience, to squeeze out a reasonable, comprehensive and suitable for the actual questionnaire of 3U Airlines, so that I can better find the problems in the cabin service, this paper uses the Likert five -level scale to define the passengers' perception, service quality, and tendency, a research question, from "very satisfied" to "very dissatisfied", respectively, assigned 5 points to 1 point, "very satisfied", assigned 5 points, "Satisfied" is assigned 4 points, "General" is assigned 3 points, "Dissatisfied" is assigned 2 points, and "Very Dissatisfied" is assigned 1 point This survey is mainly divided into two parts, the first part is the basic information of passengers, including the passenger's gender, age, travel purpose, I am a 3U aviation commonly used passengers, and other demographic basic information and consumption characteristics. The second part is the cabin service quality evaluation part, which takes the five dimensions of tangibility, reliability, toughness, guarantee and invisibility as the first-level indicators, and the characteristics of 3U Airlines' differentiated services to formulate 10 second-level evaluation systems to form a 3U airline cabin service quality evaluation system and investigate passengers' perception of 3U Airlines' cabin service.

Table2 Hierarchical Indicators for Evaluation

First level No.	First level indicator	Second level No.	Second level indicator
A	Stylish	A1	The cabin has a good hygienic environment.
		A2	the flight attendants have good grooming.
B	Reliability	B1	Whether you can be notified of the problems encountered in the flight at the first time.
		B2	whether the complaints on board have been dealt with.
C	Responsiveness	C1	The speed of feedback on passengers' problems and difficulties.
		C2	whether passengers can be notified of delays in the first place.
D	Guarantees	D1	Whether the flight attendants can treat customers with a polite and warm attitude.
		D2	whether the flight attendants have good professional qualities.
E	Empathy	E1	Whether the in-flight catering satisfies the customer.
		E2	whether the in-flight entertainment facilities make the customer happy.

4.2 Questionnaire distribution and collection

One of the main bases of 3U Airlines is in Chongqing, and the number of inbound and outbound flights is very large every day, so you can obtain the data of a large number of customers who take 3U Airlines, and you can find out the problems in the cabin. Therefore, the survey point is set up at Chongqing Jiangbei Airport, and the survey method is to conduct the survey by scanning the electronic questionnaire of the two-dimensional code, in order to ensure that the survey data is objective and effective, set several premises, and the survey of the population is relatively extensive, mainly for all ages, boys and girls. Let the customer scan the code to fill in directly, and answer it next to it, so that the respondent feels vague or does not understand, so that he can truly evaluate his feelings. Pay attention to the time of the investigator to investigate in the lounge, do not wait until the boarding gate to conduct the survey, otherwise most people will not have the patience to take the survey. The retrieval questionnaire will remove the non- conforming questionnaires, including the missing and invalid questionnaires, which involved 40 flights on two flights. During the period, a total of 160 questionnaires were collected, of which 136 were valid, with a recovery rate of 85%

4.3 Reliability and validity of questionnaires

4.3.1 Reliability test

Questionnaire reliability refers to the consistency or stability of survey results, and there are many ways to test its reliability. In this paper, we will use the SPSS method to test the reliability, and the way to measure it is by the Cronbach A coefficient. The higher the Clonbach coefficient, the higher the reliability of the questionnaire, greater than 0.8 indicates good consistency, 0:6 to 0:8 indicates good, and less than 0.6 indicates poor, this study used spssAU statistical software to verify the credibility and validity of the document, and obtained the following results through data analysisTable 8 Analysis of questionnaire reliability test results, from the analysis results, all values are more than 0.8, indicating excellent internal consistency Table 8 Analysis of the results of the questionnaire reliability test

Table3 Analysis of reliability test results of questionnaire

dimension	Cronbach' s Alpha	Number of items
Stylish	0 942	2
Reliablity	0.922	2
Responesiveness	0.934	2
Guarantees	0.860	2
Empathy	0.896	2

4.3.2 Validity test of the questionnaire

Questionnaire validity refers to the accuracy of the measurement results, i.e., how close the measurement results are to the target. In the case of a questionnaire, validity refers to the degree to which the questionnaire reflects the theoretical concepts it measurs. A KMO value greater than 0.9 is optimal, greater than 0.8 is good, greater than 0.7 is moderate, greater than 0.6 is poor, and greater than 0.5 is low. If the KMO value is less than 0.5, then it is not suitable for factor analysis. In this paper, the SPSSAU statistical analysis software was used to test the validity of the questionnaire.

Table4 KMO and Bartley's test

KMO and Bartley test		
The number of KMO sampling cuts		0.912
Bartlett spherical test	Approximate chi-square	2675.342
	degree of freedom	342
	Distinctiveness	.000

4.4 Descriptive analysis of the sample

In terms of the demographic characteristics of 3U air passengers, 47.29% of the respondents were males and 52.21% were females. The gender distribution is more balanced. In terms of age, the proportion between the ages of 25 and 35 is the largest, accounting for 31.62%. This is followed by 25 per cent under the age of 25. The questionnaire of this visible survey is mainly filled out by young people. The crowd of people who fly is still mainly young people. In terms of the educational background of the respondents, the largest number of undergraduate students was 43.38%. In terms of occupation, most of them are company employees, accounting for 33.09%. It shows that most of the passengers who take the plane are still mainly business passengers. It has also been verified on the purpose of travel, with 40% of people traveling for business. In terms of the frequency of taking 3U Airlines, the proportion of more than 5 times a year, 3~4 times a year, and 1~2 times a year is relatively balanced. The number of first-time riders is relatively small. Through the analysis of the basic characteristics of 3U air passengers, it can be seen that although the sample is not large, the sample distribution basically meets the requirements of random survey. This paper provides a theoretical basis for the following study of the quality of 3U airline cabin service through the difference theory.

Table5 Sample data sheet

Basic Information	Number	select	percentage
Gender	1	Male	47.79%
	2	Female	52.21%
Age Group	1	25 below	25%
	2	25-35	31.62%
	3	36-45	13.97%
	4	46-55	15.44%
	5	50 and above	13.97%
Educational Background	1	High school or below	39.71%
	2	Undergraduate	43.38%
	3	Master	16.91%
	4	Doctor	0%
profession	1	Student	15.44%
	2	company employee	33.09%
	3	teaching staff	13.97%
	4	Medical workers	9.56%
	5	Government employee	5.15%
	6	liberal professions	16.91%
	7	other	5.88%

objective	1	Business travel	40.44%
	2	Travel	31.62%
	3	visit	19.85%
	4	Other	8.09%
rate	1	More than five times a year	37.5%
	2	3-4 times	32.35%
	3	1-2 times	23.53%
	4		

Data source: Authors' research

4.5 Cabin service indicator data

Through the analysis and summary of the evaluation data of the passenger questionnaire, the cabin services of 3U Airlines are now evaluated The results are as follows

Stylishness In terms of feasibility, this time through the questionnaire asked two questions, one is the satisfaction with the flight attendant's grooming, the average score of 3.66 is higher than the tangible 3,55 points, and the score is mostly concentrated between 4 points and 5 points, so it seems that most people are very satisfied with the appearance of the cabin flight attendants, which also reflects the strict standards of 3U Airlines for training and selection in this regard. The score on the sanitary conditions is only 3.44, which is lower than the average score of 3.55, indicating that in this regard, the use of aircraft is very frequent and no attention is paid to the cleaning of cabin hygiene, and some aircraft models are too old and some places cannot be cleaned. This leads to a decrease in cabin satisfaction for customers. Similarly, the 3.55 score is higher than the overall average score of 3.49 for cabin service quality, indicating that passengers are generally very satisfied with the directly observable elements

Table6 Stylishness Statistical Analysis Data of Perceived quality and Expected quality

idem	perceived quality	expected quality	PE-EQ
The cabin has a good hygienic environment.	3.66	3.55	0.11
the flight attendants have good grooming.	3.44	3.55	-0.11
stylishness	3.55	3.49	0.06

Reliability

In terms of reliability, two questions were also asked, namely, whether to notify the first time of the problems encountered during the flight. Whether cabin complaints are dealt with. When encountering problems, whether you can be notified at the first time, the score is 3.48, which is lower than the score of 3.52 for reliability, most people think that 3U Airlines is not doing well, 23% of people choose to be dissatisfied and very dissatisfied, and what makes customers dissatisfied is that when the plane encounters a delay, it will not notify customers of the reason for the delay and the estimated time of arrival at the first time. It is also the cause of the maximum deduction. In the question of whether the complaint on board is satisfied, the score is very scattered, the score is 3.56, which is higher than the average of 3.52, very satisfied, and the proportion of satisfaction and okay is between 25 and 30%, indicating that the feedback processing speed of this complaint problem also varies from person to person, and the crew members of some flights can do very well, and some can't. Explain that the standards of training are not strict enough. The reliability score of 3.52 is slightly higher than the average score of 3.49 in the five dimensions, indicating that passengers still recognize the reliability and ability of the flight attendants. But there's still a lot of room for improvement.

Table7 Reliability Statistical Analysis Data of Perceived Quality and Expected Quality

idem	perceived quality	expected quality	PE-EQ
Whether you can be notified of the problems encountered in the flight at the first time.	3.48	3.52	-0.04
whether the complaints on board have been dealt with.	3.56	3.52	0.04
reliability	3.52	3.49	0.03

Responsiveness

Responsiveness mainly examines the response speed and efficiency of airlines to passengers in the process of service, and two questionnaire questions are also put forward in terms of responsiveness, namely the feedback speed of passengers' problems and difficulties, and whether passengers can be notified in the first time in case of delays. The feedback speed has achieved a score of 3.47 and a high expectation of 3.41, which also shows that there are channels for feedback when encountering problems, but it also shows that the service attitude of some flight attendants is not so

positive, especially at present, the flight attendants have 05 post-00s, and most of the post- 00s are only children, and the degree of dedication is not so high, and the service attitude may be further improved. In the event of a problem, whether the passenger can be notified at the first time scored 3.35, lower than the expected value of 3,41, many times delayed, the cabin crew can not be the first time to inform the passenger of the news resulting in passengers will become impatient, the same in this case will not be the first time to comfort and compensate the passenger. This is due in large part to the poor communication between cabin crew and ground staff. There is a need to strengthen communication channels on both fronts. The responsiveness score of 3.43 is lower than the expected value of 3.49, indicating that the enthusiasm of cabin service in this responsiveness and the speed of feedback after encountering problems are far from enough.

Table8 Statistical Analysis Data of Perceived Quality and Expected Qualit

idem	perceived quality	expected quality	PE-EQ
The speed of feedback on passengers' problems and difficulties.	3.51	3.43	0.08
whether passengers can be notified of delays in the first place.	3.35	3.43	-0.08
Responsiveness	3.43	3.49	-0.06

Guarantee

This indicator mainly examines the self-confidence and professionalism of employees to make customers feel safe, and here it also involves two issues: The polite language of the flight attendant achieved a score of 3.53 higher than the expected value of 3.49 points, overall, the customer's enthusiasm for 3U Airlines is very agreeable and comfortable, 3U Airlines requires each flight attendant to do the polite reception of each passenger after getting on the plane, but the professionalism is a little lacking, only 3.45 points below the expected value of 3.49 points, which is also related to the overall low education of the flight attendants. And the lack of professional knowledge is related. The guaranteed score of 3.49 is just the same as the expectation of the five dimensions. In the case that the polite language of the staff is already above the average, it indicates that the professional knowledge of the flight attendants has become a big loophole and needs to be urgently trained and improved.

Table9 Guarantee Statistical Analysis Data of Perceived Quality and Expected Qualit

idem	perceived quality	expected quality	PE-EQ
Whether the flight attendants can treat customers with a polite and warm attitude.	3.53	3.49	0.4
whether the flight attendants have good professional qualities.	3.45	3.49	-0.4
Guarantees	3.49	3.49	0

Empathy

In terms of empathy, the indicators are mainly based on the airline's personalized service and from the perspective of caring for users. The satisfaction score of 3.68 for in-flight catering is higher than the expected value of 3.53 points, which also reflects the great innovation and importance that 3U Airlines attaches to catering, and they actively innovate in terms of participation and launch a variety of special meals. The in-flight entertainment score of 3.38 is only 3.53 points below the expected value, and there is basically no coverage on the 3U Airlines, and the entertainment facilities only have a small movie screen, which is small in number and is not equipped with headphones. Magazines are also mostly brand advertisements. In terms of empathy, the overall score is 3.53, which is higher than the expected value of 3.49, indicating that overall, the personalized service is still very recognized by passengers

Table10 Empathy Statistical Analysis Data of Perceived Quality and Expected Qualit

project	perceived quality	expected quality	PE-EQ
Whether the in-flight catering satisfies the customer.	3.68	3.53	0.15
whether the in-flight entertainment facilities make the customer happy.	3.38	3.53	-0.15
Empathy	3.53	3.49	0,04

5 result of eva luatio suggestion suggestions

At present, most of the way airlines communicate with their customers is concentrated in the cabin, and the security check breaks for underground services are basically handled by local airports. Airlines are unable to communicate with their customers to promote their brand and image. Therefore, cabin service is very important to the marketing of airlines, airlines want to expand the influence of the brand, increase the viscosity of users, convenient and the fastest channel, is to improve the level of cabin service. Through questionnaire survey and literature review, the following problems were summarized.

Wifi coverage

As of July 2023, Sichuan Airlines' WIFI air-to-ground interconnection fleet has reached 17, and more than 50 flights per day have achieved ground-to-air interconnection, but the number is still too scarce compared to the overall number of aircraft. At present, the WIFI coverage rate of 3u aviation is only about 5%, which is still lower than the national level of 6%. An important reason why most customers get bored on the plane and the low score of in-flight entertainment cannot be implemented. This in turn has a direct impact on the satisfaction of the customer's cabin. Insufficient investment in hardware facilities

First of all, the content of the cabin entertainment equipment was not updated at the right time, and the music and other videos that have not been updated for a long time are all videos from a year ago or two years ago. Most passengers have seen that there is no way to attract customer interest, there is no option to equip headphones, there is no sound for users interested in video, and there are few magazines, most of them are for advertising magazines and brand promotion. The seats are old and hard, which will make it uncomfortable for customers who take the car for a long time and affect the aircraft experience. The cabin is relatively cramped, and the legs cannot be stretched out for a long time, especially for tall or obese passengers, the experience is extremely poor. The cabin lights are monochromatic and cannot create different atmospheres. For example, use red lights during take-off or landing to warn customers to be careful.

The professionalism of the flight attendant is not good

Overall, the overall education of flight attendants is not high, and more than 60% of them have a bachelor's degree or below. Most bachelor's degree or higher are arranged on international flights and first class services. Many flight attendants do not have sufficient professional knowledge. In the event of an emergency, they can also become very flustered and do not know how to deal with it. At the same time, the uniformity of the training of 3U flight attendants is not very sufficient. For example, the overall professional quality of flight attendants on some routes is relatively high, while the overall professional quality of flight attendants on some routes is relatively low.

The message notification is not timely enough

Overall, the overall education of flight attendants is not high, and more than 60% of them have a bachelor's degree or below. Most bachelor's degree or higher are arranged on international flights and first class services. Many flight attendants do not have sufficient professional knowledge. In the event of an emergency, they can also become very flustered and do not know how to deal with it. At the same time, the uniformity of the training of 3U flight attendants is not very sufficient. For example, the overall professional quality of flight attendants on some routes is relatively high, while the overall professional quality of flight attendants on some routes is relatively low.

6 3U Airlines' cabin service quality improvement suggestions

3U Airlines should further increase its investment in technology and install air-ground interconnection devices on all aircraft types, so that passengers can use WiFi normally during flights. A fee can be charged appropriately. So that customers can browse the web at any time, work, study and play. The in-flight WiFi service is activated after the flight altitude reaches 10,000 feet, and passengers can connect to the WiFi and surf the Internet by purchasing a data package through their WeChat or Alipay accounts through real-name authentication on their smartphones. In order to make it more convenient for passengers to use WiFi, there should be some instructions at the seat. Flight attendants should also explain how to use and precautions to customers before take-off. At the same time, for passengers who often fly our airlines, we should introduce a variety of preferential measures such as exchanging points for traffic to increase customer stickiness. Let customers get a more comfortable and convenient travel experience. Similarly, there should be more updates in media content, new programs, great fun, and many programs. Passengers can choose what they like to watch to meet the entertainment needs of users of different genders and ages.

Hardware upgrades 3U Airlines focuses on improving the passenger service experience and improving the hardware equipment on the aircraft. For example, a small TV on an airplane. Whenever possible, have a small TV in front of each traveler so that they can watch and choose. Improve the configuration scheme of media content on the aircraft. to meet the needs of passengers of different genders. Update the seat position cushion frequently and replace it with a softer cushion. Customers can get a comfortable experience during a long journey. The second is that the amount of water from the faucet in the toilet can be increased. Meet the needs of customers who can wash their faces when they are tired from a long time on a plane.

Raise the criteria for selecting new passengers When selecting new flight attendants, it is important to raise the bar, because clear communication and good image and quality can greatly improve customer satisfaction. At the same time, some flight attendants with special skills should be brought in. For example, staff with first aid capabilities. Sudden deaths on flights have been frequent recently, and it is possible to avoid these disasters if there were professionals. Secondly, the international

requirements for flight attendants are getting higher and higher, not only on international flights, but also on domestic flights, there are also most foreigners, so flight attendants are required to have a certain level of English ability, and they need to pass the English level 6 or professional level 4 or above as a priority condition. The assessment mode should also be adapted, learn some advanced airline concepts, and change from the previous single recruitment to team discussion and the team's ability to respond to emergencies. In terms of training, we should achieve a unified standard for each route, and conduct regular inspections and return training. Let the flight attendants of each route treat customers with high standards, and do not let customers have different routes and different services.

Organizational safeguards Set up a cabin service quality improvement department to ensure the continuous improvement of cabin service quality. Regularly inspect, train, and learn about the quality of cabin services. Feedback customer complaints at the first time, and investigate and deal with them in a timely manner. Do customer complaints, three hours of timely response. Summarize and form a system in a timely manner, avoid risk points, and formulate manuals for supply Company promotion.

7 Conclusions and prospects

7.1 conclusions

We have sorted out relevant data such as service quality and satisfaction measurement at home and abroad. This reflects the importance of improving the quality of cabin service to 3U. By using the five dimensions of the SERVQUAL scale, a questionnaire on the cabin service quality of 3u airlines was designed, and the problems existing in the cabin of 3u airlines were found through the collation and summary of the questionnaire. In this regard, targeted improvement strategies are proposed, which are as follows Strengthen the configuration of WIFI equipment on board, strive for full coverage of WIFI on all models, and realize the freedom of use in the air Regularly overhaul and maintain the equipment on the plane, especially the purchase of some cushions for the seats and the use of some small tools such as neck pads, so that passengers can feel comfortable and happy when taking the plane as much as possible. Reduce fatigue during long journeys. Headphones were purchased so that travelers could enjoy their entertainment.

Establish a special complaint department, so that customers can complain in the first time, the biggest reason for the slow feedback speed in the past is that the intermediate department is cumbersome. Through this, the feedback speed is accelerated, so that customer feedback and complaints can be responded to and dealt with in the first time. Make travelers feel valued Actively launch some special catering for catering, and carry forward the advantages and characteristics of 3U Airlines. It can not only bring economic value to airlines, but also increase the viscosity of users, Strengthen the training of flight attendants, so that the personalized service of customers and international passengers can be easily dealt with and faced, and emergencies can also be made as soon as possible to comfort passengers.

7.2 There is insufficient research

In this study, questionnaires and civil aviation passenger service evaluation systems were used to conduct surveys. It is a combination of my own learning experience and life experience, and lacks comprehensiveness. The questionnaire only involves routes in two directions, which is not authoritative, has too many limitations, and the actual

results may be biased from the sample. The questionnaire only received more than 130 points, the number of questionnaires is too small, and people without academic qualifications and doctorates cannot know the evaluation of 3U cabin service quality by highly educated people.

7.3 prospect

Future research should continue to explore how to improve the level of cabin service quality of 3U Airlines, first of all, we should expand the scope of the survey, cover more routes and more diverse people, so as to better understand the needs of different routes and passengers, and also make targeted improvement strategies, in addition to questionnaires, we can also conduct survey interviews with cabin crews, through a different perspective to know the cabin service, what they think is lacking, so that they can not do anything. Big data and artificial intelligence are used to analyze and process massive data, so as to understand the needs of users more comprehensively. Finally, strengthen the training of employees, improve the enthusiasm of employees, and optimize personalized services. A passenger feedback mechanism has been fully established to provide feedback on the same day and deal with it on the same day. Continuously improve customer satisfaction and loyalty.

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Appendice

Passenger Satisfaction Survey

Passenger Information:

Your gender:

male ☐ female ☐

Your age:

25 or less ☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ 56 or older ☐

Your Educational Qualifications:

High school and below ☐ with a bachelor's degree ☐, a master's ☐ degree, and a doctorate ☐ 4. Your Occupation:

Students ☐, Company Employees ☐ , Educators ☐, Health Care Workers ☐, Government

Employees ☐, Freelancers ☐, Others ☐

5. The purpose of your travel by air:

Business travel ☐, traveling ☐, visiting family ☐, work ☐, etc ☐

6. The number of times you travel by air per year:

1 time ☐: 3-8 times ☐, 9-14 times ☐, more than ☐ 15 times ☐

Cabin satisfaction	Very satisfied	satisfied	just like	dissatisfied	Very dissatisfied
Personal appearance	☐	☐	☐	☐	☐
cabin hygiene	☐	☐	☐	☐	☐
Problem notification	☐	☐	☐	☐	☐
cabin complaints	☐	☐	☐	☐	☐
Problem feedback speed	☐	☐	☐	☐	☐
Delay notification speed	☐	☐	☐	☐	☐

Politeness	☐	☐	☐	☐	☐
Professionalism	☐	☐	☐	☐	☐
Cabin catering	☐	☐	☐	☐	☐
Cabin entertainment	☐	☐	☐	☐	☐