



New passenger experience innovations in the airport business

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Bachelor

Thesis

2024

Abstract

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Degree Bachelor of Aviation Business
Report/Thesis Title New passenger experience innovations in the airport business
Number of pages and appendix pages 39
<p>As an important part of the aviation industry, airport business has become a core issue of optimizing passenger experience in the face of increasing passenger traffic. Global airports are accelerating the transformation of airport service models, and airport development is reaching a new stage of development. Passenger experience, as the core of airport service, needs to be emphasized by airport managers. Passenger evaluation of airport service quality affects passenger travel satisfaction and airport business development.</p> <p>This thesis selects the passengers of Chongqing Jiangbei Airport as the research object, analyzes the passengers' evaluation of the service quality of Chongqing Jiangbei Airport, and puts forward innovative measures to optimize the passenger experience. This thesis uses the service quality gap model and SERVQUAL scale to conduct a questionnaire on the service quality of Chongqing Jiangbei Airport, analyzes the problems existing in the airport service according to the difference between expectation and perception, and proposes measures to optimize passenger experience.</p> <p>This thesis expects that the research on Chongqing Jiangbei Airport can provide other airports with innovative measures that can be used as a reference to improve the competitiveness and development of airports and satisfy the needs of passengers.</p>
Keywords Airport Operations, Passenger Experience, SERVQUAL, Service Quality Gap, Innovation

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1 Introduction

According to the latest data analyzed by UNWTO (2023), the international tourism industry showed a strong growth trend in 2023, and tourism is expected to recover to pre-pandemic levels in 2024. Although the current tourism market continues to face significant challenges in terms of geopolitical tensions and the economy, the overall international tourism market maintains a positive attitude towards the recovery and future development of the tourism industry to drive a thriving tourism industry in 2024.

The recovery of the tourism market brings new opportunities and challenges to the development of the aviation industry. With the increase in the public's demand for travel, airlines are gradually expanding their air transport capacity while optimizing their route networks to meet passengers' travel needs fully. The optimization of the aviation market has led to the need for airports to improve their operational efficiency and service quality further in order to cope with the changes in the entire aviation market. On the other hand, airports, as the starting and ending points of the aviation industry, are an essential link in the value chain of air transportation. In the current development trend of the industry, how to provide passengers with better service models and the intelligent transformation of airports have become the focus of extensive attention and research by managers.

1.1 Trends in Airport Business

The aviation industry is becoming more and more competitive. With the recovery of tourism and the emergence of more low-cost carriers, stakeholders in the aviation industry have realized that traditional business models cannot help them cope with existing competitive pressures and capture a higher share of the market. With the increasing passenger flow of airports and the improvement of people's living standards, more and more passengers pay more attention to travel experience. Under such a social background, airport stakeholders focus on the overall development trend of airport business in the future and how to improve passenger experience to enhance the market competitiveness of airports.

Li Xiaodong (2022) said that the development of all fields now involves digital transformation, which is also a new development stage that is inevitable for the development of the whole human

society. Under such a global development trend, airports are also gradually moving towards the construction of smart airports. Digital technologies are on the rise, such as the application of big data and artificial intelligence in airports, providing unprecedented convenience for airport managers. Airport managers can analyze passenger feedback and preference data to get the most realistic passenger experience, continuously improve the service quality of the airport, and optimize the passenger experience.

The development philosophy of airports has always been to provide efficient, convenient, and safe services to the passengers at the center. Therefore, Alabsi and Gill (2021) argue that digital technology enables collaboration between airport facilities, data, and applications that help to provide a personalized passenger experience. Providing personalized passenger experience at airports helps improve the overall level of service and earns a good reputation for the airport, attracting more passengers.

Airport traffic growth is driving the recovery of the tourism economy. Airports will pay more attention to expanding non-aeronautical business, driven by the pursuit of maximum economic efficiency. By diversifying the sources of non-aeronautical revenues, we aim to improve the profitability of airports. Non-aeronautical revenues are mainly derived from other industries, such as retail catering and duty-free airport shopping. Traveling passengers, as the core consumer group of non-aeronautical businesses in airports, can help airports increase non-aeronautical revenues if airports provide a better passenger experience, such as convenient duty-free processes and merchandise with unique features. Airport managers must keep abreast of passenger needs and use non-aeronautical services to provide personalized services to attract passengers.

1.2 Research Objectives And Questions

Chongqing Jiangbei Airport, as the core transportation hub of Chongqing, connects domestic and international routes and brings efficient air transportation services to the southwest region. The improvement of Chongqing Jiangbei Airport's service quality drives Chongqing's tourism and consumer economy, leading to the increase of Chongqing's GDP. Therefore, this study aims to optimize airport services by evaluating the service quality of Chongqing Jiangbei Airport and analyzing passenger satisfaction.

The main research question of this thesis is how to improve the service quality of Chongqing Jiangbei Airport and bring innovative experiences to passengers. The SERVQUAL scale was developed by Zeithaml, Parasuraman and Berry (1988) to better assist companies in assessing the gap between customers' perceptions of service quality and their expectations in terms of the five key dimensions (Tangible、Reliability、Responsiveness、Assurance、Empathy Map) and to provide scientific guidance and recommendations for companies to optimize service quality and improve passenger satisfaction. In this thesis, the Overlay Matrix is set according to the five SERVQUAL dimensions:

Table 1: Overlay Matrix

Overlay Matrix				
Research Question: How to improve the service quality of Chongqing Jiangbei Airport and bring innovative experiences to passengers?				
	Investigative Questions	Theoretical Framework	Results	Questionnaire
1	Are airport signage instructions and guidance services clear?	2.1	4.4.2 5.2.4	A1
2	Is airport boarding or delay information timely?	2.1	4.4.2 5.2.2	B2
3	Are airport service staff able to respond to and resolve passengers' needs in a timely manner?	2.1	4.4.2 4.5.1 5.1	C1、C3、D1
4	Do airport service personnel have the required professional skills and competencies?	2.1	4.4.2 5.1	B1、B4
5	Are airports able to offer personalized services?	2.1	4.4.2 4.5.2 5.2.3	E1

1.3 Scope of The Study

The scope of this study focuses on the service quality evaluation of passengers traveling in Chongqing Jiangbei Airport to promote airport service innovation. By studying the analysis of the difference value between passengers' expectations and accurate perceptions of airport services in the process of traveling, the problems existing in Chongqing Jiangbei Airport are targeted to improve passengers' travel experience, which is of theoretical and practical significance to the sustainable development of Chongqing Jiangbei Airport.

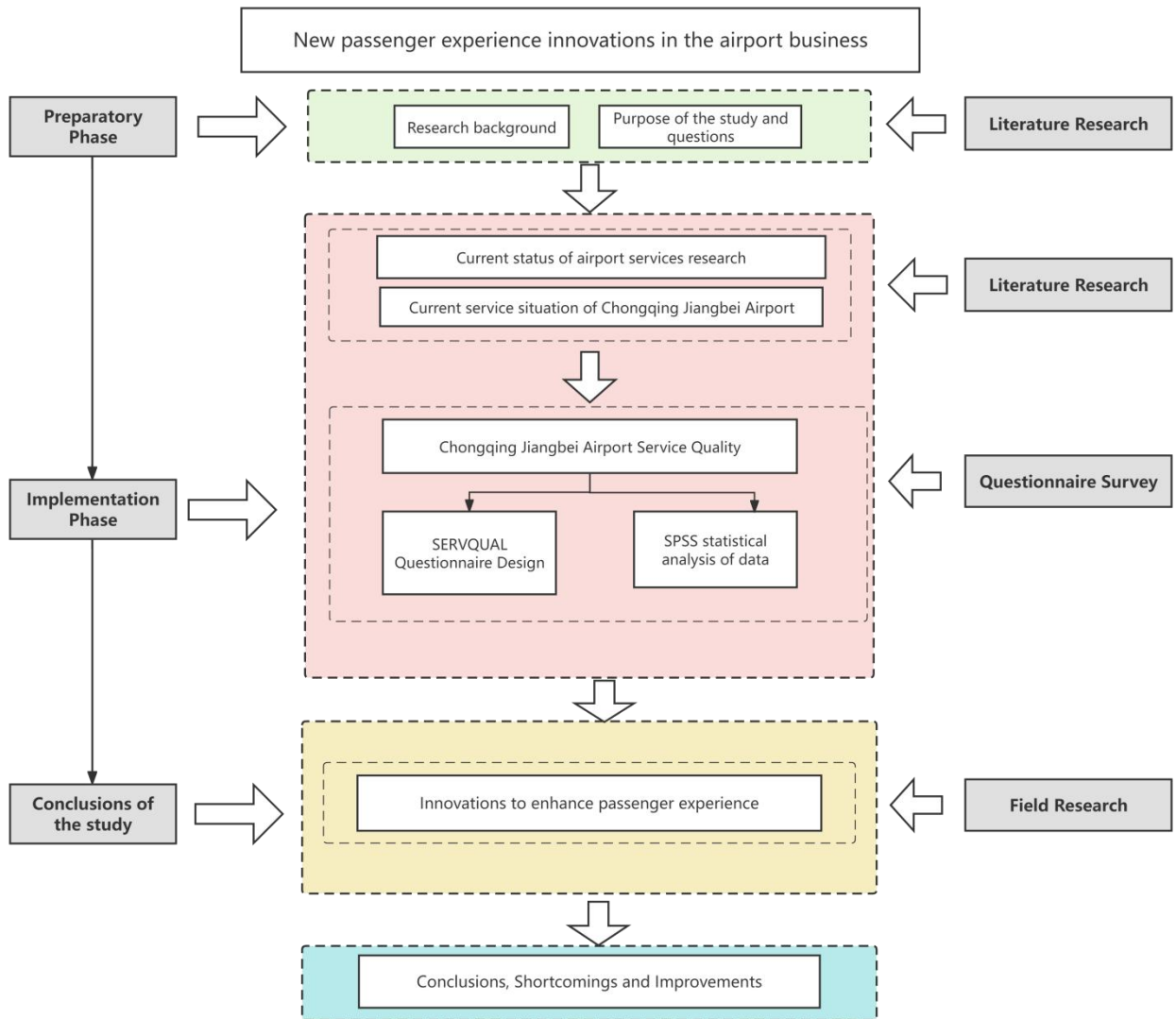
The theoretical significance of this thesis's research lies in the fact that Chongqing, as the most competitive city in western China, has more significant advantages in the aviation industry compared with other regions, and by analyzing the development of Chongqing Jiangbei Airport, it can bring significant opportunities for improving the economic and social development of western China. (He Xing & Wang Jie, 2024.) Therefore, based on the reference to the existing literature research, we point out the problems in the airport service and further promote the research of Chongqing Jiangbei Airport service enhancement and passenger experience to add to the airport's innovative service.

The practical significance of the airport is reflected in the optimization of service quality to improve passenger satisfaction and increase airport traffic to enhance the airport's market share and economic returns. The research in this study aims to provide a reference for airports to improve passenger experience and make passenger travel more convenient and comfortable and, secondly, to help Chongqing Jiangbei Airport to understand better the impact of passenger travel experience on the operational efficiency of airports and to build a sustainable development relationship between passengers and airports.

1.4 Structure of Thesis

This study chooses Chongqing Jiangbei Airport traveling passengers as the research object, combines the SERVQUAL model, designs the Chongqing Jiangbei Airport service quality questionnaire, and analyzes Chongqing Jiangbei Airport service quality. By reading the literature on airport service quality and theoretical research results, this study discusses in depth the strategies to enhance the service quality of Chongqing Jiangbei Airport and improve the passenger experience. The following is the Technology Roadmap of this thesis:

Table 2: Thesis Technology Roadmap



This thesis provides a comprehensive analysis of airport service quality. It proposes innovative optimization strategies and suggestions to optimize passenger experience, providing a theoretical basis and practical approach for other airports.

2 Theoretical Background

This study utilizes theoretical and empirical analysis to conduct a comprehensive and in-depth study of Chongqing Jiangbei Airport services. This study refers to the SERVQUAL scale to construct an assessment model to systematically sort out and assess the service quality of this airport. Through empirical research, this thesis expects to provide airport managers with more accurate and comprehensive service quality assessment results.

2.1 Background on Airport Services

Over the past three years, the global aviation industry has suffered from the severe impact of the COVID-19 epidemic. With the concerted efforts of all parties, the epidemic has been gradually controlled, and the aviation industry is moving towards a new stage of comprehensive recovery and development. In the context of the new era, it is increasingly urgent for airport construction and development to create new competitive advantages, solve development problems, and expand development space. (Lin Xia, 2023.)

As the ultimate bearers of airport services, passengers' predisposition to the quality of airport services affects their air travel choices, leading to competitive dynamics within airport clusters. (Liao Wang, Cao Xiaoshu & Li Tao, 2024.) Xiao Yang (2020) points out in his article that to solve the problems of insufficient operation and guarantee capacity, imbalance in regional development, and homogeneous development of airports, which are exposed in the process of airport development, it is necessary to take the passenger demand as a guide and formulate practical development strategies.

Wang Dong (2018) points out that along with the continuous improvement of air transportation capacity, the phenomenon of airport service outsourcing has emerged and has been widely adopted in major cities. Airport service outsourcing refers to handing airport ground services to third-party service companies, such as security checks, baggage check-in, and other simple tasks. The outsourcing model allows airports to reduce costs while solving the problem of understaffing due to increased passenger traffic. Intentionally, airport managers hope that third-party services can be used to rationally allocate resources to meet passenger demand and improve passenger satisfaction. However, Yan Xianghong (2021) takes the case of Nanjing Airport's mismanagement

of services as an example to analyze the substantial problems exposed by the outsourcing of airport services: 1) The lack of professional skills; 2) The lack of standardized management of personnel; 3) The lag in the handling of problems after they are discovered. It is these seemingly simple but crucial service factors that lead to influence passengers' choice of airport. Therefore, while weighing the use of outsourced service teams, airport managers need to strengthen the supervision of the service quality of outsourced teams or explore new service models.

Airport services at this stage mainly rely on digital technology to transform towards smart airports, and digital solutions to passenger problems will become the norm. According to the ASQ2023 Global Traveller Survey (2023), the current behavior and expectations of global travelers can be summarised in the following three points: 1) 58% of travelers tend to use technology and automation to improve their travel quality; 2) 74% of travelers tend to use personalized applications to ensure a smooth journey; 3) Many travelers expect the airport experience to be optimized and enhanced. From these three points, it is easy to see passengers' current expectations and needs for a digitally enhanced travel experience. To meet these demands, airports have introduced various innovative measures to improve the traveling experience. Munich Airport responds to global trends with the launch of the "Travel Buddy" app, further upgrading the airport app to a digital companion and taking passenger experience and loyalty to a whole new level. (Andersson, 2023.) Zurich Airport has adopted AR navigation technology to provide passengers with easy access to information. The technology simplifies the traveling process by displaying information in real time according to the language spoken by the passenger. This initiative demonstrates the airport's careful attention to travelers' needs and helps increase passenger satisfaction. (Victoria, 2023.) Changi Airport's Digital Inventory Venture (DIVA) program strongly supports airport applications. By reinventing the airport passenger experience and optimizing airport operations, Changi Airport has successfully improved passenger service levels. (Accenture, 2020.) These success stories show that a passenger-centrism strategy is critical to ensuring the success of an airport's digital transformation and is a crucial area of focus for future airports.

While airports are using digital technology, they should also be aware of the potential negative impacts of digital technology. The primary concern is the issue of cyber security and safety. Gu Zhaojun, Zhang Yino, Song Yuedong, Sun Zhitong and Su He (2023) emphasize that cybersecurity, as the foundation for the construction of critical facilities, needs to be focused on by airports and related stakeholders. A serious security breach in the LoT system of a smart airport could lead to passenger privacy leakage and provide an opportunity to suffer from large-scale malicious attacks,

which would seriously affect the safe and stable operation of critical information infrastructure. More seriously, it could lead to aircraft operation safety hazards. Oakland International Airport strives to maintain a robust and resilient cybersecurity strategy for airport development to ensure the security of all passengers, employees, and critical systems while protecting the integrity, confidentiality, and availability of sensitive data, infrastructure, and services from evolving cyber threats.(Joel, 2024.)

While digital technology can enhance passenger convenience, it can also exacerbate passenger dissatisfaction. 1) In practice, problems such as technical failures and system breakdowns still exist. In the event of technical problems, digital technology may instead trigger passenger dissatisfaction. For example, the failure of the BHS system at Heathrow Airport led to the failure of some passengers to synchronize the arrival of their luggage upon arrival, and some passengers even had no luggage at all, (Euronews, 2022.) which happens in many airports and seriously affects the travel experience of passengers. 2) Reducing interpersonal communication. Self-service devices are gradually replacing Services in smart airports. Although the self-service equipment improves service efficiency and reduces labor costs, it also reduces the interaction between passengers and service personnel. Airports still need to retain a moderate level of human services to meet the passenger experience while considering the need for interpersonal interaction. 3) Digital technology may exacerbate social divisions. Intelligent devices are often concentrated in high-end services, which may lead to an uneven distribution of resources. Some passengers enjoy the convenience of high technology, while others may need help to adapt to the new technology and feel unfair. Therefore, airports should pay attention to the various issues of passenger experience brought about by digital technology to ensure that different passengers can enjoy the convenience of technology.

While pursuing digital trends, airport managers must understand another critical factor affecting airport development: studying different traveler groups. The diversity of passenger groups makes it necessary for airports to provide a wide range of services. Airports can only provide better and more personalized services by fully understanding and meeting the needs of all types of passengers. ACI (2019) launched the Accessibility Enhancement Accreditation (AEA) program at the Customer Experience Global Summit, designed to help airports assess their accessibility and disability-inclusive practices. Other stakeholders, such as airports and airlines, are actively involved in opening up this program, which aims to provide a continuous pathway for airports to improve accessibility for passengers with disabilities. Inclusive airport development demonstrates

an airport's sense of humanity and social responsibility and contributes to an airport's overall image and competitiveness.

2.2 Passenger Experience Study

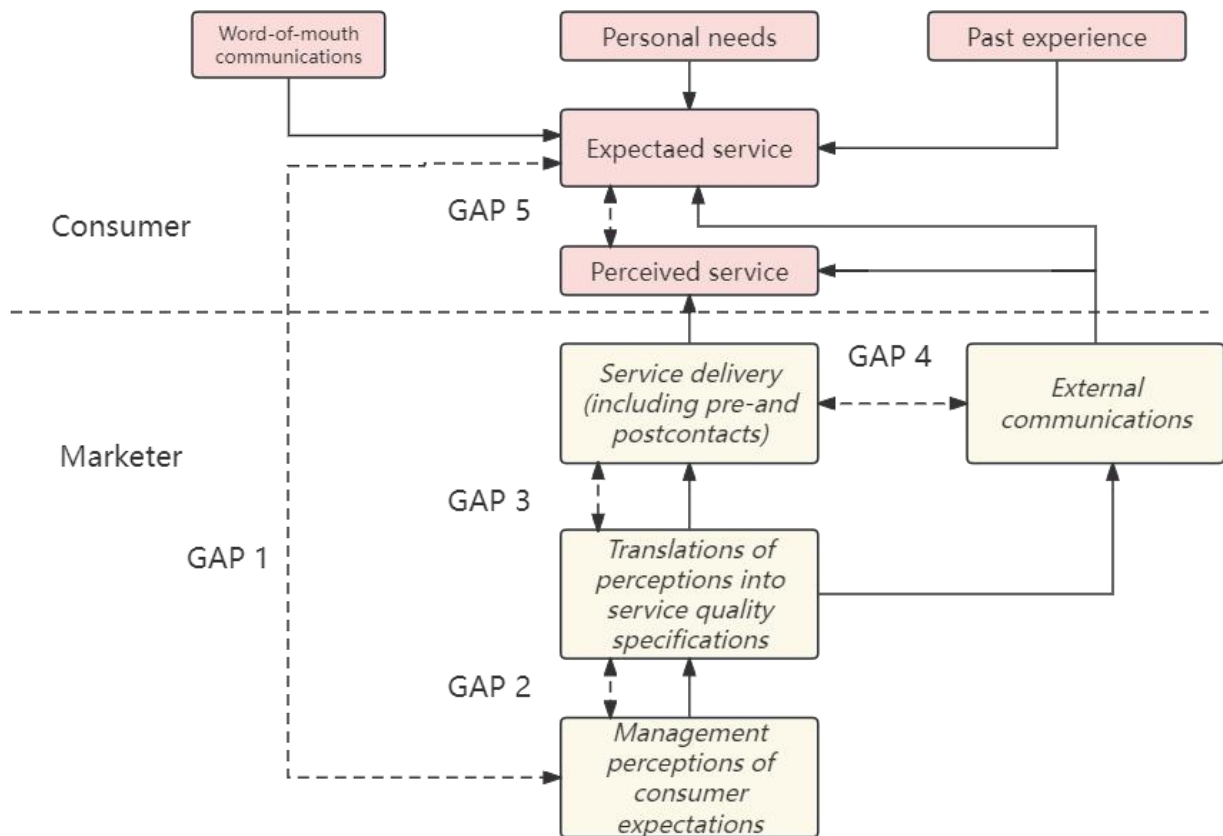
Passenger expectations of service are based on customers' previous experience, service needs, and service reputation. Analyzing the value of the difference between passenger expectations and perceptions makes it possible to understand passenger satisfaction with service quality. Bae and Chi (2021) stated that understanding customer satisfaction and perceived value is essential for shaping the image of a destination and capturing market trends and that airports can enhance the development of their business through differences in passenger experience.

2.2.1 Perceived Quality of Service

Understanding passengers' actual perception of airport service quality promotes the sustainable and stable development of airport service management. Airport passenger experience perception can be defined as the subjective feelings of passengers during their interactions with the airport, which integrates the communication between passengers and all relevant parts of the airport. These include face-to-face interactions, online interactions, and through self-service kiosks. (Dimitri, 2020.)

Passengers' perception of service quality mainly comes from the interaction between managers, services, and passengers. The Service Quality Gap Model is a tool companies use to assess and improve service quality. By addressing the differences between customers' five expectations and the enterprise's actual deliverables, the service quality model can help managers understand the expectations and needs of customers more comprehensively, develop effective service strategies, and improve customer satisfaction. The Service Quality Gap Model is shown in Table 3:

Table 3: Service Quality Gap Model (Adapted from Zeithaml, Parasuraman & Berry, 1988)



Passengers' perceived experience measures the quality of airport services. The centrality of perceived service in service quality can be recognized from the service quality gap model. In assessing service quality, customers are the direct recipients of the service, and their perceived service quality is linked to direct contact with the service provider and the customer's expectations of the service. (Halpern & Mwesiimo, 2021.) Service quality is one of the critical elements of airport competitiveness. (Pantouvakis & Renzi, 2016.) and passengers' perceived experience is not only affected by the basic conditions, such as hardware and facilities but also by the internal decisions of airport managers and the operation of activities.

The Service Quality Gap Model has five service quality gap types. These five gap types explain why the gaps occur and help managers on how to reduce the gaps. (Hu Jun, 2023; Indeed, 2023; Zeithaml, Parasuraman & Berry, 1988.)

GAP1: Managerial Understanding Gap: The gap between management perceptions and customer expectations. The gap comes from the fact that the management needs to understand the customer's period fully, and at the same time, there is a lack of information exchange within the management, which does not allow for timely feedback on the customer's needs and opinions.

Measures to reduce the gap: Managers regularly conduct research on customer expectations to understand customer demand for products or services; strengthen the exchange of information among managers; implement satisfaction surveys or comprehensive market research; and adjust the market promptly.

GAP2: Quality Standards Gap: The gap between managerial perceptions and service quality norms. The gap comes from managers not establishing standardized training or standards to meet customer expectations and ignoring the pay attention to service quality standards. Measures to reduce the gap: Managers develop standard operating procedures, establish SMART goals, and improve the professionalism of service quality standards.

GAP3: Service Delivery Gap: The gap between service quality and service delivery. The gap comes from managers' lack of professionalism in service quality because they need to understand customers' needs fully, and the quality of service they receive is lower than expected. Measures to reduce the gap: Managers optimize team training and operations, select more capable candidates, improve service team capabilities, and strengthen service implementation.

GAP4: Service Communication Gap: The gap between service delivery and external communication. The gap stems from managers inappropriately communicating with clients, failing to publicize and share useful service information accurately, and affecting client expectations. Measures to reduce the gap: Improve communication with clients, ensure the accuracy of service communication materials, and improve service awareness.

GAP5: Perceived Service Quality Gap: The gap between the expected and actual service experienced. The gap comes from the fact that each customer has different expectations of the service so that different customers will have different perceptions. Measures to reduce the gap: Improve the stability of service quality and realize the consistency between service quality and perception.

These five gap types of the Service Quality Gap Model are mutually influential and complementary relationships that work together to enhance customers' perception of service quality, help companies continuously improve and optimize their service processes, and achieve continuous improvement.

2.2.2 Customer Satisfaction and Loyalty

In past studies, most researchers generalize customer satisfaction as the customer's emotional response to the service experience. Customers will compare the service experience with their first expectation after the service is finished, resulting in the psychological feeling of satisfaction or dissatisfaction. However, in a competitive market, all aspects of operations affect customer satisfaction. Therefore, Zeithaml and Bitner (2000) constructed a more detailed customer satisfaction model, which explains how service quality, product quality, price, personal factors, and situational factors affect customer satisfaction, allowing companies to enhance customer loyalty from a more comprehensive research perspective. By analyzing the customer satisfaction model, the perception of service quality is also an important factor affecting customer satisfaction.

Customer satisfaction is directly associated with customer loyalty and profoundly affects their post-purchase behavior. (Park & Se-Yeon, 2011.) Veronika (2023) summarized the North American airport satisfaction study published by JD Power, which showed a significant positive correlation between customer satisfaction and airport spending. For airport managers, understanding the relationship between the two can guide airport development. Airports can better understand customer needs, improve service quality, and promote economic growth.

2.2.3 Value of Services

Value is the customer's subjective perception of the value that a product or service can provide when executing a purchase decision. According to Rizwan, Asad, Hafiz and Shoaib (2018), the results of the study show that service value and service quality have a significant positive impact on customer satisfaction. The perfect integration of the three elements of service value, perceived service quality, and customer satisfaction requires airport managers to develop and market airport strategies from the perspective of passenger experience to ensure that passengers consume the experience and provide the appropriate value experience.

2.3 Literature Review

A comprehensive review of the current situation of airport services, whether it is to improve service quality or promote digital transformation, shows that the airport's various reform initiatives are designed to give passengers a better travel experience. Airports have entered a relatively stable phase of development. However, in an environment full of uncertainties, airport managers need to

ensure their competitiveness to avoid being eliminated from the market. Airport managers need to refer to the success stories and development strategies of other airports. Airport managers need to keep learning and progressing to understand and precisely meet customer expectations.

Understanding customer expectations can provide innovative solutions for the future development of airports, bringing better travel experiences to passengers and transforming superior service quality advantages into solid competitiveness in the marketplace.

3 Research Methods

This study utilizes a questionnaire to select passengers traveling from Chongqing Jiangbei Airport as the research object. It collects passengers' evaluations of the current service quality of Chongqing Jiangbei Airport. Using the way of perception and expectation difference value analysis, comprehensively analyze the problems existing in the airport service at this stage, as this thesis follows up on how to provide innovative experience data support for the future development of Chongqing Jiangbei Airport to provide a scientific reference.

3.1 Literature Study on Airport Service Quality

Existing literature on service quality has several dimensions and approaches. Seetanah, Teeroovengadum and Nunkoo (2018) used exploratory factors along with the help of a 5-point Likert-type scale and probabilistic modeling and stated that an increase in passengers' satisfaction with the airport services has a facilitating effect on passengers' revisiting the destination. Chonsalasin, Jomnonkwao and Ratanavaraha (2020) used a validated factor analysis method to construct an airport service quality assessment model to clarify passenger expectations and enable airport managers to understand passengers' real needs better and formulate development strategies accordingly. Zhang Jing (2023) explored and constructed the passenger service quality improvement process in Airport C through the Kano model and IPA analysis, and the article also analyzed the public demand for airport services and airport service quality component weights, thus verifying the validity and feasibility of the passenger service quality improvement process in Airport C. The article also analyzed the public demand for airport services and airport service quality component weights. The article proposes strategies to optimize the passenger service quality of Airport C from five dimensions: infrastructure, standard system, service products, service platform and talent team. Chu Yanchang, Huang Shiwei and Song Zhenwei (2022) addressed the factors affecting the service quality of hub airports, introduced the concept of a linguistic component starting from the passenger boarding process, and constructed a combined evaluation model of fuzzy Topsis, fuzzy gray correlation, and modal hu VWKOR methods. They utilize the degree of importance of each index in the combined evaluation index system and the evaluation results to put forward suggestions to improve the service quality of hub airports. Wu Renjie, Tang Weizhen and Li Jun (2022) constructed the airport service quality evaluation index system based on the SERVQUAL scale. Through the questionnaire design and data collection, the collected sample data were analyzed using credibility analysis and the statistical analysis of the SERVQUAL scale to put forward specific measures for improving the airport service quality.

Comprehensively reviewing the existing research results at home and abroad, the research in the field of airport service quality is quite rich, and there are a variety of airport service quality assessment index systems. This study will refer to the mature scale indicators to set up suitable service quality evaluation indicators for Chongqing Jiangbei Airport.

3.2 Research Content

This study takes Chongqing Jiangbei Airport traveling passengers as the research object. It proposes an innovative method through the evaluation and perception analysis of passengers' service quality of Chongqing Jiangbei Airport to provide a reference for the future development of Chongqing Jiangbei Airport. The research content of this thesis has two aspects. The specific research content is as follows:

1. Passenger service quality questionnaire and perception analysis of Chongqing Jiangbei Airport. This study is based on the SERVQUAL scale model, which is used to construct a questionnaire on the service quality of Chongqing Jiangbei Airport. This study needs to clarify the construction principle of the questionnaire, index selection, and index content before designing the questionnaire. The field questionnaire is collected at the arrival gate of Chongqing Jiangbei Airport or places with dense passenger flow. After the recovery of the questionnaire, the SPSS software analyzes the questionnaire's reliability and validity and the difference in expectation and perception, revealing the existing problems and causes of the Chongqing Jiangbei Airport service.
2. Passenger experience innovation research. This thesis will combine the existing development trends and put forward new strategic measures to address Chongqing Jiangbei Airport service problems to enhance the passenger travel experience and improve the efficiency of airport operations.

3.3 Background Information

Chongqing Jiangbei Airport, an important transportation hub in Chongqing Municipality, ranks among the country's top ten in terms of passenger throughput. Through a detailed review of the official website of Chongqing Jiangbei Airport Group and network reports, we understand the

current status of Chongqing Jiangbei Airport services and provide essential support for the subsequent optimization of service quality.

3.3.1 Basic Information of Chongqing Jiangbei Airport

Chongqing Jiangbei Airport was officially opened on 22.1.1990 and is a 4F class civil international airport. The infrastructure of Chongqing Jiangbei Airport is well-developed. At present, the airport has constructed three terminal buildings with a total of 737,000 square meters; there are three runways in the airport, which are capable of supporting the takeoff and landing of large passenger planes; the airport apron has a total of 1,660,000 square meters, 209 aircraft slots, and 230,000 square meters of cargo area, which can guarantee an annual passenger throughput of up to 45 million passengers, 1.1 million tons of freight and mail, and more than 373,000 aircraft landings and takeoffs per year. The facilities of Chongqing Jiangbei Airport have been built to meet the total needs of the entire region's busy air transportation needs.

Chongqing Jiangbei Airport currently operates two terminals, T2 and T3A, of which T3A is the main operation area. Except for some domestic airlines, most flights take off and land in T3A. T3A of Chongqing Jiangbei Airport extends 1,060 meters vertically from north to south and 750 meters horizontally from east to west. The terminal's architectural structure mainly consists of a central E area hall and four finger corridors, with an overall area of about 530,000 square meters. Chongqing Jiangbei Airport Terminal T3A adopts the cable glass curtain wall system, which has an area of up to 75,000 square meters and is Asia's most extensive cable glass curtain wall system. The use of a cable glass curtain wall system in the airport is to combine the characteristics of the system, give full consideration to the passenger travel situation, and improve the building quality and travel experience. T3A terminal building has a total of six floors, divided into four floors above ground and two underground floors. A viaduct is built in front of the airport terminal building to connect with the departure level, which is convenient for passengers traveling by car to enter the terminal building quickly. The terminal building on the ground, three floors, and two underground for the integrated hub is a set of railroads, highways, rail transportation, and public transport in a terminal building to achieve passenger transfer "zero distance". In terms of infrastructure, T3A focuses on humanized design; there are five kinds of passenger seats in T3A, which are distributed on different floors according to two kinds of specifications, and about six seats are equipped with a baggage partition, which entirely solves the problem of placing passengers' baggage.

2023 Global tourism is gradually recovering, and passenger flights at Chongqing Jiangbei Airport are growing. Chongqing Jiangbei Airport is resuming operations on 11 passenger routes. The total number of passenger routes operated by Chongqing Jiangbei Airport has reached 20, with nearly 100 flights per week. Chongqing Jiangbei International Airport plans to actively promote the opening of routes to many other countries or regions in 2024 to complete the passenger route network (Li Jing & Hu Yan, 2024). Chongqing Jiangbei Airport is actively building an international aviation hub to help build the central city of Chongqing and promote the economic and social development of the region.

3.3.2 Current Situation of Chongqing Jiangbei Airport Service

Under the guidance and support of the Civil Aviation Administration of China, Chongqing Jiangbei Airport has consistently maintained excellent service quality. Chongqing Jiangbei Airport won the Outstanding Airport Award for Service Quality Evaluation of China's Transportation Airports in 2022, and its awards attest to the importance Chongqing Jiangbei Airport places on service quality.

Chongqing Jiangbei Airport is constantly innovating its design. Chongqing Airport Group launched the "Chongqing Jiangbei International Airport Security Check 'Tu' EASY Service Training New Mode", which fully demonstrates its outstanding achievements in service innovation (Zhou Li, 2023) and also continues to improve the professionalism of airport service personnel. Internationally, Chongqing Jiangbei International Airport has also maintained its industry-leading service quality. With international advanced management concepts and service standards, the airport continuously optimizes its service processes to provide passengers worldwide with a comfortable and convenient air travel experience. Chongqing Jiangbei Airport has strengthened close cooperation with major domestic airlines and travel groups in recent years. Chongqing Jiangbei Airport and Where to Go Travel have jointly created the "Chongqing Fly Member Service Center", which has lounges in both T2 and T3A of Chongqing Jiangbei Airport, providing transit passengers with free rest and tea and snacks, which can further enhance the experience of transit passengers at the airport.

Chongqing Airport Group is committed to building an intelligent and beautiful large-scale comprehensive transportation hub with the development concept of "quality" at its core. Chongqing Jiangbei Airport focuses on meeting the diversified needs of travelers. Regarding infrastructure,

Chongqing Jiangbei Airport improves the travel efficiency of passengers by introducing advanced intelligent and automated service facilities and improving the airport's instruction and guidance signs. According to data from VariFlight (2023), Chongqing Jiangbei Airport's flight departure punctuality rate in the first half of 2023 was as high as 88.97%, ranking sixth in the country and showing an upward trend. To ensure its excellent service quality, the airport not only updates flight boarding or delay information at the boarding gates but also real-time updates on its software programs, thus ensuring that passengers can always have accurate information about their flights to make better arrangements for their trips.

Chongqing Jiangbei Airport also excels in service details and humanistic care. Chongqing Jiangbei Airport provides thoughtful and detailed services. Rest areas, food and beverage outlets, and shopping areas are carefully planned in the airport terminal to give travelers a wide range of choices. In terms of infrastructure, the airport fully demonstrates the characteristics of humanized service. For example, the number of female restrooms at the airport is twice as many as that of males to meet the needs of passengers of different genders. Chongqing Jiangbei Airport attaches great importance to the needs of special passenger groups, setting up special service channels and facilities to ensure that special passengers can complete their trips safely and smoothly.

4 Chongqing Jiangbei Airport Service Quality

This study applies the SERVQUAL model to comprehensively analyze the actual situation and operation process of Chongqing Jiangbei Airport service from the five dimensions of the scale. After analyzing the existing literature and the current situation of Chongqing Jiangbei Airport's service quality, the service quality evaluation system of Chongqing Jiangbei Airport is finally constructed.

4.1 Principles of Questionnaire Content Design

When designing the service quality questionnaire for Chongqing Jiangbei Airport, it is necessary to consider the current situation of airport services and the specific needs of different traveling passengers. Therefore, when constructing the questionnaire, the following four principles should be followed: Relevance, Typical, Independent, Practicability and Simplicity. These principles will ensure the scientific and practicality of the evaluation system and provide strong support for evaluating airport service quality.

1. **Relevance:** This study is targeted at passengers traveling from Chongqing Jiangbei Airport.
2. **Typical:**Indicator selection should be centered around the most representative significant causes affecting the passenger service experience.
3. **Independent:**Indicators at all levels affecting the quality of services should be independent of each other and have no influence.
4. **Practicability:**Indicators should be selected from data that can be obtained directly or indirectly.
5. **Simplicity:**The questionnaire design is simple and enables the respondents to quickly understand the questionnaire's content.

4.2 Questionnaire Scale Design

Based on the above principles, combined with the five dimensions of the SERVQUAL scale, the SERVQUAL scale for Chongqing Jiangbei Airport was designed, and the specific content is shown in Table 4. The Chongqing Jiangbei Airport Service Quality Questionnaire includes the basic information of the respondents, the number of trips, the purpose of the trips, and the content of the

service quality scores. According to their own needs and past travel experience, the respondents assessed their expectations and actual perceptions of each service aspect of the airport.

Table 4: SERVQUAL Scale of Chongqing Jiangbei Airport Service Quality Questionnaire (Adapted from Hu Jun, 2023; Yue Wenbo & Zheng Xiaochen, 2023)

Dimensions	No.	Questionnaire Content
Tangible	A1	The airport guidance signs are clear and accurate.
	A2	The airport environment is clean and tidy.
	A3	Airport infrastructure is perfect, convenient, and intelligent.
	A4	Decent behaviour and cleanliness of airport personnel.
Reliability	B1	Airport staff provide professional service.
	B2	The airport provides accurate flight information.
	B3	The airport provides fast and convenient check-in, security check, and boarding services.
	B4	The airport provides professional services for special travelers.
Responsiveness	C1	Proactive airport staff when you are in trouble and need help.
	C2	Prompt provision of special services and smooth service calls.
	C3	Timely response to your feedback and suggestions to the airport.
Assurance	D1	The services provided by the airport are timely.
	D2	You feel at ease and comfortable with the services provided by the airport.
	D3	The prices of goods and services provided by the airport are transparent and reasonable.
	D4	Airport staff are polite and patient with you.
Empathy Map	E1	The airport offers a personalized service tailored to your needs.
	E2	Airport staff can understand your needs.
	E3	Priority is given to the needs of special travelers.

4.3 Questionnaire Reliability and Validity Analysis

The questionnaire was chosen to be distributed at the departure, arrival, and shopping malls with a large flow of people in Chongqing Jiangbei Airport. This study research randomly selects different travelers (including special travelers) to participate in the questionnaire filling. 351 questionnaires were collected, excluding 8 invalid questionnaires; the total number of valid questionnaires was 343, and the questionnaire recovery efficiency was 97.7%.

4.3.1 Questionnaire Reliability Analysis

This study analyzed the five dimensions and the total scale in the questionnaire's content for reliability using SPSS software. The results of the reliability analysis of the questionnaire show that the Cronbah's Alpha values of the dimensions of the scale and the total dimension are above 0.8,

indicating that the data of the questionnaire on the service quality of Chongqing Jiangbei Airport are credible, and the results of the questionnaire can be analyzed in the next step. The results of the reliability analysis are shown in Table 5:

Table 5: Reliability Analysis of Chongqing Jiangbei Airport Service Quality Questionnaire

Dimensions	Total number of scales	Expectations Cronbach's Alpha	Perceptions Cronbach's Alpha
Tangible	4	.835	.819
Reliability	4	.832	.811
Responsiveness	3	.842	.828
Assurance	4	.826	.855
Empathy Map	3	.830	.809
Total	18	.858	.831

4.3.2 Questionnaire Validity Analysis

In order to ensure the accuracy of the questionnaire of Chongqing Jiangbei Airport Quality Service Survey, this research uses SPSS software to analyze the validity of the questionnaire through the corresponding KMO and Bartlett's method. The validity results show that the KMO test values of expectation and perception are both greater than 0.8 or more, and the corresponding significance degree is 0.000, which indicate that the validity of the scale is good. The results of the validity analysis are shown in Table 6:

Table 6: Validity Analysis of Chongqing Jiangbei Airport Service Quality Questionnaire

		Expectations	Perceptions
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.854	.812
	Approx. Chi-Square	2666.130	2463.890
Bartlett's Test of Sphericity	df	153	153
	Sig.	.000	.000

4.4 Collation And Analysis of Questionnaire Results

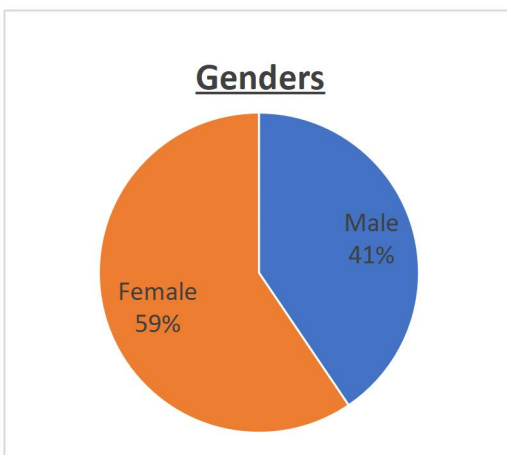
This study systematically organizes the recovered questionnaire data and analyzes the recovered data in terms of the information of the survey respondents, expectations, and perceived differences. This study calculates the difference between the expectation, perception, and total dimension of each dimension question in the questionnaire, analyzes the current problems and deficiencies of the airport from the difference, and provides a scientific basis for the subsequent improvement work.

4.4.1 Collation And Analysis of Survey Respondent Information

1. Genders.(The statistical data are shown in Table 7)

Among the respondents to the questionnaire, the proportion of female travelers is close to 60%, much more than that of male travelers. The gender ratio can reflect the attitude of different genders towards feedback on airport service quality. Female travelers are more inclined to give their views and opinions to airport managers actively. This positive feedback behavior helps airport managers comprehensively understand the service's shortcomings so that they can make targeted improvements. In contrast, male travelers are more concerned about travel efficiency; they may want to get to their destination as quickly as possible and care more about the efficiency of the airport's operation for their travel experience. Therefore, when planning and providing airport facilities and equipment, the needs of different genders of travelers should be comprehensively taken into account, balancing the details and efficiency of the airport.

Table 7: Gender statistics

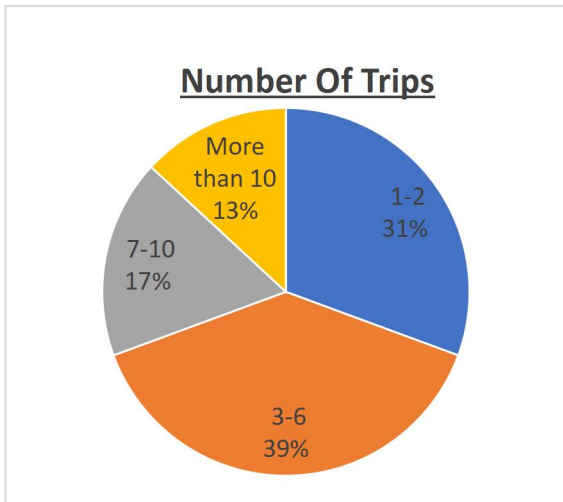


Genders	Quorum	Percentage
Female	204	59%
Male	139	41%

2. Number of Trips.(The statistical data are shown in Table 8)

From the data collection, most passengers traveling to Chongqing Jiangbei Airport have traveled 3-6 times. These passengers have a certain degree of understanding of the overall layout of the airport, and they are usually able to quickly and accurately find the facilities and services they need. However, there is still a percentage of passengers in the chart who have only visited the airport 1-2 times. This group of passengers usually needs to spend extra time and effort familiarizing themselves with the layout of the airport in order to locate their gates or the services they need successfully. Therefore, airports must enhance signage and directional signs to ensure passengers understand the instructions and avoid getting lost. To ensure a smooth and satisfying experience for passengers, airports need to proactively deploy and increase the number of service staff to assist and guide passengers. Airports can also provide more information about the layout of the airport and navigation functions on their official websites or apps so that passengers can understand and plan their trips. In addition to providing services for passengers, airports should also consider optimizing and improving the airport's layout.

Table 8:Statistics on the number of trips



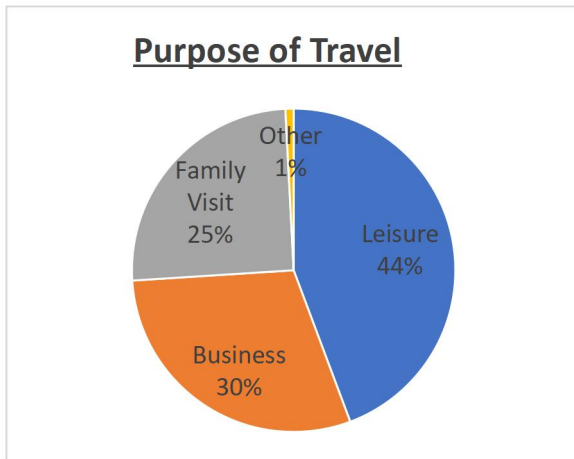
Number of Trips	Quorum	Percentage
1-2	105	31%
3-6	133	39%
7-10	60	17%
More than 10	45	13%

3. Purpose of Travel.(The statistical data are shown in Table 9)

In the survey on the purpose of traveling, 44% indicated that their primary purpose was leisure, and another 30% because of business travel. Passenger travel experience is a critical factor in the leisure travel experience. Airports serve as integrated hubs that cater to the multiple travel needs of travelers. When airports provide quality services, such as detailed and accurate information on

flight movements and guaranteeing on-time flights, it is crucial to enhance travelers' travel experience. To optimize business travel, airports should consider providing more efficient business services, such as meeting rooms and high-speed internet connections, to help business travelers work at any time and enhance work efficiency. By providing targeted services to passengers with different travel purposes, airports can leave a deep impression on passengers and improve their image and reputation.

Table 9: Purpose of Travel Statistics



Purpose of Travel	Quorum	Percentage
Leisure	218	44%
Business	146	30%
Family Visit	124	25%
Other	4	1%

4.4.2 Service Quality Expectations and Perceptions Difference Analysis

The difference between expectation and perception was calculated using the questionnaire data, and the results shown in Table 10 were obtained. From the data, it can be observed that among the five service dimensions, only E1 airport provides personalized service, which is a negative difference, which means that all the passengers who participated in the survey think that the personalized service provided by Chongqing Jiangbei Airport exceeds their expectations.

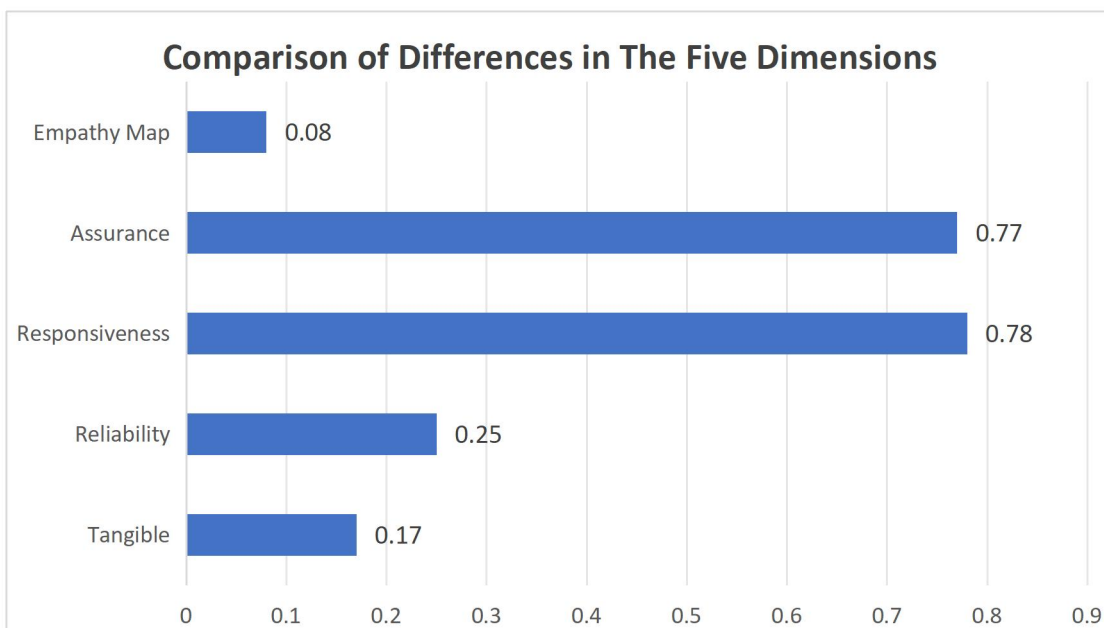
Table 10: Statistics of Service Quality Questionnaire in Chongqing Jiangbei Airport

Dimensions	No.	Questionnaire Content	Expectations	Perceptions	Difference (the result of)
Tangible	A1	The airport guidance signs are clear and accurate.	3.87	3.71	0.16
	A2	The airport environment is clean and tidy.	3.93	3.74	0.19
	A3	Airport infrastructure is perfect, convenient, and intelligent.	3.87	3.70	0.17
	A4	Decent behaviour and cleanliness of airport personnel.	3.94	3.75	0.19
Tangible Total			3.90	3.73	0.17

Reliability	B1	Airport staff provide professional service.	4.28	4.02	0.26
	B2	The airport provides accurate flight information.	4.32	4.07	0.25
	B3	The airport provides fast and convenient check-in, security check, and boarding services.	4.29	4.03	0.26
	B4	The airport provides professional services for special travelers.	4.24	4.00	0.24
Reliability Total			4.28	4.03	0.25
Responsiveness	C1	Proactive airport staff when you are in trouble and need help.	4.60	3.83	0.77
	C2	Prompt provision of special services and smooth service calls.	4.55	3.85	0.70
	C3	Timely response to your feedback and suggestions to the airport.	4.64	3.77	0.87
Responsiveness Total			4.60	3.82	0.78
Assurance	D1	The services provided by the airport are timely.	4.27	3.51	0.76
	D2	You feel at ease and comfortable with the services provided by the airport.	4.27	3.50	0.77
	D3	The prices of goods and services provided by the airport are transparent and reasonable.	4.20	3.47	0.73
	D4	Airport staff are polite and patient with you.	4.33	3.51	0.82
Assurance Total			4.27	3.50	0.77
Empathy Map	E1	The airport offers a personalized service tailored to your needs.	4.33	4.34	0.01
	E2	Airport staff can understand your needs.	4.33	4.25	0.08
	E3	Priority is given to the needs of special travelers.	4.40	4.23	0.17
Empathy Map Total			4.35	4.27	0.08

Visualizing the five sub-dimension difference means (Table 11), it can be seen more clearly that passengers are dissatisfied with the service quality evaluation of Chongqing Jiangbei Airport, mainly in the two aspects of responsiveness and assurance, which will be the key dimensions that this research needs to focus on and improve in the follow-up.

Table11: Comparison of Differences in The Five Dimensions



4.5 Service Quality Survey Summary

In this study, through the survey and data analysis, Chongqing Jiangbei Airport has maintained a stable level of infrastructure construction. All facilities and environments have reached a perfect state, and the overall experience that can be provided for travelers is similar. However, Chongqing Jiangbei Airport has a certain degree of improvement in the efficiency of essential services.

4.5.1 Insufficient Service Efficiency

With the rapid development of Internet technology, modern airports are gradually realizing digital transformation. Airport equipment is intelligent and automated, and passengers can feel convenience and efficiency in air travel. However, according to data results, Chongqing Jiangbei Airport still has many first or second-time passengers. Although the airport has clear instructions and guidance signs, these passengers still feel uneasy when facing an unfamiliar environment. Under such psychological conditions, passengers are even more confused and lost when facing these digital facilities, so they urgently need the help of staff.

From the analysis of the data results, the performance of the airport staff in terms of responsiveness and assurance needs to be improved, and they cannot help passengers solve their problems in a timely and effective manner. Despite the general perception of the professional competence of the staff, the efficiency of the service needed to meet the passengers' expectations could lead to disappointment and dissatisfaction and even a negative impression of the airport as a whole. Therefore, in enhancing the passenger experience, airports should ensure that passengers are assisted promptly.

4.5.2 Advantages of Personalized Service

The personalized services provided by Chongqing Jiangbei Airport bring passengers a good experience. With the continuous progress of science and technology and the increasing diversification of passengers' needs, personalized services at airports have become the key to improving passengers' experience and enhancing the competitiveness of airports. This shift in service concept has transformed the airport from a simple transportation hub to a comprehensive service venue with multiple functions.

In recent years, Chongqing Jiangbei Airport has been continuously upgrading and optimizing all kinds of service facilities at the airport. From comfortable rest areas and convenient baggage check-in to diverse dining options and unique shopping experiences, Chongqing Jiangbei Airport hopes to pursue the ultimate passenger experience in every service aspect. In terms of software services, the airport has also launched personalized apps. The airport apps not only book tickets and update flight information in real-time but also help passengers book hotels and rent cars. Personalized service is an advantage of Chongqing Jiangbei Airport, so it should be maintained and strengthened in the subsequent development.

5 New Passenger Experience Innovations In The Airport Business

This research conducts a questionnaire of passengers who choose to travel to Chongqing Jiangbei Airport, scientifically organizes relevant data, and analyzes the results as a theoretical basis for subsequent optimization of passenger experience. After research and analysis, this research reveals the potential problems in the airport and carries out experience innovation.

According to the data analysis, there are significant shortcomings in the service efficiency of the airport, which is the first problem that the airport needs to solve. This thesis will propose innovations and improvements in improving service efficiency. This study conducts field research in the airport and finds that most passengers still use mobile software to enjoy the service when traveling, paying more attention to the personal travel experience. Therefore, this thesis also needs to propose optimization and innovation of the application.

5.1 Airport Management Mode Innovation

The digital transformation of Chongqing Jiangbei Airport has reached a stable level. The airport's boarding process is fully automated and streamlined. The digital airport has brought unprecedented convenience to passengers. However, during the field research, it was found that some passengers need to become more familiar with automated operations or are facing unexpected situations. Under the changing circumstances, staff assistance becomes critical.

After analyzing the data above, Chongqing Jiangbei Airport needs to improve regarding service timeliness. When passengers need assistance, the staff cannot provide help promptly and proactively. In order to improve passengers' travel experience and satisfaction, the airport needs to establish a new staff management model, focusing on strengthening the staff's service awareness, ensuring that they can respond to passengers' needs the first time, and improving service efficiency.

5.1.1 Innovative Training Models

In order to improve the professional ability and service consciousness of airport staff, the current airport service training mode needs to be optimized urgently. The existing training mode of the airport mainly emphasizes the learning and assessment of theoretical knowledge, which makes most of the staff excel in theoretical knowledge but are inexperienced in practical operation, so the staff cannot provide timely help.

Given the above problems, the airport should combine practical operation with theoretical knowledge to improve the existing service training mode more comprehensively. In practical operation, staff can better understand and apply what they have learned and improve their ability to deal with emergencies; through repeated practice, staff can master service skills and improve service quality and efficiency. By enhancing their practical skills, staff will realize that the service's essence is promptly detecting and satisfying passengers' needs and expectations.

The airport adopts the working mode of "senior staff mentoring new staff," i.e., experienced staff will lead new staff to participate in airport ground services. This model enables the transfer of experience and expertise and helps new staff integrate into the airport's fast-paced working environment. Senior staff and new staff can also learn from each other and progress together, building a mutually beneficial and positive partnership and realizing the staff's expected growth and development. In order to ensure the smooth progress of this working mode, the airport needs to formulate a corresponding management system and training programs to ensure that senior staff have sufficient mentoring ability and experience and that new staff can also get sufficient training and practice opportunities.

5.1.2 Establishment of Incentive Mechanism

Establishing an incentive mechanism can effectively stimulate the staff's career and work enthusiasm. The airport has established a scientific and fair staff service quality evaluation mechanism to continuously track and evaluate staff services and ensure that staff are clear about their responsibilities.

The incentive mechanism evaluates the staff's service attitude, skill level, sensitivity to passenger needs, and emergency responseability. The airport has set up a "service model" and "employee

with the highest passenger satisfaction" honorary awards, giving corresponding material rewards or promotion opportunities to staff with outstanding job performance, promoting staff to improve service quality and work enthusiasm, and providing passengers with better service.

Incentives need to integrate the personal growth and development needs of staff. The airport provides regular training and learning opportunities to help staff improve their professional competence and service level. In order to better protect the development space of staff and an excellent working environment, the airport clearly defines the promotion criteria so that employees can see their future development in the organization. The airport's attention and investment in employees' personal growth can enhance loyalty and work motivation and also cultivate a high-quality and professional service team for the airport.

5.2 Innovation of Airport Procedure Optimization

With the wave of digitalization sweeping the world today, Chongqing Jiangbei Airport keeps pace with the times and steadily moves towards a new era of digital airports. The airport environment is clean and orderly, and the infrastructure is perfect. The airport displays a modern atmosphere in both the architectural design of the terminal building and the configuration of facilities in the terminal hall. Passengers can feel an efficient and convenient air travel experience, a comfortable and pleasant waiting environment, and diversified service consumption at the airport.

The airport's information service is essential. The existing applications at Chongqing Jiangbei Airport are designed to include flight booking, flight inquiry, online check-in, and reservation service functions. The application's design is mainly oriented toward passengers familiar with the travel process and the use of software, and the experience of passengers who need to become more familiar with the travel process may be affected. Therefore, this thesis proposes to innovate and optimize the official application of Chongqing Jiangbei Airport better to meet the needs of various passengers.

5.2.1 Adding Program Features

Add customer-friendly functions. The customer-friendly function is designed to enable new travelers to quickly understand and familiarize themselves with the functions and usage of the application when they log in for the first time, helping travelers carry out booking services and itinerary management more smoothly.

When a traveler opens the application for the first time, the program system will intelligently recognize the identity of the new traveler and automatically pop up a "first-time user guide" prompt window. The guide introduces the core functions and features of the application in detail in simple language, with clear diagrams and examples to help travelers understand how to use each function more intuitively.

In order to provide more efficient answers to the questions travelers may encounter in the process of using the application, the application has set up a "Frequently Asked Questions" section to summarize the common questions travelers may encounter in the process of using the application, as well as the corresponding answers. The answers are expressed in simple language, making it easy for travelers to find the answers and quickly solve the problems.

5.2.2 Optimization of Program Features

The existing official program service needs to be more extensive in content coverage, mainly due to the lack of detailed maps of the terminals. In order to enhance passenger experience and meet passenger needs, the application optimizes the map information of T3A and T2 terminals, focusing on essential locations such as check-in gates of significant airlines, subway entrances, bus stops, and bus stations, to facilitate passengers' access to relevant information. Provide route planning and navigation functions on the map to help passengers get to their destinations more conveniently.

Optimize the application booking service page to ensure an intuitive and convenient interface. Simplify the booking process so travelers can quickly complete their bookings in simple steps. Optimized flight tracking allows travelers to easily access flight information and set up flight reminders to ensure they do not get all their flight information.

5.2.3 Personalized Service Optimization

Chongqing Jiangbei Airport continues to demonstrate its strengths in personalized services. Although the airport already provides numerous personalized services offline, such as transit service lounges and diversified shopping, there is still a need to strengthen the integration of online and offline to optimize personalized services. Through online and offline development integration, passengers will be provided with a personalized service experience.

The application adds the "Beautiful Chongqing Tour" feature to provide travelers with one-stop travel planning services. This feature integrates travel tips on Chongqing's famous attractions, local food recommendations, and detailed transportation guides to ensure that travelers can enjoy the beautiful scenery and experience the unique charms of Chongqing.

The app adds a "Special Needs" booking option so that the airport can provide travelers with more convenient accessibility options. By simply checking a few boxes during the booking process, travelers can communicate their special needs to the airline, thus avoiding the cumbersome phone booking process and ensuring that special needs are met promptly.

5.2.4 Introducing Intelligent Technology

In order to help travelers find their destinations more conveniently, an intelligent guidance system is introduced into the application software, placing the airport terminal guide map in a three-dimensional form in the application software, combined with the live map guidance function to provide travelers with more intuitive navigation services.

The airport terminal guide map is presented in a three-dimensional form. The three-dimensional map has the traditional flat map function and allows travelers to easily view each location through simple gestures such as rotation and zoom. Travelers can freely adjust the angle of view according to their needs and better understand all corners of the airport. The three-dimensional airport guide map also has other advantages; it can provide travelers with a more decadent display of information, including airport facilities, dining, shopping, and other services. Travelers can access information with just one click on the guide map, giving them more choices for waiting at the airport.

Add live map guidance function. With the help of AR technology, the airport presents the navigation roadmap in a live view on the traveler's mobile screen. When travelers open the application, they can capture the actual scene of the airport through their phone's camera and then see the superimposed road map on their phone screen, so travelers can understand where they are and the direction of their destination. This live map guidance function is helpful for travelers unfamiliar with the airport environment, as they no longer need to run around looking for their boarding gate, ensuring that the entire trip is smooth and unobstructed.

5.3 Passenger Feedback Optimization

In order to improve the airport's services, the airport optimizes the passenger feedback mechanism. Through the feedback mechanism, airports can understand passengers' needs and pain points in real-time and make timely adjustments and optimizations to the service process. Passenger feedback mechanism also provides valuable data support for airports; airports can understand passengers' behavior habits, preferences, and demand changes, providing a solid basis for future service upgrades.

Passenger feedback can be combined online and offline so travelers can easily participate in the improvement process of airport services. Passenger feedback forms are set up at the airport. Online in the application software for travelers to provide feedback interface, travelers only need to fill in the interface-related information, such as feedback content and contact information, and then click on the submit button; travelers can complete the feedback.

When passengers' feedback is submitted, it is entered into the airport's feedback processing system. The airport establishes a traveler feedback processing team. Once the feedback is received from the travelers, the staff immediately verifies and investigates to ensure the authenticity and accuracy of the issue. Depending on the nature and urgency of the problem, staff develop appropriate solutions and measures. If there is an urgent issue, the airport takes swift action to ensure travelers' rights and satisfaction.

6 Conclusion, Shortcomings And Improvements

After analyzing the existing literature research and empirical data, this thesis summarizes several problems in the current airport services. It proposes innovative improvement measures to enhance passenger experience in response to these problems. This thesis aims to provide practical improvement suggestions for airport managers to optimize the airport service process, improve passenger satisfaction, and thus enhance the overall competitiveness of airports.

6.1 Conclusion

This study uses SERVQUAL scale and service perception to construct a questionnaire on the service quality of Chongqing Jiangbei Airport, uses SPSS software to analyze passenger satisfaction, and concludes that the current passengers' evaluation of the service quality of Chongqing Jiangbei Airport is mainly manifested in the following aspects:

1. After assessing essential services, this study finds that the difference between passengers' expectations and actual perceptions of the travel experience is insignificant. Chongqing Jiangbei Airport continues to promote the modernization of the terminal building, improve the airport's directional signs and intelligent facilities, release accurate flight information, ensure passenger travel punctuality, and provide passengers with a convenient and comfortable travel environment.
2. This study finds that the service efficiency of the airport fails to meet the expectations of passengers fully, the airport staff can't provide timely and active assistance to passengers, and some staff treat passengers with indifference and lack of patience and enthusiasm, making the passengers' journey in the airport unpleasant. The airport needs to take appropriate measures to receive feedback from passengers and respond to passenger needs promptly.
3. Chongqing Jiangbei Airport's personalized service brings passengers a good experience. The airport is committed to providing humanized service needs to meet the special needs of different travelers, as well as setting up diversified shopping stores in the airport, especially stores of Chongqing special products, to promote the traditional culture of Chongqing and to develop the tourism consumption economy of Chongqing.

Since its establishment, Chongqing Jiangbei Airport has been building a superior customer travel experience with high-quality service concepts. Recently, the airport has been strengthening its cooperation with travel companies to provide many choices. This thesis focuses on the

optimization measures to improve service efficiency. At the same time, it follows the world development trend to strengthen digital construction and improve the optimization of the application.

6.2 Shortcomings

As an important transportation hub in society, airports connect all parts of the world. The airport has a huge operation system and must deal with tens of thousands of passengers and cargo daily. Only 351 questionnaires collected so far are insufficient to evaluate the service quality of the entire airport. In order to more accurately reflect the service level of airports, future research needs to expand the scope of the survey and collect more effective feedback information.

The questionnaire's content in this research is designed to address the SERVQUAL and mature scales in the literature. The questionnaire covers the main reasons affecting passenger satisfaction at present, but the comprehensiveness of the survey needs to be strengthened. For the collected data, only SPSS software was used to analyze the reliability, validity, and difference value, and more accurate and comprehensive analysis methods need to be considered to get more about service quality evaluation.

Airport managers must recognize that optimization and innovation are long-term processes that require long-term financial support and personnel training. The results of optimization and innovation are often only sometimes apparent, especially in the early stages of implementation of measures, and airports may face particular challenges and difficulties due to unskilled staff and inadequate airport mechanisms.

6.3 Improvements

Chongqing Jiangbei Airport managers should pursue the long-term development of the airport. Airport development evolves along with people's lives and world trends. Airport managers need to keep an eye on changes in the overall market environment, focusing on developing airport infrastructure, strengthening cooperation with other stakeholders in the aviation industry, cultivating high-quality human resources, and expanding route operations to optimize the passenger

experience to maintain their market position. In future research, airports must explore the other three service quality dimensions in detail and propose appropriate optimization measures.

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