

Faculty of Applied and Creative Arts

Service Design in Tourism: Tourist Experience Driven Destination in Qingzhou Ancient City, China

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Service Design in Tourism: Tourist Experience Driven Destination in Qingzhou Ancient City, China

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A thesis submitted

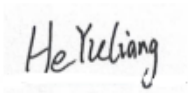
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DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



……

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ABSTRACT

The study found a significant gap between tourists' perceptions and expectations of service quality in Qingzhou Ancient City, with notable differences across various dimensions of service quality. It also identified the factors influencing the service quality of Qingzhou Ancient City tourism services. Four critical incidents were identified, highlighting areas for improvement and optimization. Additionally, the study uncovered opportunities for service design within Qingzhou's tourism services. Based on these findings, the researcher proposes a practical service design strategy framework to help destination managers enhance tourist experiences and foster value co-creation with stakeholders. This study explored factors influencing tourists' perceived service quality in Qingzhou Ancient City, a renowned historical and cultural destination in China. The researcher employed a mixed-methods approach tailored to specific research questions. The researcher used a quantitative method for the first question involving questionnaire surveys. To address the second question, the researcher used a multi-step qualitative method, including personas, observations, guided interviews, service safaris, and customer journey maps. These tools are integral to service design. For the third question, the researcher combined qualitative methods, such as observation and interviews, with service blueprint and customer journey map methodologies. The study significantly contributes to the theoretical advancement of tourism destination service design, particularly for ancient city destinations. The researcher developed a model for assessing tourism service quality and a strategic framework for service design in Qingzhou Ancient City, enhancing the application of service design principles. Using customer journey maps improved the clarity and executability of service management. The service design process, rooted in a shared service concept, enhances Qingzhou's competitiveness. Key touchpoints in the Customer Journey Map facilitate consistent

stakeholder goals, empowering Destination Marketing Organizations (DMOs) to create innovative, visitor-centric solutions. The service design strategy framework helps providers pinpoint their roles and potential partners, optimizing operations and collaboration. Future research should refine the service design framework for various destinations and explore how emerging technologies can enhance tourism experiences and service design methodologies. Investigating the integration of infrastructure with new technologies and the impact of tourism on ecosystems will further contribute to sustainable tourism development.

Keywords: Service design, service quality, tourism experience, destination management, tourism service ecosystem

Reka Bentuk Perkhidmatan dalam Pelancongan: Destinasi Berpandukan Pengalaman Pelancong di Kota Bersejarah Qingzhou, China

ABSTRAK

Penyelidikan ini mengkaji jurang yang ketara antara persepsi dan jangkaan pelancong terhadap kualiti perkhidmatan di Kota bersejarah Qingzhou, dengan perbezaan yang ketara dalam pelbagai dimensi kualiti perkhidmatan. Selain itu, kajian ini turut mereka bentuk perkhidmatan dalam perkhidmatan pelancongan di daerah Qingzhou. Berdasarkan penemuan ini, penyelidik mencadangkan rangka kerja strategi reka bentuk perkhidmatan yang praktikal untuk membantu pengurus destinasi meningkatkan pengalaman pelancong dan menggalakkan Kerjasama strategik bersama dengan pihak berkepentingan. Kajian ini meneroka faktor-faktor yang mempengaruhi kualiti perkhidmatan terhadap pelancong di Kota bersejarah Qingzhou, destinasi-destinasi menarik dan budaya yang terkenal di China. Penyelidik menggunakan pendekatan kaedah campuran kualitatif dan kuantitatif yang akan menjawab soalan penyelidikan ini.. Untuk soalan pertama, penyelidik menggunakan kaedah kuantitatif yang melibatkan tinjauan soal selidik. Untuk menjawab soalan kedua, penyelidik menggunakan kaedah kualitatif pelbagai langkah, termasuk persona, pemerhatian, wawancara berpandu, safari perkhidmatan, dan peta perjalanan pelanggan. Kaedah ini merupakan integrasi kepada reka bentuk perkhidmatan. Untuk soalan ketiga, penyelidik menggabungkan kaedah kualitatif, seperti pemerhatian dan wawancara, dengan metodologi pelan perkhidmatan dan peta perjalanan pelanggan. Kajian ini memberikan sumbangan yang signifikan kepada kemajuan teori reka bentuk perkhidmatan destinasi pelancongan, terutamanya untuk destinasi kota bersejarah. Penyelidik membangunkan model untuk menilai kualiti perkhidmatan pelancongan dan rangka kerja strategik untuk reka bentuk perkhidmatan di Kota tersebut, meningkatkan aplikasi prinsip reka bentuk perkhidmatan.

Penggunaan peta perjalanan pelanggan akan meningkatkan penjelasan dan kebolehupayaan pengurusan perkhidmatan. Proses reka bentuk dan konsep perkhidmatan, , dapat meningkatkan daya saing daerah Qingzhou dalam perkhidmatan pelancongan budaya. Titik sentuhan utama dalam Peta Perjalanan Pelanggan memudahkan matlamat pihak berkepentingan yang konsisten, membudayakan Organisasi Pemasaran Destinasi (DMO) untuk mencipta penyelesaian inovatif kepada pengunjung. Rangka kerja strategi reka bentuk perkhidmatan membantu dalam proses mengenal pasti peranan mereka dan rakan kongsi yang berpotensi, mengoptimumkan operasi dan kerjasama. Penyelidikan akan datang harus memperhalusi rangka kerja reka bentuk perkhidmatan untuk pelbagai destinasi dan meneroka bagaimana teknologi baharu dapat meningkatkan pengalaman pelancongan yang lebih inovatif. Penyelidikan berintegrasikan infrastruktur dengan teknologi baru dan kesan pelancongan terhadap ekosistem akan menyumbang kepada pembangunan pelancongan yang lestari di China dan daerah Qingzhao secara amnya.

Kata kunci: *Reka bentuk perkhidmatan, kualiti perkhidmatan, pengalaman pelancongan, pengurusan destinasi, ekosistem perkhidmatan pelancongan*

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LIST OF ABBREVIATIONS

SD	Service Design
SQ	Service Quality
PSQ	Perceived Service Quality
ESQ	Expected Service Quality
DMO	Destination Management Organisation
KTP	Key Touchpoint
Osa	Overall Satisfaction
Phc	Perceived Historical and Cultural
Pta	Perceived Tangibility
Prel	Perceived Reliability
Pres	Perceived Responsiveness
Pas	Perceived Assurance
Pem	Perceived Empathy
DTSE	Destination Tourism Service Ecosystem
ACCE	Ancient City Cultural Exhibition
PTH	Prefecture Tribute House
QAC	Qingzhou Ancient City
OSSQ	Overall Satisfaction of Service Quality

CHAPTER 1

INTRODUCTION

1.1 Overview

The primary objective of this research is to develop a service design strategy framework for the destination tourism service ecosystem of Qingzhou Ancient City. The intention is to apply service design thinking and methods to effectively manage and enhance the service experiences of tourists in destination tourism, thereby contributing to the sustainable development of the tourist destination.

This chapter serves as an introduction, offering insights into the research background, problem statement, research scope, research significance, research questions, research objectives, research methods, research limitations, and an outline of the dissertation structure.

1.2 Research Background

In the era of the service economy, achieving a competitive edge in the tourism industry requires the creation of memorable and unique tourism experiences. The "Ireland Tourism Vision 2003-2012" report highlighted the increasing demand for unique experiences, authenticity, and emotional engagement in international tourism. Similarly, the Irish Tourism Industry Confederation emphasized the necessity of developing industry-wide capabilities in experience development and innovation to achieve these goals (Lally, 2006).

Since the mid-20th century, advancements in productivity have shifted economies from industrial production to service-based economies (Hu, 2019). In this context, tourists' expectations have evolved from mere product purchases to seeking comprehensive and enriching experiences. The influence of the Internet and technological advancements has

further empowered tourists, enabling real-time comparisons of service quality and prices, making the perception of service quality crucial for competitive success (Beesley, 2012).

Positive customer experiences have become essential for influencing others' purchasing decisions, making the development of high-quality tourism experiences a global priority (Page, 2007). Customer experience is a key determinant of satisfaction, necessitating proactive service design and management (Stickdorn & Schneider, 2011).

In recent years, the focus in tourism has shifted from products and services to the overall experience, largely influenced by the concept of the "Experience Economy" by Pine and Gilmore. This approach encourages suppliers to present business products as memorable experiences (Åstrøm, 2017). Despite recognizing the importance of experience, tourism practitioners still face challenges in effectively creating and implementing these experiences (Morgan et al., 2009).

Service design, an interdisciplinary approach aimed at improving and innovating services, offers valuable methods for analyzing and developing complex service experiences. It employs qualitative research methods and visualization techniques to manage the complexity and intangibility of service experiences (Trischler & Zehrer, 2012). Visualization techniques, such as customer journey maps, play a crucial role in depicting and redesigning services to enhance customer experiences (Segelström, 2010).

In the tourism industry, service design has become increasingly integral, offering innovative methods to analyze, systematically innovate, and improve service processes (Hlee et al., 2019; Liang, 2017; Lin et al., 2020). Despite its growing importance, research on the application of service design to develop destination tourism is still limited.

Qingzhou Ancient City, a historical and cultural destination in China, presents a unique context for exploring the application of service design in tourism. This study aims to develop a strategic framework for service design in Qingzhou Ancient City, enhancing tourist experiences and fostering value co-creation among stakeholders. By addressing the specific needs and expectations of tourists in this ancient city, this research contributes to the theoretical and practical advancements in tourism service design, offering valuable insights for similar destinations worldwide.

1.3 Problem Statement

In November 2013, the State Council of China designated Qingzhou City, Shandong Province, as a national historical and cultural city. As of March 15, 2023, the State Council has identified 142 cities as national historical and cultural cities, prioritizing the protection of the cultural relics in these cities. In 2017, the Ministry of Culture and Tourism of China bestowed 5A-level scenic spot status upon Qingzhou City. In the People's Republic of China, National AAAAA-level tourist attractions, or 5A-level scenic spots, represent the highest quality level for tourist destinations. The 5A level signifies the pinnacle of Chinese tourist attractions, indicating world-class boutique attractions. As of September 15, 2022, the official query system of the Ministry of Culture and Tourism of the People's Republic of China lists a total of 318 5A scenic spots nationwide, including 17 scenic spots of the ancient city and ancient town type.

The Qingzhou Ancient City scenic area is grappling with intense competition in the tourism industry. Given that tourism is a service-oriented industry, its success hinges on customer experience. From a marketing and management standpoint, the key to surviving and distinguishing oneself in the increasingly competitive tourism market lies in providing

unique and differentiated products and services that offer tourists an unforgettable experience and add value (Tussyadiah, 2014). Currently, there is no relevant research scientifically investigating the perceived service quality of tourists in Qingzhou Ancient City scenic spots (Guan et al., 2023).

Tourism is a service-intensive industry (Avlonitis & Hsuan, 2017), and its fundamental product is the tourist experience of the destination. Often regarded as the primary producer of experiences (Binkhorst & Den Dekker, 2013), tourism researchers and businesses aim to conceptualize tourism as an experience production system (Sundbo & Hagedorn Rasmussen, 2008). In the realm of travel, differentiation in a commoditized market proves challenging. The primary hurdle facing enterprises is the design of experiences capable of generating awareness and distinctiveness (Güzel, 2016). Currently, there is no relevant research on the specific service areas that require improvement and enhancement in the tourist perception experience of Qingzhou Ancient City.

The tourism industry is attentive to customers' service experience not only during their stay but also before and after their visit (Stickdorn & Zehre, 2012). Consequently, tourism managers must explore new approaches to designing and analyzing destination experiences (Lin et al., 2020).

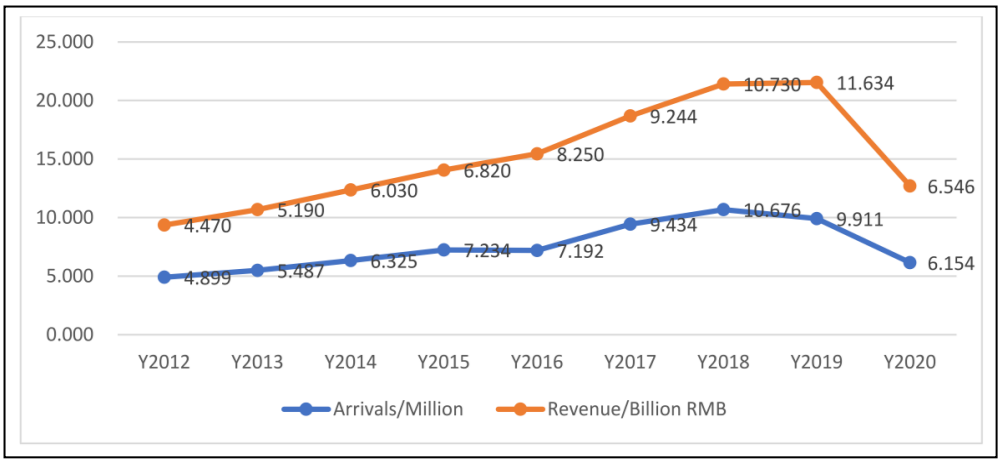


Figure 1.1: Number of Tourist Arrivals and Income of the Tourism Industry in the Ancient City of Qingzhou, 2012-2020. (Source: from Qingzhou Municipal Bureau of National Economic and Social Development Statistics)

From Figure 1.1, it is evident that the number of tourists and tourism revenue in the Qingzhou Ancient City scenic area exhibited continuous growth from 2013 to 2017. Following its designation as a famous historical and cultural city in 2017, both the number of tourists and tourism revenue witnessed a significant increase. An inflection point occurred in 2019, marking the onset of the recovery period for tourism services and the pursuit of sustainable development.

Yao (2020) identifies several challenges in the sustainable development of the ancient city of Qingzhou, including insufficient depth in tourism resource development, a lack of concentration in cultural characteristics, and inadequate integration of cultural and creative industries with tourism. Wang (2014) points out restrictive factors affecting the sustainable development of tourism in Qingzhou City, including insufficient resource utilization, poor integration of tourism products, scattered scenic spots, outdated transportation facilities in mountainous areas with poor road conditions, delayed construction of tourist service facilities, poor supporting infrastructure, an inefficient tourism management system, low management levels, insufficient stamina for tourism capital

investment, a shortage of talent attraction, deteriorating eco-environment in tourism areas with prominent contradictions, lack of creative development in cultural tourism products and souvenirs, a deficiency in high-quality tourism lines, and intensified competition in surrounding areas.

Predominantly constituted by small and medium enterprises (SMEs), tourism operates as a highly interdependent industry where the tourism experience often comprises a 'bundle' of services from various providers. From a systems science perspective, a tourism destination itself can be broadly regarded as a socio-ecological system (Levin et al., 2013), wherein numerous actors, including tourism customers, service providers, other economic stakeholders, and regulators interact (Polese et al., 2018), many of whom are direct competitors.

In an increasingly dynamic, interconnected, and competitive environment, even direct competitors may find the need to cooperate to offer customers seamless services and enhance the competitiveness of the destination service ecosystem as a whole (Chim-Miki et al., 2020). Efficiently and dynamically integrating resources to form an interactive collaborative network becomes a crucial task and challenge for destination management managers (Baccarani & Cassia, 2017; Vargo & Lusch, 2011)

The tourism industry is crucial for the economic development of historical and cultural destinations like Qingzhou Ancient City. In the face of growing competition, it is essential for these destinations to offer exceptional service quality to attract and retain tourists. Despite extensive research on tourism service quality, there is a notable gap in comprehensive frameworks specifically tailored to the unique context of ancient city destinations.

This study addresses this gap by developing a strategic framework for service design, aimed at enhancing the tourism service experience in Qingzhou Ancient City. By focusing on service design, our research provides practical tools for destination managers to improve tourist experiences, optimize service processes, and foster value co-creation among stakeholders. The anticipated outcomes include increased tourist satisfaction, higher rates of repeat visits, and positive word-of-mouth, all contributing to the sustainable development of Qingzhou's tourism sector.

Theoretically, this research contributes to the advancement of tourism service design by introducing new models for assessing and improving service quality in historical settings. By integrating quantitative and qualitative research methods, our study offers a novel approach to analyzing and evaluating tourist experiences. This work not only enriches the academic discourse on service design and tourism management but also provides a valuable framework that can be adapted for various types of tourism destinations.

1.4 Research Scope

The primary scope of this research is service ecosystem service design in destination tourism management, focusing on the tourist experience. The theories employed encompass service quality, service experience, service design, service management, design thinking, destination tourism management, and experience management (Figure 1.2).

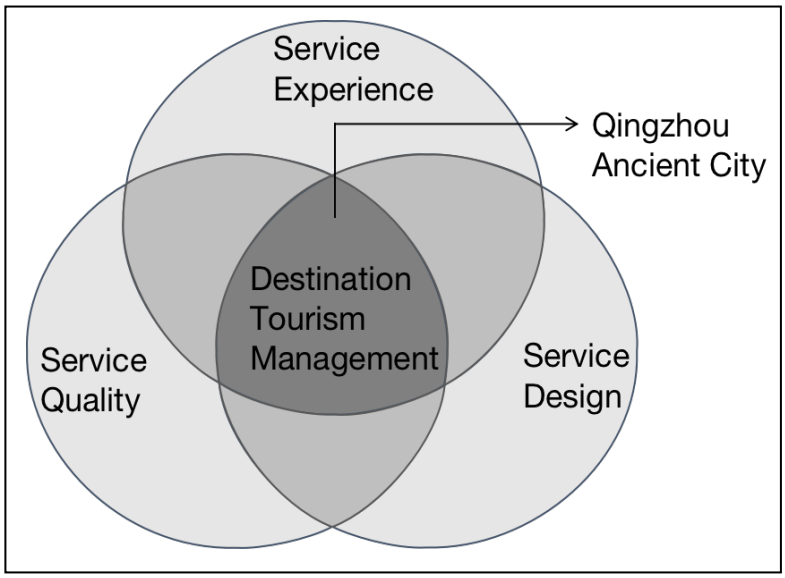


Figure 1.2: Research Scope

1.5 Research Significance

Theoretical Significance. This study expands the application theory of service design thinking, service design theory, service design methods and tools in the destination tourism service ecosystem. It provides a certain supplement to the development of tourism service design theory. This study proposes a new measurement model for the tourism service quality of Qingzhou Ancient City. At the same time, a multi-step qualitative research method is also adopted to provide new methods and perspectives for the analysis and evaluation of tourist experience. It also provides theoretical support and reference for the management and sustainable development of the destination tourism service ecosystem.

Practical Significance. The strategic framework of the destination tourism service ecosystem service design, as constructed in this research, aims to enhance the Qingzhou Ancient City tourism service ecosystem. It seeks to streamline the service process, elevate the customer travel service experience, and subsequently improve customer satisfaction and loyalty. By enhancing tourism service touchpoints and innovating tourism service content

and business models, this framework aims to boost the competitiveness and sustainable development of tourism destinations.

This strategic framework provides guidance for Qingzhou Ancient City tourism destination management organizations and stakeholders, assisting them in finding their own positioning, realizing multi-dimensional value co-creation, promoting the sustainable development of Qingzhou Ancient City tourism, increasing tourism revenue, and enhancing the overall service image of Qingzhou Ancient City tourism.

1.6 Research Questions

i. What are the factors that affect the perceived service quality of tourists in Qingzhou ancient city?

ii. How can service design be utilized to enhance the tourism service experience of tourists in Qingzhou ancient City?

iii. How to construct the tourism experience of tourists in Qingzhou ancient city?

1.7 Research Objectives

i. To identify the factors that affect the perceived service quality of tourists in Qingzhou ancient city.

ii. To analyze how service design can be employed to enhance the tourism service experience of tourists in Qingzhou ancient city.

iii. To construct a service design framework for the destination tourism service ecosystem in Qingzhou ancient city, with a focus on enhancing the tourist experience.

1.8 Research Methodology

This study employs a mixed research methods approach, utilizing different methods for various research questions. Both qualitative and quantitative research methods, along with service design methods and tools, will be applied.

For the first question, the quantitative research method employs the questionnaire survey method. The second question is addressed using a multi-step qualitative research method, involving personas, observation, guided interviews, service safari, and customer journey mapping. Notably, personas, service safari, and customer journey mapping are methods and tools within the realm of service design. The third question utilizes qualitative research methods such as interviews and observations, complemented by service design methods including customer journey mapping and service blueprints.

1.9 Research Limitations

While conducting the questionnaire survey and interviews in the ancient city of Qingzhou, the number of tourists has decreased due to the impact of the epidemic. The survey targets both tourists and local residents who have visited the ancient city of Qingzhou. Due to restrictions on travel in some countries and regions, and certain limitations within some regions in China, there is a higher representation of local tourists compared to international tourists in the interviewed groups. Consequently, there are more Chinese tourists than international tourists in the data collected for the surveys, and surveys and interviews with tourists from abroad are subject to certain limitations.

1.10 Research Hypothesis

H1: The historical and cultural dimension significantly impacts tourists' perceived service quality in Qingzhou Ancient City.

H2: The tangibility of tourism services significantly affects tourists' perceived service quality in Qingzhou Ancient City.

H3: The reliability of tourism services significantly influences tourists' perceived service quality in Qingzhou Ancient City.

H4: The responsiveness of tourism service providers significantly influences tourists' perceived service quality in Qingzhou Ancient City.

H5: The assurance provided by tourism services significantly affects tourists' perceived service quality in Qingzhou Ancient City.

H6: The empathy shown by tourism service providers significantly impacts tourists' perceived service quality in Qingzhou Ancient City.

H7: There is a significant difference between tourists' perceived service quality and their expected service quality in Qingzhou Ancient City.

H8: The historical and cultural dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H9: The tangibility dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H10: The reliability dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H11: The responsiveness dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H12: The assurance dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H13: The empathy dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

1.11 Dissertation Structure Outline

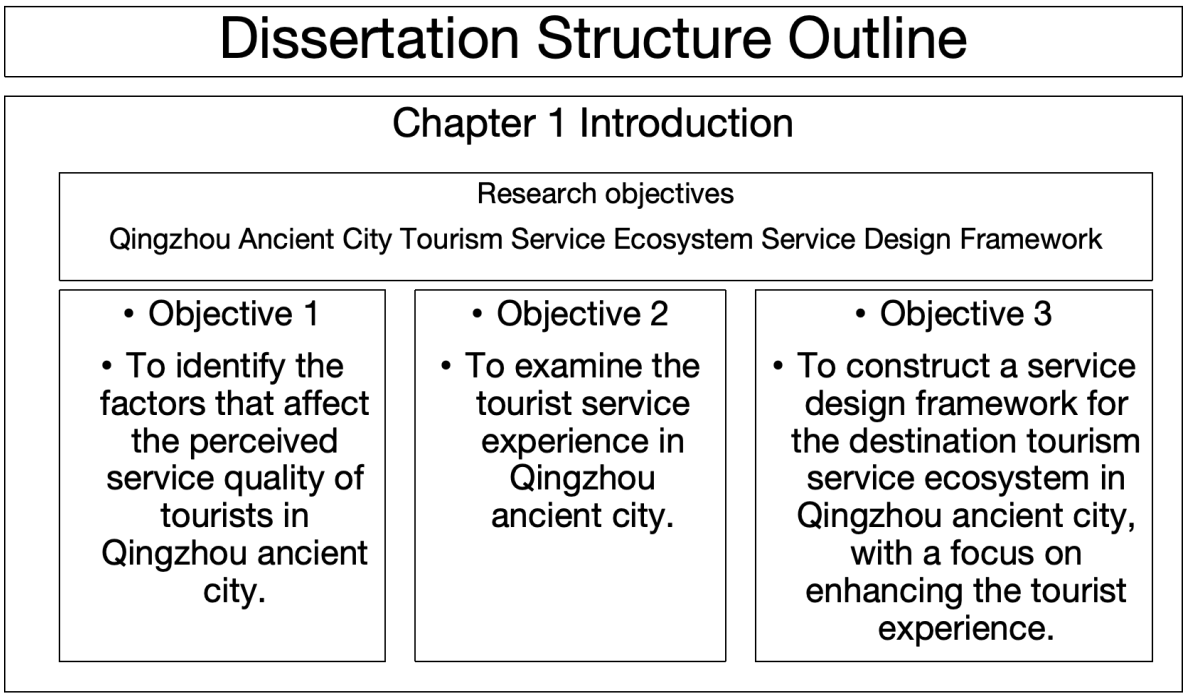


Figure 1.3: Dissertation Structure Outline

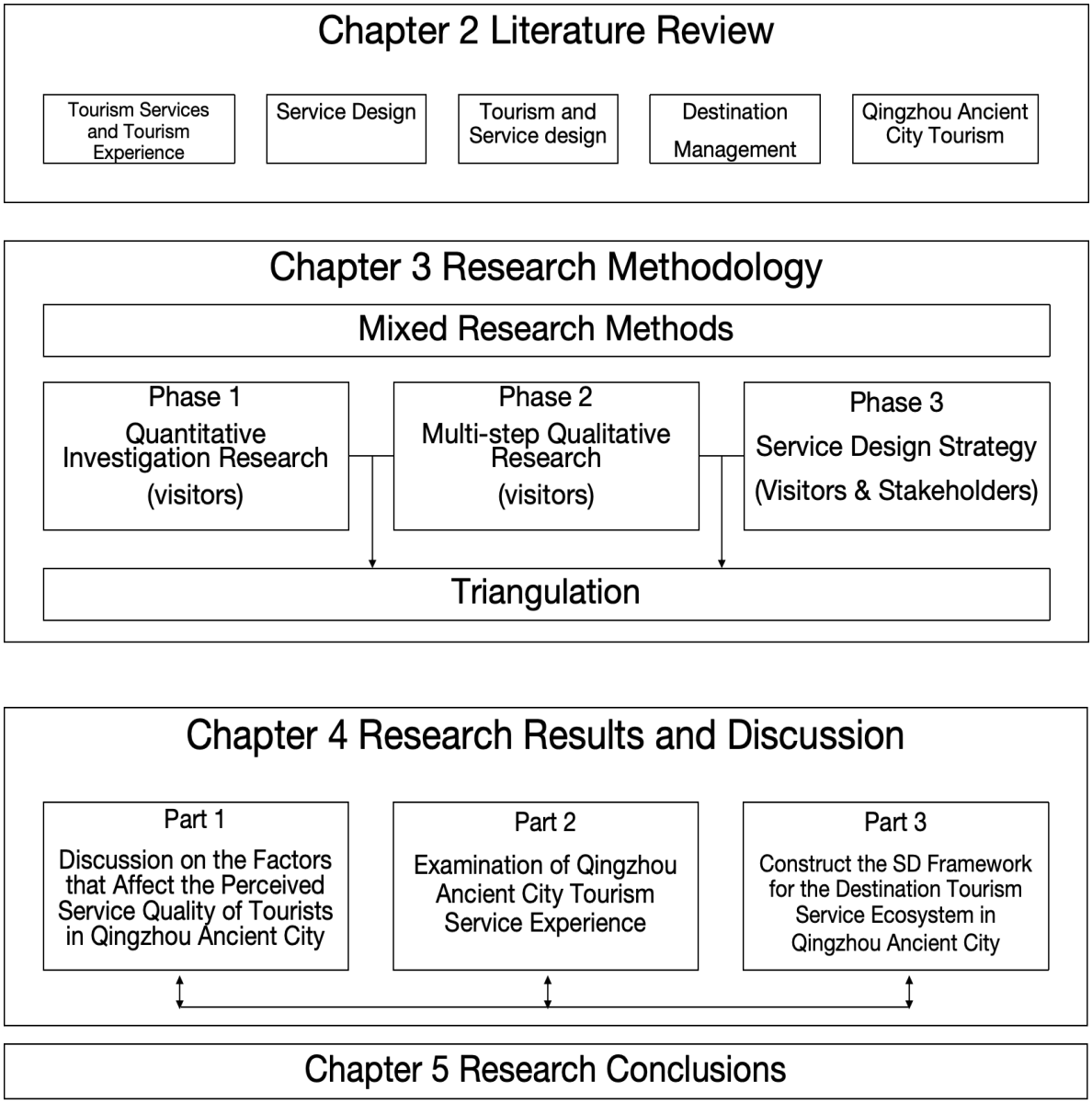


Figure 1.3: Dissertation Structure Outline

1.12 Chapter Summary

In this chapter, the research background, problem statement, research scope, research significance, research questions, research objectives, research methodology, research limitations, and the overall structure of the dissertation are elucidated. This provides a foundation for the research undertaken in this study.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

This chapter primarily reviews literature related to six areas within the research field: tourism services, tourism experience, service design, tourism and service design, destination management and sustainable development, and tourism in Qingzhou Ancient City.

The first section reviews the concepts of service, tourism service, research on tourism service perception, and research on tourism service quality. The second section reviews the concept of experience, the definition and classification of tourism experience, the factors influencing tourism experience, the evaluation of tourism experience quality, and experience management. The third section reviews research related to service design, including the development of service design, interdisciplinary service design, the concept of service design, principles of service design, terminology and methods of service design, and the service design process. The fourth section reviews the application of service design in the tourism industry. It discusses how service design is an emerging field in tourism, can analyze and evaluate customer experiences, can improve and enhance service experiences, can develop new services and service innovations, and can achieve efficient management and sustainable development of tourism destinations. The fifth section reviews research on destination management, including destination management and sustainable development. The sixth section reviews research related to tourism in Qingzhou Ancient City, including the preservation and transmission of Qingzhou's historical and cultural heritage, strategies and suggestions for the development of the Qingzhou tourism industry, and design research related to Qingzhou tourism.

2.2 Concept of Services

Service as a research subject has been studied for many years. Scholars from various disciplines have defined the concept of service from different perspectives. To date, there remains significant debate, and no unified conclusion has been reached. The following sections will introduce the research on the concept of service from the perspectives of economics, management, and service engineering and science.

Firstly, the researcher examine the concept of 'service' from an economic perspective. Riddle (1986) posited that services encompass economic activities that yield time utility, place utility, and form utility, effecting a change for the service recipients or their possessions. Murdick et al. (1990) expanded the definition, characterizing services as economic activities generating time utility, place utility, form utility, or psychological utility. This departure from the traditional notion of services as intangible products is significant. Service is the application of competences (such as knowledge and skills) by one party for the benefit of another, based on the study of service systems and value propositions (Vargo, 2008). Service is an interactive process of "doing something for someone" that is valued, and it becomes the unifying purpose of any business relationship (Ballantyne & Varey, 2008).

In their seminal work, "The Experience Economy: Work is Theatre and Every Business a Stage" (1999), Pine and Gilmore (2011) redefine services as experiences. They conceptualize service as an intangible activity tailored to meet specific individual customer needs. Pine and Gilmore (2011) argue that the service economy has evolved into the experience economy, a new economic paradigm generating revenue and job opportunities beyond products and services. This transformation represents a shift in economic output. The characteristics of service include intangibility, inability to evaluate, continuity of

production and consumption, short life, variability, inelasticity, lack of ownership, urgency, individualization, and subjectivity (Semenog, 2021).

In the book "Productivity, Innovation, and Knowledge in Services: New Economic and Socioeconomic Approaches" (2002), Gadrey and Gallouj propose that services entail collaborative work between suppliers and customers, facilitating the transformation of various objects, such as material goods, information products, or organizations. There exists a certain subordination relationship between these objects and the customers.

Building upon this, Pine and Gilmore introduce the concept of the "transformation economy" in the second edition of "The Experience Economy" (2011). From an economic standpoint, the concept of "service" has evolved from an "activity" to an "industry" and, ultimately, to an "economy." Its essence and characteristics have progressed from being intangible to utility-driven, encompassing time utility, place utility, and form or psychological utility (Hu, 2019).

Next, the researcher explore service research from the management perspective, specifically the definition of service in service marketing. Intangibility is a critical characteristic employed to delineate services in the realm of service marketing.

Grönroos (1990) summarized services as intangible activities addressing interactions between customers and service personnel, tangible goods, or service systems. Kotler and Armstrong (2010) classified services into four forms: pure tangible goods, tangible goods with accompanying services, services with a small goods component, and pure services. A service in service marketing is an intangible performance offered by one party to another, not resulting in any ownership (Prakash et al., 2019). The essence of the concept of service is that it is an action with a beneficial effect on the consumer, often an intangible product or

process, and has economic value as an object of commercial activity (Petrova & Dontsova, 2020). Services in service marketing refer to intangible assets that play a significant role in socio-economic development (Zimin, 2023).

On one hand, scholars have persistently delved into the "intangibility" of services. Quinn et al. (1987) asserted that services are typically consumed during production, yielding non-tangible products or constructed offerings. These offerings bring added value in the form of convenience, pleasure, time savings, comfort, or health. Zeithaml et al. (1996) defined services as "Acts, Processes, and Performances." Zeithaml and Bitner (1996) considered services as actions, processes, and performances.

Fitzsimmons (2003) undertook a comprehensive review of typical definitions of "service" in the marketing field. According to Fitzsimmons, services are actions, processes, and performances; they are solutions to problems presented by customers, involving interactions that possess more or less intangible characteristics. These interactions usually occur (but not necessarily) between customers and service personnel, tangible resources or goods, and service provider systems. Services provide intangible actions and performances rather than tangible, visible, or perceptible physical items. Solomon et al. (2014) viewed services as behaviour, performance, experience, or encounter, providing some form of value in the production and delivery of a product.

On the other hand, scholars have delved into researching customers in services. Kotler and Armstrong (2010) explain that services are activities or performances provided by one group (organization or individual) to another group (organization or individual) that are intangible and cannot be owned. Their production is not necessarily related to a tangible product. The key distinction between services and tangible products lies in the fact that the

output of services is not necessarily a physical product, and customers are often co-creators of the service. Fundamentally, services arise from opportunities, reflecting unmet customer or business needs. Vargo and Lusch (2011) state that services involve one entity utilizing its specific skills, knowledge, or capabilities to provide benefits or value to another entity through actions or processes, known as service provision. Service is an activity of interaction between people both physically and virtually aiming to get customer satisfaction, including friendliness of employees, willingness to help, and knowledge of the products (Roup et al., 2022). Sampson and Froehle (2006) view services as a system and attempt to establish the Unified Services Theory, suggesting that the fundamental difference between service processes and manufacturing processes lies in the fact that in service processes, customers provide essential inputs such as themselves, their property, their requests, and opinions. In contrast, in manufacturing processes, consumers may contribute ideas for product design, but for each consumer who actually consumes the manufactured product, they can only passively choose the "output" of the production system.

Definition of Service in Service Management. Vargo & Lusch (2004) define service as "the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself." Wirtz & Lovelock (2021) define services as "economic activities offered by one party to another, most commonly employing time-based performances to bring about desired results in recipients themselves or in objects or other assets for which purchasers have responsibility." They emphasize the intangibility, heterogeneity, inseparability, and perishability of services.

Service management is a critical aspect of modern business operations, focusing on the delivery and quality of services provided to customers. The concept of "service" in this

context has been explored and defined in various ways across different research papers. This synthesis aims to present a cohesive understanding of the definition of service in service management by analyzing multiple scholarly sources.

Some scholars view services as value co-creation. Service is an interactive process of "doing something for someone" that is valued, emphasizing the co-creation of value between the provider and the customer (Ballantyne & Varey, 2008; Maglio & Spohrer, 2008). Service systems are configurations of people, technology, and value propositions that interact to co-create value.

Some researchers view services as processes and interactions. A service is established when the substance interacts with the human to cause a change in the human's status or state, meeting their request and need (Wang et al., 2014). Service involves acts, deeds, or performance in contrast to tangible goods, fulfilling a mission for a client to create value for both stakeholders (Lau et al., 2011).

In the context of IT and business services, service separates the concerns of an organization into the value created for users and the management of resources to provide this value (Tapandjieva, 2018). Service level management links business requirements with the specification of integrated management systems, encompassing various perspectives such as networking, application performance, and user perception (Lundy & Pradeep, 2001).

Some scholars study the relationship between service quality and customers. Service quality is a central focus in service management research. The International Organization for Standardization (ISO) provides a definition of "service" within the context of quality management and quality system elements in ISO 9004-2:1991. According to ISO, a "service" is the outcome of interactive activities between service providers and users, with the goal of

satisfying user needs. This definition aligns closely with the one found in ISO 8402:1994 on quality management and quality assurance terms. Service quality is a multi-dimensional aspect of the relationship between customers and their service providers, crucial for achieving business goals and customer satisfaction (Buswell, 1983; Kritikos et al., 2013).

Some scholars have given Broad and Inclusive Definitions. Service is broadly defined as an act of helpful activity, supplying utilities or commodities, or providing accommodation and activities required by the public (Qiu, 2012). The definition of service encompasses all perceived service activities, including those in the public and voluntary sectors, highlighting its role in fulfilling various societal function (Lau, 2011).

The definition of service in service management is multifaceted, encompassing the co-creation of value, interactive processes, and the fulfillment of client needs. It involves both tangible and intangible elements, focusing on the quality of interactions and the management of resources to deliver value. This broad and inclusive understanding of service is essential for optimizing service systems and achieving business objectives.

From the perspectives of service engineering and service science, encompassing service engineering, service science, and service studies, the concept of "service" is elaborated upon. Bitner et al. (2008) put forth that service is an action undertaken with the premise of satisfying customer needs and achieving goals and vitality. In 2004, Horne, the head of International Business Machines (IBM) Global Research Centre, defined service as the interactive process and behaviour between providers and customers, aiming to collaboratively create and obtain value. According to Stauss et al. (2007) in the book "Services Science: Foundations, Challenges, and Future Developments," service is

considered an activity that creates value by providing solutions to problems and establishing interactive relationships between service providers and consumers.

The concept of service from the perspective of service science is characterized by three common attributes:

1) Emphasizing the interdisciplinary nature and cross-disciplinary research methods of service science. Paton and McLaughlin (2008) introduced service science as an emerging discipline that integrates knowledge, supply chain, and change management. It incorporates principles and models from fundamental sciences and engineering theories into management science, aiming to facilitate service innovation. Bao et al. (2011) described service science as a theoretical framework, grounded in a scientific perspective, for studying the general principles, laws, and analytical methods of value creation in service-dominant logic. They emphasized the need for enhanced interdisciplinary collaboration and increased research and development investments in service education and research fields by both government and business institutions. Du et al. (2014) clarified that internationally, "service science" encompasses SSME as a broad concept, while the narrow definition of service science mainly includes service management and service engineering. These components involve analyzing data and information to discover patterns and create new knowledge. Service Science redefines itself as a new discipline, encompassing topics like service theory/philosophy, economy/society, management, engineering, technology, and design (Kim, 2019). Hult et al. (2020) presented a framework for integrating interdisciplinary perspectives with services marketing, promoting more impactful collaboration across disciplines in service research.

2) Highlighting the critical role of the service system, service science uses the service system as the fundamental unit for research. Its objective is to unravel the hidden logic within complex service systems, fostering a common language and shared system for service innovation. Wei and Zhu (2008) stress that Service Science, Management, and Engineering (SSME) is an interdisciplinary approach to researching, designing, and implementing service systems. These intricate systems, provided by customers, comprise personnel, technology, internal and external service resources, and information sharing, collectively creating value. A systems approach, focusing on interactions and interdisciplinary theory development, is recommended for further research in Product-Service Systems (Li, 2020).

3) Emphasize the value creation of the service system. Chesbrough et al. (2006) emphasize that service innovation can enhance service efficiency and quality, thereby improving service supply capabilities and continually generating service value. Spohrer et al. (2007) researched how service science contributes to value creation, highlighting the interaction of value-creation entities comprising multiple service systems. They posit that service science is the study of the collaborative creation of value by various complex resources. Product-service systems can create sustainable value propositions that address economic, environmental, and social needs, supporting a circular economy and fostering partnerships between stakeholders (Rossi & Tuurnas,2019). Product-service systems (PSS) components, including products, services, actors, stakeholder relationships, and technology, play a crucial role in value creation and system development, with distinct importance levels for each type (Wahyudi et al., 2022)

The concept of "service" from the perspective of service engineering involves several key aspects. Tomiyama (2001) describes Service Engineering as aiming to strengthen,

improve, and automate the entire service generation, delivery, and consumption framework. Service engineering can be divided into service design engineering, service production engineering, and service development engineering: Service Design Engineering: Solves issues related to service design and develops support tools and methods for service designers. Service Production Engineering: Encompasses a set of engineering tools and methods used to promote and automate the service production process. Service Development Engineering: Aims to establish indicators for evaluating services.

Tien and Berg (2003) suggest that service engineering should essentially be understood as the abbreviation of "Service System Engineering," belonging to the broader category of "system engineering." Service System Engineering (SSE) involves engineering advanced service systems, such as retail, finance, media, and mobile, to become ‘smart' and more efficient (Wu & Hall, 2022). Bullinger et al. (2003) and others view service engineering as a technical discipline involving the systematic development and design of services using appropriate models, methods, and tools. In essence, it is an engineering method that transforms and maps service requirements into corresponding service systems.

It is evident that service engineering places its emphasis on "engineering" research. On one hand, it enhances the systematic nature of services by integrating them into the research category of system engineering. On the other hand, it underscores the technical aspect of engineering, thereby expanding a range of models, methods, and tools. For instance, Mo (2009) introduced the Service Model Driven Architecture (SMDA) and similar approaches. Additionally, service engineering focuses on value-creating relationships among entities within complex socio-technical service systems, using goal-oriented modeling and heuristics for eliciting requirements (Lessard, 2019).

By summarizing the concepts of services from several disciplines, within the broad perspective of the service economy, "service" as an intangible product demonstrates its unique economic, commercial, and utility value as a form of social production activity. It transcends the domains of agricultural production and industrial manufacturing by bringing utility or change to the service recipients. This not only improves the conditions of economic units but also fosters changes in the material goods of consumption units and enhances the physiological and mental states of individuals, thereby increasing economic and personal value. The service economy particularly emphasizes the use value of services, time utility, place utility, form utility, and the importance of formulating relevant economic policies.

In the specific practice of service marketing, "service" manifests as a series of complex interactions between customers, service personnel, material resources, and goods or service providers. It goes beyond simple commodity exchange, providing an experience and performance of actions, processes, and procedures. Service marketing focuses on how to effectively sell and deliver services and enhance customer engagement and satisfaction through interactions, thereby building long-term customer relationships.

From the perspective of service management, "service" is seen as an intangible, perishable, heterogeneous, and inseparable activity or performance level. Service management emphasizes a service-oriented approach by optimizing service processes, improving service quality, and increasing operational efficiency, thereby bringing significant added value to the supply chain. Unlike product management, service management places greater emphasis on continuous improvement of customer experience and service quality to maximize benefits and value.

Finally, in the exploration of service science, "service" is regarded as a dynamic system of value co-creation and acquisition through interactions and behaviors between providers and customers. Service science employs interdisciplinary knowledge and methods to focus on service efficiency, performance, and value. It aims to design, optimize, and innovate service systems to address rapidly changing market demands and technological challenges. By enhancing service efficiency, performance, and value creation, service science promotes socio-economic development.

To summarize, the overarching definition of "service" can be encapsulated as follows: service constitutes an intangible economic activity rooted in fulfilling user needs, with the overarching goal of generating service value. This value exchange occurs through interactive behaviours between service providers and recipients. Extensive research in this domain emphasizes key aspects such as service delivery, venue, participant involvement, tangible evidence, the intricacies of the service process, the quality of service, the experiential dimension of service, and the performance of service (Hu and Li, 2019).

Hu and Li (2019) comprehensively analysed the concept of "service" across various domains, including service economy, service marketing, service management, and service science, conducting a discrimination analysis. Their breakdown of the service concept is as follows: From the viewpoint of service economy, "service" is an intangible product and a social production activity with economic, commercial, and utilitarian properties.

In the context of service marketing, "service" represents one or a series of activities with intangible characteristics. These activities unfold in the interactions, contacts, behaviors, and engagements between customers and service personnel, material resources, commodities, or service provider systems. Services involve actions, processes, flows,

performances, experiences, and outcomes. Regarding service management, "service" is an intangible, perishable, heterogeneous, and inseparable activity. It also encapsulates performance levels and management concepts. From the stance of service science, "service" denotes the collaborative creation and acquisition of value through the interactive processes and behaviours between providers and customers.

Simultaneously, Hu and Li (2019) provided a comprehensive definition of "service": a service is an intangible economic activity cantered on satisfying user needs, with the goal of creating service value. It involves interactive behaviours that facilitate the transfer of value between service providers and recipients. Their research highlights the focal points of service studies, encompassing service delivery, venue, participants, tangible evidence, process, quality, experience, and performance.

2.3 Tourism Services

Research on tourism services primarily centres around basic studies on tourism services, investigations into the perception of tourism services, and inquiries into the quality of tourism services.

2.3.1 The Concept of Tourism Services

According to a document from the World Trade Organization (WTO) in 1998, the World Tourism Organization defines tourism services as encompassing all services offered by tourism enterprises to fulfil the requirements of tourists. This includes services related to tourism and travel, entertainment, culture and sports, financial services, transportation, and more, categorized into twelve groups. Tourism services include destinations with accessible facilities, amenities, attractions, and recreational activities to satisfy a wide array of tourists (Camilleri, 2018). The concept of tourism service product involves additional, derivative,

and accompanying services, with logistics services playing a crucial role in coordinating efforts of tour operators, service providers, and tourists (Vasilenko et al. 2019). Key components of tourism services include satisfying tourists' needs, providing a significant experience, increasing their consciousness about sustainability, and propagating sustainable tourism practices among them (Štreimikienė, 2020). These elements highlight the importance of a holistic and integrated approach to tourism service provision, emphasizing the need for coordination and sustainability in enhancing tourist experiences.

2.3.2 Tourism Service Quality

Research on the quality of tourism services. Many scholars study the quality of tourism services from many different angles, including research on the evaluation model of tourism service quality, research on tourist satisfaction with tourism service quality, research on evaluation methods of tourism service quality, and research on evaluation indicators of tourism service quality.

2.3.2.1 Research on Evaluation Model of Tourism Service Quality

In the 1970s, Martilla and James introduced the Importance-Performance Analysis (IPA) model to evaluate the service performance of car dealers. Over time, this model has gained widespread application in various domains. Within the Chinese tourism research landscape, scholars like Zhang and Zhang (2007) and Li et al. (2009) have employed the IPA model to assess tourists' evaluations of service quality in areas such as travel agencies, coastal tourism, and tour guides. These studies have revealed prevalent service issues within the tourism sector and suggested corresponding measures to enhance service quality.

Since the 1980s, numerous scholars have delved into extensive research on service quality evaluation models. Grönroos (1984) made significant contributions by refining the

theory of perceived service quality and introducing a perceived quality model. Parasuraman et al. (1988) developed the SERVQUAL model, designed to assess the quality variations across different services. They identified service quality through five dimensions (Table 2.1): tangibility, reliability, responsiveness, assurance, and empathy, further breaking down these dimensions into 22 indicators. This innovative approach allowed for the transformation of intangible services into tangible measurements.

Table 2.1: Summary of SERVQUAL Items

Dimensions	Definition
Tangibles	Physical facilities, equipment and appearance of personnel.
Reliability	The ability to perform the promised service dependably and accurately.
Responsiveness	Willingness to help consumers and provide prompt service.
Assurance	Knowledge and courtesy of employees and their ability to convey trust and confidence.
Empathy	Caring, individualised attention the "rm provides its customers.

Incorporating human behavior theories in tourism service quality research. Understanding the service quality in tourism destinations, like Qingzhou Ancient City,

requires examining the cognitive processes tourists undergo when evaluating their experiences. Two critical human behavior theories provide insights into the gap between perceived and expected service quality: Expectation-Confirmation Theory (ECT) and Disconfirmation of Expectations Theory.

Expectation-Confirmation Theory (ECT), as proposed by Oliver in 1980, offers valuable insights into how satisfaction judgments are formed by examining the discrepancy between pre-consumption expectations and post-consumption experiences. Tourists arrive at destinations with preconceived notions of what their experiences should entail, and ECT suggests that when their actual experiences meet or exceed these expectations, they experience satisfaction. This satisfaction leads to positive evaluations of service quality, highlighting the importance of aligning service delivery with customer expectations to ensure both satisfaction and loyalty. Incorporating ECT into the study of perceived service quality emphasizes the need for tourism destinations to meet or surpass tourists' expectations to foster positive perceptions and enhance overall service quality.

Modifications to the SERVQUAL model have been proposed to better fit specific industries. The SERVQUAL model is used to conduct a questionnaire survey, data analysis, and evaluate the service quality of outbound tourist visas, proposing improvement measures for Chinese outbound tourists (Zhou, 2019). Using the SERVQUAL model, it is concluded that there is a positive correlation between tourists' expectations and tourists' satisfaction in cultural tourism destinations such as Da Le, Vietnam (Kowalska & Ostręga, 2020). The Servqual method is used to analyze the quality of service in hotels in Loja, based on customer needs and requirements, promoting the tourist industry of the town (Chango-Cañaveral et al., 2020). The appropriately modified SERVQUAL methodology is a valuable and simple

tool to evaluate visitor satisfaction in tourist destinations, such as the Silesian Museum (Lê et al. 2021).

Based on the research of Parasuraman et al. (1985) proposed the service quality gaps model (GAPs Model) and the gaps in five aspects are as follows:

Gap 1, managers' cognition gap. Gap 2, quality standard gap. Gap 3, service performance gap. Gap 4, marketing communication gap. Gap 5, perceived service quality gap, which is manifested as the difference between customers' expectations and perceptions of service before and after consumption. If the customer's perception of the service is higher than expected, the customer will be more satisfied with the perceived service quality, otherwise it will be reduce the evaluation of service quality.

The comprehensive gap model, as depicted in Figure 2.1, emphasizes the importance of measuring Gap 5 from the customer's perspective. This approach aligns with service design principles, which inherently prioritize a human-centered approach to understanding and improving services. The model helps identify and analyze problems in the service process, enabling a targeted and customer-focused strategy for enhancing service quality.

By specifically addressing Gap 5, which represents the disparity between customers' expectations and their perceptions of the service received, organizations can gain valuable insights into customer satisfaction. This understanding is crucial for implementing improvements that directly impact the customer experience, ultimately leading to enhanced service quality and increased customer satisfaction.

When customer expectations are greater than their perception of the delivery received, service quality is considered low. When perceptions exceed expectations, service quality is

high. The Service Quality Model identifies five gaps that can lead customers to experience poor service quality. In this model, Gap 5 is the service quality gap and the only one that can be directly measured. In other words, the SERVQUAL instrument is specifically designed to capture Gap 5. In contrast, Gaps 1-4 cannot be measured but have diagnostic value.

The comprehensive gap model serves as a valuable framework for diagnosing and addressing issues in the service delivery process, facilitating continuous improvement and ensuring that the customer's perspective remains central to service design efforts.

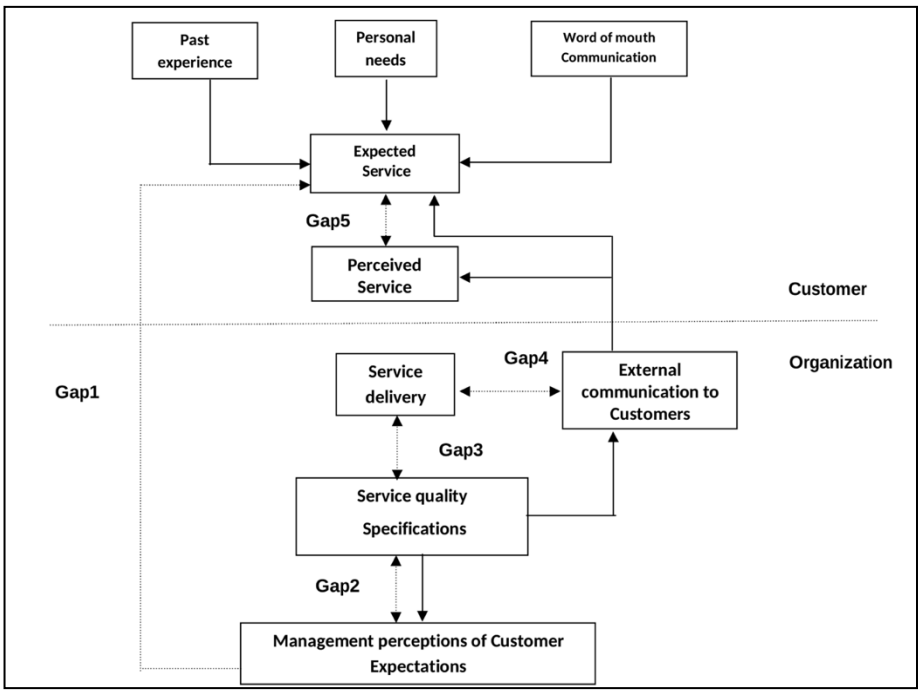


Figure 2.1: Service Quality Gap Model (Source: Large & Konig, 2009)

2.3.2.2 Research on Tourist Satisfaction of Tourism Service Quality

Disconfirmation of Expectations Theory, outlined by Parasuraman et al. in 1985, further delves into the nuances of satisfaction formation. This theory highlights the role of disconfirmation, which occurs when there is a divergence between expected and perceived service quality. Positive disconfirmation, where perceptions exceed expectations, results in

satisfaction, whereas negative disconfirmation, where perceptions fall short of expectations, leads to dissatisfaction.

Applying these theories to tourism destinations like Qingzhou Ancient City can reveal significant insights into tourists' cognitive assessments. By understanding how expectations and perceptions interact, we can identify specific areas where service improvements are necessary, thereby enhancing overall tourist satisfaction and loyalty.

Since the 1980s, customer satisfaction (CS) has emerged as a prominent research focus in the field of service marketing. American scholar Kotler posits that customer satisfaction is a function of the disparity between perceived effect and expected value. The initial application of the "customer satisfaction" concept in quality management came through the KANO model proposed by Noriko Kano (1979). Numerous scholars have investigated the logical relationship between service quality and customer satisfaction. Grönroos (1982) introduced a service quality evaluation model concerning customers' perceived service quality and satisfaction. Oliver (2014) contrasts the customer's actual perceived service quality (Experienced Quality) with the psychologically expected service quality (Expected Quality) to determine satisfaction. The Theory of Planned Behavior (Ajzen, 1991) provides a useful framework to understand how tourists' attitudes, subjective norms, and perceived behavioral control can influence their satisfaction levels and subsequent behaviors. By considering these psychological components, tourism service providers can better tailor their offerings to meet the expectations and needs of their clientele.

Service quality directly correlates with tourist satisfaction and loyalty in rural tourism of umadija and Western Serbia, with a large indirect effect through satisfaction (Perić et al.,

2020). Service quality directly influences tourist satisfaction and loyalty, while indirectly influencing loyalty through satisfaction variables (Sulkaisi et al., 2021).

2.3.2.3 Research on Evaluation Method of Tourism Service Quality

Currently, various methods are employed to assess service quality, including the grey relational method, cluster analysis method, non-difference analysis method (Non-difference), fuzzy comprehensive evaluation method, IPA method, and data envelopment analysis method (DEA). Tourism scholars continually utilize these approaches to evaluate the quality of tourism services.

For instance, the fuzzy analytic hierarchy process approach is a more reliable and comprehensive method for assessing nature-based tourism destination attractiveness than pre-existing approaches (Gu, 2022). The proposed nonadditive combination method using grey relational analysis and the Choquet fuzzy integral improves tourism demand forecasting accuracy compared to other methods (Hu, 2023). Cluster analysis is a necessary tool for creating spatial development in the European tourism industry, leading to the production of creative, innovative tourism products (Trusova & Krasnoded, 2022). Vujičić et al. (2020) developed a fuzzy logic model to analyze the internal motivations of different-aged consumers in multi-attraction urban destinations, revealing potential implications for sustainable destination management and marketing. Fan and Cheng (2023) introduced a novel approach to evaluating tourism services by assessing tourism cities from the perspective of ecosystem services. This method supports the sustainable development of tourism cities. Using the tourism service evaluation of Liyang City, China, as a case study, they concluded that tourism services should be considered the dominant type of cultural service in tourism cities. Evaluating these services from an ecosystem services perspective

is essential to achieving harmonious development between ecosystems and the tourism industry.

2.3.2.4 Research on Evaluation Index of Tourism Service Quality

In evaluating tourism service quality, Cronin and Taylor (1994) employed functional quality and technical quality as key indicators. For instance, Beerli and Martin (2004) divided it into natural and cultural resources, tourist leisure facilities, atmosphere, and social environment. Chinese scholars, Ruan and Zhou (2010), used indicators related to tourism radiation function and tourism service scale and structure, comparing the strength of tourism service capabilities in Guangzhou with other domestic provinces and cities. The results indicated that Guangzhou has robust tourism service capabilities.

Ye and Rong (2011) divided the evaluation of tourism service quality into tourists' perceived value and perceived cost, using quantitative analysis to analyze the connotation of tourism services at multiple levels and establishing a tourism service evaluation index system. Hallak et al. (2018) proposed a comprehensive model of the impact of perceived quality (PQ) on loyalty in the context of tourism destinations. They believed that perceived service quality is a multidimensional structure determined by six destination dimensions: nature and famous attractions, types of tourism services, overall atmosphere quality, entertainment and leisure, overall environment, and accessibility. This study provides new insights into the causal network of destination perceived service quality, satisfaction, and loyalty.

Chi et al. (2020) believed that the four dimensions of perceived quality of Chinese tourists are tourism infrastructure and transportation, hospitality and learning, handicrafts and culture, and rural environment. Cheunkamon et al. (2023) believed that seven important

factors, including customer relationship management, order process management, service performance management, capability and resource management, demand management, sustainability management, and information and technology management, affect the service quality perception of Thailand's tourism supply chain.

In addressing ways to enhance the quality of tourism services, scholars have conducted extensive research, employing various theories and methodologies from different perspectives. For instance, Ma (2001) utilized the service blueprint design method to ensure the quality of tourism services. Innovations in tourism can improve the quality of the tourist product, its energy intensity, and the level of tourist service related to its efficiency (Polimenov, 2023).

The literature review reveals a predominant focus on evaluating service quality, with a substantial body of research dedicated to evaluation models and indicators. However, there is a notable scarcity of studies on service quality management and pathways for improvement. Particularly, the application of service design methods for managing and enhancing service quality is infrequent, presenting a significant gap that serves as a direction for the research in this study.

2.4 Concept of Experience

The articulation and application of the concept of experience from an economic standpoint find roots in Toffler's delineation of social and economic structures in his work "Future Shock." Toffler (1984) contends that the experience economy represents an economic paradigm capable of generating heightened customer value, succeeding the agricultural economy, industrial economy, and service economy.

In 1998, Pine II and Gilmore of the United States posited that the era of the experience economy is dawning. They asserted that the experience economy constitutes the fourth stage of development following the agricultural economy, industrial economy, and service economy. They contended that an experience is a memorable encounter crafted around consumers. The term "experience" has evolved to signify higher-level services, encompassing "best or extraordinary" events distinguished by experiential narratives characterized by enduring emotional intensity (Arnould & Price, 1993).

While the concept of "experience" may lack terminological precision, Bateson (1999) posits that when a customer purchases a service, they are essentially buying an "experience" shaped within the service operation of the service organization. Pine and Gilmore (2011) similarly suggest that an experience takes place when a company deliberately utilizes the service as the stage and the merchandise as a prop to engage individual customers in a manner that creates a memorable event.

There is no consensual definition regarding the essence of experiences in the experience economy (Geus, et al. 2016). The experience economy is characterized by consumers' search for emotions and memorable experiences through consumption (Ketter, 2018). Experiencing refers to the interaction of an agent with its world through action based on phenomenal experience (Prentner, 2018). The experience economy involves seven micro trends: once is never enough, luxury experienced, leisure upgrade, escape from modernity, fluid identity, everyday exceptional, and experience first (Yeoman, 2019). Experiences in the economy are distinct offerings that differentiate companies and have become the core selling point for various industries (Temkin, 2021). The experience economy is an

interconnected phenomenon focused on creating a memorable event that elicits a sensory response via multi-dimensional innovation and design (White et al., 2023).

The concept of experience, particularly from an economic perspective, has evolved significantly over time. Initially articulated by Toffler in "Future Shock" (1984), the experience economy is seen as a stage that succeeds the agricultural, industrial, and service economies, emphasizing heightened customer value. Pine II and Gilmore (1998) further developed this idea, describing the experience economy as the fourth stage of economic development, characterized by memorable and emotionally intense consumer encounters.

Despite the lack of a precise definition, Bateson (1999) and Pine and Gilmore (2011) argue that purchasing a service is essentially buying an experience, crafted by the service organization. The experience economy is driven by consumers' desire for emotions and memorable interactions (Geus et al., 2016; Ketter, 2018). This economy is marked by trends such as the pursuit of luxury experiences, leisure upgrades, and a focus on creating exceptional daily moments (Yeoman, 2019).

Ultimately, the experience economy is an interconnected phenomenon that emphasizes creating memorable events through multi-dimensional innovation and design (White et al., 2023), distinguishing companies and becoming a core selling point across industries (Temkin, 2021).

2.5 Tourism Experience

This chapter will provide a comprehensive overview and analysis of research related to tourism experience. Firstly, it will delve into studies concerning the concept of experience. Secondly, it will explore the relevant processes and reviews within the realm of tourism

experience research. Lastly, the chapter will systematically organize and critique the current state of tourism experience research, presenting insights and considerations for future directions in tourism experience evaluation research.

The exploration of tourism experience stands as a significant focal point within the field of tourism research.-Research on tourism experience has garnered significant attention from scholars, with a focus on various aspects of the subject. The key areas of research include:

Definition and Classification: Scholars are engaged in defining and classifying tourism experiences. This involves clarifying the conceptual boundaries and categorizing diverse experiences within the tourism context.

Influencing Factors: Understanding the factors that influence tourism experiences is a crucial aspect of research. Scholars investigate the elements that shape the overall quality and nature of the experience for visitors.

Evaluation of Experience Quality: There is a focus on developing methodologies for evaluating the quality of tourism experiences. This involves assessing visitor satisfaction, perceived value, and other dimensions that contribute to a positive or negative experience.

Visitor Experience Management: Managing and enhancing the overall visitor experience is a critical area of research. This involves developing strategies and frameworks for effectively managing and optimizing the different elements that contribute to a positive visitor experience.

These research areas collectively contribute to a comprehensive understanding of tourism experiences, allowing for better management and design of tourism offerings.

2.5.1 The Concept of Tourism Experience

The concept of "tourism experience" has been approached by scholars with various perspectives, each offering unique interpretations that highlight the subjective nature of this activity. Boorstion (1964), considering the historical context, sees tourism experience as a popular and somewhat superficial form of consumption, where tourists engage in what he terms "false events." MacCannell (1973), on the other hand, emphasizes the sociological aspect, asserting that tourism experience represents tourists' perception of authenticity, portraying it as a pursuit and exploration. From a psychological viewpoint, Csikszentmihalyi and LeFevre (1989) view tourism experience as a positive psychological state, with the "Flow State" representing the ultimate appeal of the experience. The Flow experience, incorporating its drivers, processes, and outcomes, can improve tourists' experiences in tourism (da Silva deMatos, et al., 2021). In the marketing realm, tourism experience is treated as a form of customer consumption experience, as asserted by Rageh et al. (2013), who believe that experience is the internal and subjective reaction of customers during direct or indirect interactions with a company. Quan and Wang (2004) contribute to the discourse by categorizing tourism experience into peak experience and support experience, drawing from perspectives in social science and marketing management.

Three dimensions (personal, relational, and environmental) are crucial to memorable experiences in tourism, along with stages of ambiance, socialization, emotions, and reflection (de Freitas Coelho, et al., 2018). A holistic definition of experience includes emotional, cognitive, sensorial, and conative components, capturing the totality of tourism experience at pre-visit, onsite, and post-visit stages (Godovykh & Tasci 2020). The concept of memorable tourism experience (MTE) is a widely used model for measuring destination and gastronomic tourism experiences, with dimensions like novelty, food quality, service

environment, and atmosphere (Rašan, 2022). Tourism experience is a source of destination attractiveness and competitive advantage, focusing on managing and delivering a satisfying destination experience to tourists (Bernaki & Marso, 2023).

In broad terms, the exploration of the essence and connotation of tourism experience has followed two evolutionary paths. Firstly, there is the avenue rooted in social science, where researchers examine the experience itself through the lenses of sociology, psychology, and anthropology. This path delves into the intricate facets of tourists' encounters and the psychological states associated with tourism. The second trajectory is shaped by the lens of marketing and management, focusing on the concept of consumption experience. Here, tourism experience is seen as the holistic value derived by tourists during the consumption process, encompassing various dimensions such as satisfaction, emotions, and perceived value. These two paths collectively contribute to a comprehensive understanding of the multifaceted nature of tourism experience.

2.5.2 Structure and Type of Tourism Experience

In terms of classifying the structural levels and types of tourism experience, diverse perspectives across different disciplines contribute to varying interpretations. Through the lens of social psychology, Lengkeek (2001) extended Cohen's model of experience structure, particularly focusing on recreational experiences. Lengkeek proposed a re-summarized model of tourist experience, employing metaphorical expressions to delineate categories such as recreation, change, interest, engagement, and mastery. This framework offers a nuanced understanding of the diverse facets that constitute the tourist experience. A holistic definition of tourism experience includes four main components: emotional, cognitive,

sensorial, and conative, and can be captured through a combination of measures at pre-visit, onsite, and post-visit stages (Godovykh & Tasci, 2020).

Adopting a product-oriented perspective, Holbrook and Hirschman (1982) posited that the structure of tourism experience encompasses two dimensions: functional experience and enjoyment experience. Pioneers in the field of the experience economy, Pine and Gilmore (1998), categorized experiences into entertainment experience, education experience, escape experience, and aesthetic experience based on the extent of customer participation. They advocated a shift for tourism enterprises from merely providing services to actively creating memorable experiences for customers.

From the standpoint of experiential marketing, Schmitt (1999) categorized tourism experience into five distinct types: sensory experience, emotional experience, rational experience, operational experience, and relational experience. Integrating insights from various disciplines, Quan and Wang (2004) proposed a structural model of tourism experience, delineating two key structural dimensions: peak experience and supporting experience. Peak experiences are rooted in tourist attractions and manifest as travel motivations, while supporting experience gauges tourists' satisfaction with fundamental consumption needs during travel, such as food, accommodation, transportation, and others. Peak experience and supporting experience can, to a certain extent, be interchangeable, working together to enhance the overall tourist experience.

Considering the characteristics of the research objects, the researchers skillfully integrated tourism experience with various facets, expanding the scope of tourism experiences to encompass diverse dimensions such as local and traditional food experiences (Zrnić, 2021; Mo et al., 2022), wine and rural tourism experiences (Ye et al., 2020; Wang et

al., 2022; Tănase, 2022), vacation experiences (Chen et al., 2018), religious experiences (Rossato et al., 2021), outdoor hiking experiences (Mateer et al., 2022), heritage site experiences (Crespi-Vallbona, 2020), wetland park experiences (Zhang et al., 2021), among others. This inclusive approach provides a more comprehensive understanding of the diverse dimensions within the realm of tourism experiences.

2.5.3 Influencing Factors of Tourism Experience

The determinants of tourist experience have consistently been a focal point in tourism experience research. Various factors play a role in shaping tourists' experiences, encompassing elements such as novelty, geographical awareness, tourist behavior, emotional engagement, tourist nationality, mood, and expectations (Sun, 2012).

Photography is considered by Scarles (2009) as a significant means for tourists to "gaze" at and interpret the landscapes and attractions of tourist destinations. According to Scarles, photography serves to stimulate the creation of tourist experiences, transforming tourists into active participants in co-creating and preserving their travel experiences. In a study conducted by Wang et al. (2012), Xixi, Xiazhu, and Jianhu Wetland Parks in Zhejiang, China served as examples to analyze the influence of service quality on tourists' experiences and subsequent intentions for consumption behavior using structural equation modeling. The study considered five dimensions, namely, rating, recreational activities, tourist facilities, service management, and interpersonal relationships, and assessed their impact on aesthetic experience, emotional experience, and behavioral experience. The findings revealed that all five factors significantly and positively affected the overall tourist experience.

Three dimensions of personal, relational, and environmental factors contribute to memorable tourism experiences, along with stages of ambiance, socialization, emotions, and

reflection (de Freitas Coelho, et al., 2018). Six key factors affecting cultural tourism experiences include prior perceived significance, authenticity, engagement, cultural exchange, culinary attraction, and quality of service (Seyfi et al., 2020). Four types of tourist experiences - education, esthetics, entertainment, and escapism - significantly influence tourist inspiration, with education being the strongest predictor (Xue et al., 2020). Hsieh and Chuang (2020) found that staff and service quality environment are the most important criteria affecting service experience. Tourism factories and international tourism hotels need to invest resources in training and managing employees to provide high-quality service experience. Ng et al. (2022) studied service quality, memorable tourism experience and loyalty factors in sustainable tea tourism destinations. Research results show that activities, cleanliness, language and safety are significant factors in predicting unforgettable travel experiences.

The study highlights that tourism experience is influenced by various factors. However, existing research tends to concentrate on investigating the impact of individual factors on tourist experience, making it challenging to comprehend the mechanism and significance of these factors in the experience formation process. Additionally, researchers predominantly explore the effects of tourists' personal behaviors, characteristics, and travel aids on tourism experience, leaving a gap in the investigation of the impact of communication and interaction among tourists, as well as interactions between tourists and destination residents, on the overall tourism experience.

2.5.4 Quality Evaluation of Tourism Experience: Product and Service Quality Perspective

Tourist experience denotes the process of transforming tourists' psychological state and adjusting their psychological structure, reflecting the degree of satisfaction with tourists'

travel needs. Currently, assessments of tourism experience quality predominantly utilize models borrowed directly from the fields of product and service quality in service marketing. The theoretical underpinning for evaluation typically involves the " Expectation-Confirmation Theory " (Grönroos, 1984; Kano, 1984) to gauge the quality of tourist experience. Evaluation results encompass both direct measurements and statistical outcomes, along with the use of satisfaction evaluations as a surrogate for experience quality. The research on quality evaluation in this context is characterized by its diversity and varied approaches.

A literature review reveals widespread usage of models such as the KANO quality model, grey quality model (GM), hierarchical Service quality model (HSQM), and American Customer Satisfaction Index (ACSI) in appraising tourism experience quality during this period. Scholars globally have adapted these models, tailoring them to specific contexts. For instance, Erto and Vanacore (2002) applied the KANO quality model to characterize and evaluate hotel customer experience service quality. Pandey et al. (2020) systematically reviewed the application of the Kano model in the tourism field, identified the tourism fields where the Kano customer satisfaction model was applied, and studied the application of the Kano model in combination with other methods in quality improvement in the tourism field.

In the assessment of tourism experience quality, the GM and GAP models, rooted in the process perspective, offer novel viewpoints and concepts. Contrary to the product quality model, the service quality model places greater emphasis on the "process" of tourists' perception of quality rather than the specific quality attributes of tourism products. This approach recognizes that experiencing tourism is an emotional process. Consequently, as an essential evaluation strategy for tourism experience quality (Augustyn & Ho, 1998), the

service quality model finds extensive application in research on tourist experiences. Reichel et al. (2000) utilized the GAP quality model to assess the perceived experience quality of Israeli rural tourism tourists.

As a self-existing state, tourism experience centers around the emotions and accumulations that arise during the interaction between tourists and tourism products. Consequently, in the assessment of tourism experience quality, the HSQM model proves effective in capturing the "subjective" essence of tourist experience quality by examining quality accounting from the standpoint of perceived interaction value. However, the application of the HSQM model in evaluating tourism experience quality encounters certain limitations due to variations in types of tourist activities and service characteristics, necessitating adjustments and corrections to model sub-dimensions based on specific research objectives. Tang et al. (2020) explored revisit intention in agritourism activities and proposed a reimagined hierarchical service quality model (HSQM) based on 4Es (education, entertainment, escapism, and aesthetic experience). This study provides a theoretical basis for service quality management in agritourism activities and offers marketers strategies to enhance the visitor experience.

In quality evaluation, the ACSI model underscores the causal connection between variables and the aggregation of customer opinions, offering significant reference value for assessing tourism experience quality. Given that tourism experience is a subjective phenomenon that accentuates the "process" characteristic, involving emotional accumulations across various stages under the lens of expectation-performance comparisons, analyzing quality from the standpoint of customer value enables a comprehensive understanding of tourism experience quality evaluation (Otto & Ritchie, 1996). Integrating

customer value into quality assessment represents a promising approach for research on tourism experience quality. Dan and Feng (2021) constructed a simplified version of the "Chongqing Tourism Satisfaction Research Model" based on the ACSI model, including tourists' perceived value, tourist satisfaction, and tourist loyalty. This research provides reference suggestions for Chongqing's tourism industry to improve tourist satisfaction and service quality, which will help Chongqing become an internationally renowned tourist destination.

To enhance the accuracy of quality evaluation, researchers have integrated methods such as IPA, FQFD, decision-making trial and evaluation laboratory (DEMATEL), among others, to optimize the assessment of tourism experience quality within the KANO model. Torres Matovelle & Baez (2018) studied how to measure tourist experience from a holistic perspective. They measured the tourist experience in Quito using a Likert-type scale and presented it graphically using an importance-performance analysis matrix (IPA). The research framework included multi-dimensional measurements of tourist experience, such as uniqueness, multi-sensory experience, rational quality, personal enrichment and so on.

2.5.5 Experience Management

As a branch of subject research with practical significance, effectively improving and managing tourist experiences have become important issues in the development of destinations and tourism. Although tourism has emerged as a significant driving force for the world economy, there are ongoing disputes about how to comprehensively and effectively define tourism products. Sternberg (1997), based on a comprehensive analysis of the research by Boorstion (1964), MacCannell (1973), and Cohen (1979) on tourism experience, posits that tourism involves selling staged experiences and meaningful sights to

tourists. Sternberg criticizes traditional tourism operators and managers for neglecting the management of tourist experience. He contends that tourism products, exemplified by destinations like Niagara Falls, have failed to integrate experience effectively into the product. Sternberg proposes a two-fold approach to tourism attractions: they should be "staged" and involve the creation and quality management of tourist experiences based on a "theme." He emphasizes that the core of tourism products is to provide tourists with experiences, and therefore, tourist attractions should be designed and constructed to offer memorable and engaging experiences.

Curtin (2010) conducted an analysis of wildlife experience management in Spain and Mexico using a small ethnographic approach, which involved on-site travel itineraries and interviews with tourists. The study revealed that in the management of tourist experiences, tour guides or leaders play a crucial role in shaping the overall tourist experience. Simultaneously, Kastenholz et al. (2012) posit that tourism experience is a multifaceted process that is co-created and shaped by tourists, service providers, and communities. It is influenced by the characteristics of tourism resources. Consequently, in the management of tourist experiences, emphasis should be placed on constructing and maintaining both the service landscape and the perception landscape.

Stankov and Gretzel (2020) investigated how Tourism 4.0 technologies impact tourist experiences from a technological perspective. They explored how human-centered design (HCD) methods can optimize these technologies to enhance tourist experiences. Their research, based on a system design perspective focused on user experience, proposed a conceptual model highlighting the importance of HCD in the application of Tourism 4.0 technologies. They argue that the development of Tourism 4.0 technologies should prioritize

human-centered design to ensure that the application of these technologies genuinely enhances tourist experiences, rather than merely pursuing technological advancements and operational efficiency. Li and Zhang (2022) explored how artificial intelligence (AI) technologies can enhance the intelligence level of tourism services, particularly focusing on improving tourist experiences through an intelligent tourism service platform. Their designed platform, incorporating AI technologies, effectively enhanced tourist experiences and received positive feedback. The paper proposed a systematic functional framework to meet the diverse needs of tourists at various attractions.

Lalicic et al. (2021) suggested that analyzing destination images through Airbnb reviews can offer new insights for tourism design and assist marketers in better integrating the experiences of P2P accommodation users. Their study introduced a novel approach to understanding and designing tourism destination experiences. Based on their analysis, marketers can redesign and formulate marketing and experience strategies that align with contemporary tourists' needs and experiences.

Jaakkola et al. (2022) posited that customer experience is generated at every step of the customer journey, including both direct and indirect interactions. Customer experience is subjective and context-specific, dependent on the customer, situation, and socio-cultural factors. Service providers can influence customer experience by monitoring, designing, and managing various touchpoints throughout the customer journey. Understanding customer experience and journey is now a crucial strategy in service management and is vital for competitive advantage, serving as a prerequisite for developing truly customer-centric service businesses.

Lin and Chen (2024) identified the service experience process of consumers in cultural tourism and proposed the TESP model, integrating cultural innovation into the enhancement of service experiences. Their study discussed the importance of cultural innovation in cultural tourism service experiences. Through the TESP model and the perspective of cultural innovation, the study analyzed the current experience model of Quanzhou Zhongshan Road Historical District and examined the management methods and applications of new technologies in the context of technological development.

In the preceding research review, limited literature has delved into the exploration of tourism experience from the perspective of service design. The subsequent section aims to introduce relevant concepts and literature associated with service design, with a specific focus on its intersection with the field of tourism.

2.6 Service Design

This chapter will comprehensively explore the facets of service design, encompassing six key sections: the evolution of service design, interdisciplinary research in service design, the concept of service design, principles guiding service design, terminologies and methodologies in service design, and the procedural aspects of service design.

2.6.1 Development Context of Service Design

While service design is relatively new in the realm of design, it garnered significant attention in the management sphere as early as the 1980s. In her works "How to Design a Service" (1982) and "Designing Services That Deliver" (1984), Lynn Shostack pioneered the concept of service design, emphasizing the integration of tangible products and

intangible services at the management and marketing levels. The focal point is the "service," and the planning process is approached through the lens of "design."

In the design domain, service design began to gain prominence in the 1990s, initially closely linked with industrial design. The formal articulation of the service design concept can be traced back to the publication of "Total Design" by Hollins and Hollins in 1991.

Additionally, in 1991, Erlhoff and Mager of the Köln International School of Design (KISD) introduced service design into design education and formally established it as a discipline. They dedicated themselves to relevant teaching practices and research. The core content of the interaction design graduate course system at Carnegie Mellon University since 1992 focuses on "activities and organized services."

Around 2000, design consulting firms such as Live Work and IDEO incorporated service design into their service offerings. In 2004, several European universities established a service design network and collaboratively engaged in academic research. Germany's Birgit Mager initiated the International Service Design Network (SDN), asserting that service design aims to create services that are useful, usable, desirable, efficient, and effective. This approach is people-oriented, with the key to success lying in the quality of customer experience and service engagement. It embraces a holistic perspective, considering strategy, systems, processes, and touchpoint design decisions in an integrated manner. Service design is viewed as a systematic, iterative process that integrates a user-centered, team-based, interdisciplinary approach.

In 2008, Aalto University in Finland established a service factory that integrates business, design, and engineering technology. This initiative is dedicated to the comprehensive process of education, design, and research in the field of service design.

In the same year, the International Design Research Network defined service design as follows: service design is the establishment of services from the perspective of customers, with the goal of ensuring effective service interfaces. The British National Bureau of Standards defines service design as the stage of service shaping that utilizes resources efficiently to meet the reasonable and foreseeable needs of users. It is posited here that service design is a systematic process that begins with the needs of users and systematically employs design theories and methods to create and plan services, aiming to deliver high-quality services and enhance the user experience.

In 2008, the International Service Design Network was formally established, becoming a significant international organization and exchange platform for practitioners and academic researchers. In 2015, the International Council of Societies of Industrial Design (ICSID) changed its name to the World Design Organization (WDO). In its new definition of design, "service" is recognized as an object of design, alongside products, experiences, and strategies.

In China, Wang Guosheng of Tsinghua University established SDN Beijing in 2012, guiding and promoting service design. In 2015, the Industrial Culture Centre of the Ministry of Industry and Information Technology, in collaboration with Beijing University of Technology, founded the China Service Design Development Research Centre. In 2016, Huang Wei from Bridge Design Agency organized and established SDN Shanghai. In 2018, China Red Star Original Award and Beijing International Design Week both introduced special awards for service design. On January 10, 2019, the Ministry of Commerce, the Ministry of Finance, and the General Administration of Customs issued the "Guiding

Catalog of Key Development Fields of the Service Outsourcing Industry (2018 Edition)," which explicitly includes "service design."

The concept of "Product Service System (PSS)" advocated by the design field at the end of the 20th century shares similarities with the idea of transitioning from goods to services promoted by IBM. Both concepts embody the understanding of the product life cycle. However, there is a distinction: IBM initially proposed the service concept to offer differentiated value-added services for increasingly massive industrial commodities. In contrast, the "product service system" aims to reduce the use of material resources effectively through services, emphasizing environmental sustainability and enhancing environmental benefits.

In recent years, service design focused on user experience and innovation in Internet business has gained prominence in the design field. This trend highlights design's involvement in social life with novel ideas and methods, aligning with new historical periods, economic models, and technological conditions. It's evident that service design is not solely a product of design's internal development but rather an interdisciplinary field. Various disciplines contribute different perspectives to service design, promoting its development while presenting challenges for constructing a unified theoretical system. This duality serves as both a challenge and an opportunity for the ongoing research in service design.

2.6.2 Service Design for Interdisciplinary Research

Chu (2015) posits that the current research on service design, within the new service-oriented design paradigm, primarily encompasses three characteristic fields: service science, product service system, and service engineering. Xin and Cao (2018) emphasize that service design is an interdisciplinary field, shaped not solely by design's development but by various

disciplines contributing different perspectives. This diverse attention both fosters the discipline's growth and poses challenges for constructing a unified theoretical system, presenting service design research with both challenges and opportunities. Service design finds applications in various domains such as management, commerce, the Internet, communications, finance, transportation, energy, education, government public services, and healthcare (Wang et al., 2021).

From 1999 to 2019, service design research has predominantly focused on management, operational research management, and business, with subsequent attention to engineering manufacturing, computer science information systems, engineering industry, art, engineering electronics, telecommunications, and public services. Notably, the fields of management and business stand out, underscoring the strong connection between service design and these domains. As a product of a specific economic stage, service design has inherited, borrowed, and evolved from management and business in terms of definitions, processes, methods, and tools, and has found application in related fields (Wang et al., 2021).

2.6.3 The Concept of Service Design

The definition of service design lacks singular recognition due to its interdisciplinary nature and ongoing evolution. There is no consistent explanation for the definition of service design, as noted by Mark Stickton, one of the authors of "This is service design thinking": "If you ask 10 people what service design is, you will get at least 11 different answers." Stefan Moritz (2005) defines service design as a field that aids in innovating (creating new) or improving (existing) services to make them more useful, more desirable for customers, and more efficient for the organization. It is characterized as a new holistic, multidisciplinary, and comprehensive field (Stickdorn & Schneider, 2015).

Erlhoff and Marshall (2008): The "Design Dictionary" hosted by the International Design Research Association defines service design as follows: service design sets its functions and forms from the perspective of customers, and the goal is to ensure that the service interface is provided to customers effectively, efficiently, and with recognizable information.

In 2008, the Copenhagen Institute of Interaction Design defined service design as a discipline that aims to design overall and global systems and processes for users, emphasizing the systemic characteristics of service design.

Copenhagen School of Interaction Design (2008): Service design is an emerging field that focuses on creating good thinking through experiences that combine intangible and tangible media. Service design as a practice often results in full-service system and process design.

Service design places service quality as a fundamental prerequisite, situated at the intersection of the user and the service system (Secomandi & Snelders, 2011). According to 31 Volts Service Design (2008), when faced with two adjacent coffee shops offering identical products at the same price, service design becomes the deciding factor influencing the choice of one over the other (Stickdorn & Schneider, 2015). Engine Service Design (2010) defines service design as a professional discipline dedicated to developing and delivering high-quality services (Stickdorn & Schneider, 2015). Frontier Service Design (2010) characterizes service design as a holistic approach for businesses to gain a thorough, empathetic understanding of customer needs (Stickdorn & Schneider, 2015). LiveWork (2010) elucidates service design as the application of established design processes and skills to service development, offering a creative and practical avenue for enhancing existing

services and innovating new ones (Stickdorn & Schneider, 2015). In essence, service design represents the integration of the experience economy with more traditional customer experience management, aiming to create a superior service experience and establish a competitive advantage (Lockwood, 2010).

According to Bailey (2014), "At the heart of service design is orchestrating the user (customer) experience." Dai and Xin (2016) delved into the definition of service design using phenomenological methods. Building upon the service definition proposed by American scholar Scott E. Sampson, they articulated the definition of service design as follows: service design is tailored for the business process that impacts the provider and/or the customer itself, the customer's property, or information, with the goal of actualizing the customer's interests as the provider's primary objective.

Xin and Cao (2018) positioned service design along two dimensions: business context and design principles. They drew comparisons across the realms of management, economics, and design, asserting that in the field of management, service functions as a management tool. In economics, a service is perceived as a commodity. Within the design realm, a service is considered a design object. The study identifies different research perspectives on service design within these domains. Xin and Cao (2018) propose that service design can involve the processing of services, the reengineering of service processes, the creation of meaning, and the reshaping of product meaning. Additionally, service design is seen as a philosophy, a business model, and a paradigm shift.

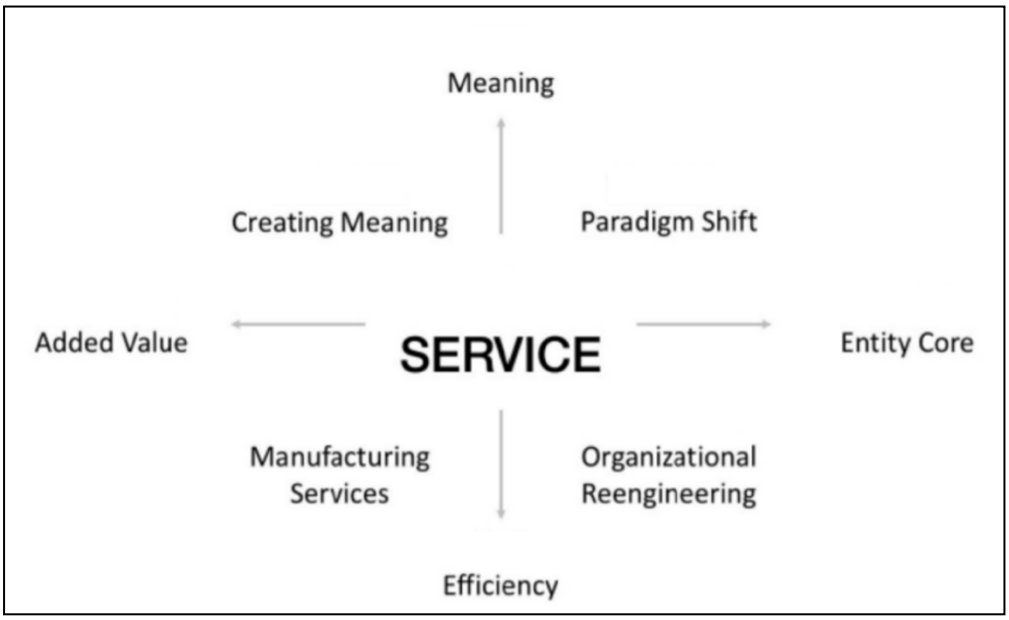


Figure 2.2: The Positioning of Service Design (Source: Xin & Cao, 2018)

Hu and Li (2019) presented a comprehensive definition of "service," establishing the theoretical foundation for defining service design. They refined their previous conception of service design, offering the following revised definition: Service is an intangible economic activity rooted in meeting user needs, aiming to create service value through interactive behavior in the exchange between service providers and users. Service design, centered on the user perspective, involves collaborative creation with various stakeholders. By innovatively integrating elements such as personnel, places, products, and information, it achieves systematic innovation in service provision, service processes, and service touchpoints. This, in turn, enriches design activities related to service experience, service quality, and service value (Hu, 2019).

2.6.4 Principles of Service Design

In the Chinese translation of "Service Design Thinking-Basic Knowledge-Methods and Tools-Cases," Stickdorn and Schneider (2015) highlighted five principles of service design thinking in the concept chapter. These principles are outlined as follows: user-

centeredness, emphasizing that services should be experienced by customers; co-creation, advocating for the participation of all stakeholders in the service design process; sequence, stating that services should be manifested through a series of interconnected behaviors; physical objects, emphasizing that physical artifacts should incorporate intangible services; and holistic, emphasizing the consideration of the overall context of the service..

2.6.5 Terminology and Methodologies for Service Design

Stickdorn and Schneider (2015), in the Chinese translation of "Service Design Thinking-Basic Knowledge-Methods and Tools-Cases," assert that service design is an interdisciplinary approach that integrates various methods and tools from different disciplines. In their book, they present 25 service design tools, emphasizing that these methods are most effective when used in combination. They characterize them as a service design toolbox rather than a standalone manual.

Table 2.2: 25 Service Design Tools

Stakeholder Diagram	Service Travel
Shadow Exercise	Customer Experience Journey Diagram
Scenario Exchange	Five "Whys"
Cultural Exploration	Mobile Anthropology
Day In The Life	Expected Value Diagram
Character	Creativity

Table 2.2 continued

If……	Design Script
Storyboard	Desktop Walkthrough
Service Prototype	Service Display
Agile Development	Co-Create
Explanation of Creative Ideas	Service Blueprint
Service Role Play	Customer Lifecycle Diagram
Business Model Canvas	

Stickdorn and Frischhut (2012) compiled a concise dictionary on service design, presenting 16 technical terms related to service design, which encompass various methods and tools employed in the discipline.

Table 2.3: 16 Professional Terms For Service Design

Concept
Benchmarking
(Service) Blueprint
Co-creation

Table 2.3 continued

Cultural probes
Customer journey(map)
Design for service
Design research
Desktop walkthrough
Iterative design process
Persona
Prototype
Prototyping
Stakeholder
Touchpoint
User
Visualisation

Service design is characterized by its interdisciplinary nature, reflected in the complexity and intersectionality of its tools and methods. Presently, a clear, comprehensive, and systematic service design method system is yet to be established. In the book "Service Design-Paradigm and Practice," a multi-dimensional analysis of service methods is conducted, presenting a methodological landscape for service design. The author retrieved 154 methods related to service design through preliminary screening, ultimately identifying

81 methods following a comprehensive review. Hu (2019) classified these 81 methods based on attributes, design processes, and design elements, providing analysis and visualization. Notably, the majority of current service design methods (92.6%) are qualitative, with only two (2.5%) being quantitative, and four (4.9%) employing mixed methods.

There are many approaches to service design. Here researcher focus on the following common methods.

Touchpoint. In the context of tourism experience, various touchpoints are typically provided by different service providers (Avlonitis & Hsuan, 2017). It is crucial for service design to adopt a holistic approach (Zehrer, 2009), effectively integrating these touchpoints into a cohesive service delivery network (Avlonitis & Hsuan, 2017). In the field of service design for tourism, three commonly utilized approaches are moments of truth, journey mapping, and service blueprinting (Kabadayi et al., 2019). These methodologies play a significant role in comprehensively understanding and optimizing the customer experience across multiple touchpoints.

Stakeholder map. The Stakeholder Diagram serves as a visual or physical representation of the entities involved in a service. This diagram allows for the illustration and analysis of intricate interconnections among employees, customers, partner organizations, and other stakeholders associated with the service.

An overview generated from stakeholder diagrams offers a valuable insight into complex issues involving diverse stakeholder groups. A thorough and comprehensible overview is essential for any endeavor aimed at enhancing services.

Personas or create user profiles. What is a persona? Personas are fictional profiles of individuals, frequently employed to embody specific groups of people who share common interests. These personas serve as representative archetypes that align with the client or design team's target audience.

Personas offer diverse viewpoints on a service, enabling the design team to recognize and investigate various interest groups within the target market. Successful personas redirect focus from abstract demographics to the tangible needs of individuals. While the personas themselves are fictional, the motivations and responses they portray are authentic: the personas encapsulate a collection of insights gathered during the research phase of the project, mirroring real-world perceptions of the company's services.

Customer Journey Map (CJM). What is Customer Experience Journey Map? The Customer Journey Map is a vivid and clearly structured visualization of the user experience. The touchpoints at which a user interacts with a service are often used to construct a "journey"—a compelling story based on the user experience. The story details their interactions during the service and the emotions that accompany them in an accessible way.

Why Create a Customer Experience Journey Map? A customer journey map built from the user's perspective provides a high-level overview of the many factors that affect the user experience. Creating diagrams based on user insights allows for documenting both formal and informal touchpoints.

"Personalizing" illustrations by merging images with personal words and comments creates a more immersive, user-centric experience. A diagrammatic overview can help identify problems with existing services and suggest directions for innovation. Focusing on specific touchpoints breaks down the service experience into individual stages that can be

further analyzed. This well-structured visual representation enables the comparison of different service experiences under the same visual language and facilitates quick comparisons between the service and its competitors.

CJM is acknowledged as an effective strategic tool for organizing and managing customer experience (Lin et al., 2020; Rosenbaum et al., 2017). The core process of destination tourism service design can be conceptualized as a CJM process. The focus of CJM is to identify the key touchpoints of the service and specify the course of action for these touchpoints to provide customers with quality services (Lin et al., 2020). Key touchpoints can be arranged spatially, temporally, and thematically to form a multi-level structure (Stickdorn et al., 2014).

Ethnographic method. What is Mobile Anthropology? Mobile anthropology can be defined as anthropological investigation that is independent of place. This often means that researchers don't have to be physically present. Unlike cultural exploration, however, participants do not need to follow specific instructions, and the focus is on how participants independently conduct their investigations.

Why mobile anthropological surveys? Encouraging participants to define their own touchpoints and evaluate their effectiveness provides insights into user-centric service processes. The data collected in this process, often in the form of digital sticky notes, can reveal potential industry dynamics after thorough analysis. Additionally, the methods employed are not confined to gathering user feedback; research on intrinsic human mobility can offer enlightening insights into employee processes, experiences, and opinions.

Similarly, service designers employ a method known as mobile ethnography. While resembling cultural exploration, in mobile ethnography, it is the individual who constructs

the research process rather than the researcher guiding them. The use of technology, such as smartphones, often facilitates this approach. Mobile ethnography offers insights into services solely from the perspective of customers, without the influence of researchers or service design teams (Stickdorn & Schneider, 2015).

The tourism department of the Management Centre in Innsbruck (MCI) takes great pride in securing funding for a research project from the European Competitiveness and Innovation Program (CIP) and successfully piloting it in seven selected European tourist destinations. The project implemented the test application myServiceFellow, applying service design thinking to the tourism industry, notably leveraging archetypal tourism research methods such as mobile ethnography (Stickdorn & Frischhut, 2012).

Co-create. What is co-creation? Co-creation stands as a central tenet in the philosophy of service design, fostering collaboration among various stakeholders such as employees, designers, leaders, and customers. This collective effort allows for the testing and innovation of a given service experience.

Why co-create? In a sense, co-creation activities serve as a method for integrating open research and development ideas. However, this doesn't transform the service design process into a mere "brainstorming" session. The suggested ideas or solutions undergo iterative screening, with only the strongest and most resonant themes being utilized to construct new prototypes and innovative solutions. The objective of co-creation activities is to explore potential directions and gather diverse perspectives, providing inspiration for the core design team to further develop and refine these ideas in the subsequent design phase. Additionally, as co-creation activities bring teams together, the resulting concepts and

innovative solutions are products of collective brainstorming, fostering collaboration among teams.

Service blueprint. What is a Service Blueprint? A service blueprint is a method of detailing every aspect of a service, typically presented as a diagram encompassing the perspectives of users, service providers, and other stakeholders. It comprehensively outlines various elements, ranging from customer interactions to behind-the-scenes production processes.

Why Use Service Blueprint? Service blueprints, by illustrating the complete details of a service, facilitate the identification of crucial components and reveal repetitive elements. Collaboratively producing the blueprint enhances team members' co-creation skills and fosters a spirit of teamwork, aiding in the coordination of personnel and resources within the service provider's domain. These blueprints elucidate the processes underpinning key service elements, shaping the user experience. During the early stages of service design, service blueprints often exist as drafts, subject to revisions as the service exploration progresses. Once a creative or innovative solution is established, the blueprint's content is further refined and expanded in the implementation phase, offering clarity on the actual execution of the service.

Service blueprints serve as a comprehensive tool for delineating each activity and step involved in service production, contributing to the enhancement of service processes and delivery (Gyimóthy, 2000; Zehrer, 2009). In the context of destination tourism, the holistic portrayal of the entire tourism product as a unified entity is exemplified through service blueprints (Binter et al., 2016). Leveraging a customer-centric approach and

providing a visual representation of service delivery, service blueprints are recognized as potent aids in fostering service innovation (Bitner et al., 2008).

Service prototype. What is a service prototype? The service prototype serves as a simulation of the service process, often taking the form of informal "role-playing" conversations or a diverse range of enactments involving active user participation, props, and tangible touchpoints.

Why use a service prototype? Unlike written descriptions or visual images, service prototypes offer a more profound understanding of the service concept. Embracing the philosophy of "learning by doing," service prototypes focus on user experience, providing practical solutions to identified problems. Moreover, they facilitate iterative design by allowing for prompt testing and integration of emerging ideas and enhancements.

2.6.6 Service Design Process

IDEO's service design process (Figure 2.3). IDEO is a design consulting company that specializes in creating innovative service experiences for enterprises, aiding them in entering new markets. The service design process employed by IDEO involves the following steps: 1) Gaining insights into market development. 2) Crafting a distinctive value proposition. 3) Exploring creative service models. 4) Appropriately selecting delivery methods. 5) Iteratively exploring and refining new services. According to Zhang and Hu (2018), this process represents a continuous journey from conceptualization to realization.

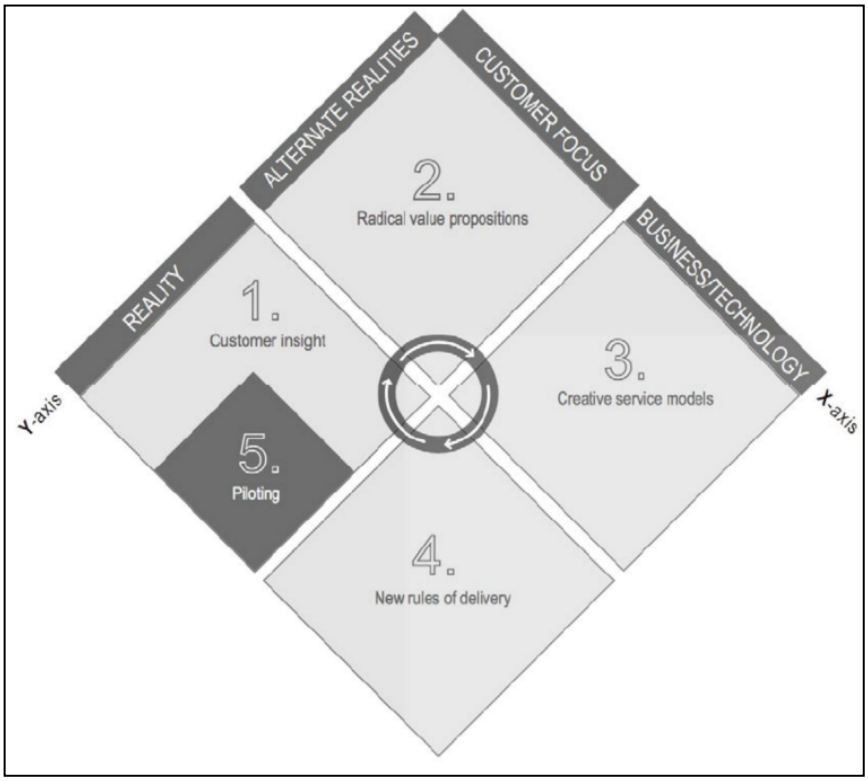


Figure 2.3: The Service Design Process of IDEO (Source: Hu & Li, 2019)

Live work service design process. Live Work is a service design company specializing in strategic design consulting for consumers, established in 2001. Their design process involves the following steps: 1) Understanding the client's industry and focusing on elements influencing behavior. 2) Identifying potential opportunities, envisioning clear concepts and experiences, and optimizing design solutions. 3) Grasping the future service experience and the delivery of service functions. 4) Executing the design to ensure the direction and quality of services. 5) Collaborating with the management team and front-line staff to facilitate the organization's adoption of the new service. 6) During the execution process, assisting customers in ensuring the quality of the customer experience through experience tools and indicators.

Engine's service design process. Engine, a design consulting company based in the UK, has outlined a three-stage service design process. The first stage is the strategy phase,

where the focus is on establishing a project team, defining the goal of the customer service experience, and expressing it visually. The second stage is the service design phase, tasked with providing a more detailed description and definition of all elements related to the service, and transforming the design scheme into an actual business process. Finally, the third stage is the execution phase, which involves building a service prototype for further testing of the service.

Design Process of Service Experience Engineering. Service Experience Engineering, developed by the Taiwan Institute of Information Technology for Taiwanese enterprises, is a comprehensive set of systematic service design theories. Its objective is to harness information technology for advancing the development of high-tech service industries and aiding enterprises in establishing a fitting development direction and service design blueprint. The design process of Service Experience Engineering is delineated into three main stages: Trend Research Stage, Service Value Chain Research Stage, and Service Experiment Stage. Zhang and Hu (2018) posit that this process is linear, where the completion of a stage serves as the starting point for the subsequent one.

General Policy Process for Service Design (Figure 2.4). Zhang and Hu (2018) conducted a comprehensive and comparative analysis of the design processes employed by IDEO, Live Work, Engine, and Service Experience Engineering across four dimensions. Based on their findings, they proposed a general strategy process for service design. This overarching strategy process revolves around four key components: service context research, service demand insight, service concept design, and service design execution. The researchers emphasize that the general strategic process of service design is dynamic and should be adjusted as needed based on the specific characteristics of different service design

projects. This adaptive approach enhances the accuracy and validity of service design, providing valuable insights for planning the service design process, especially in the context of tourism service design.

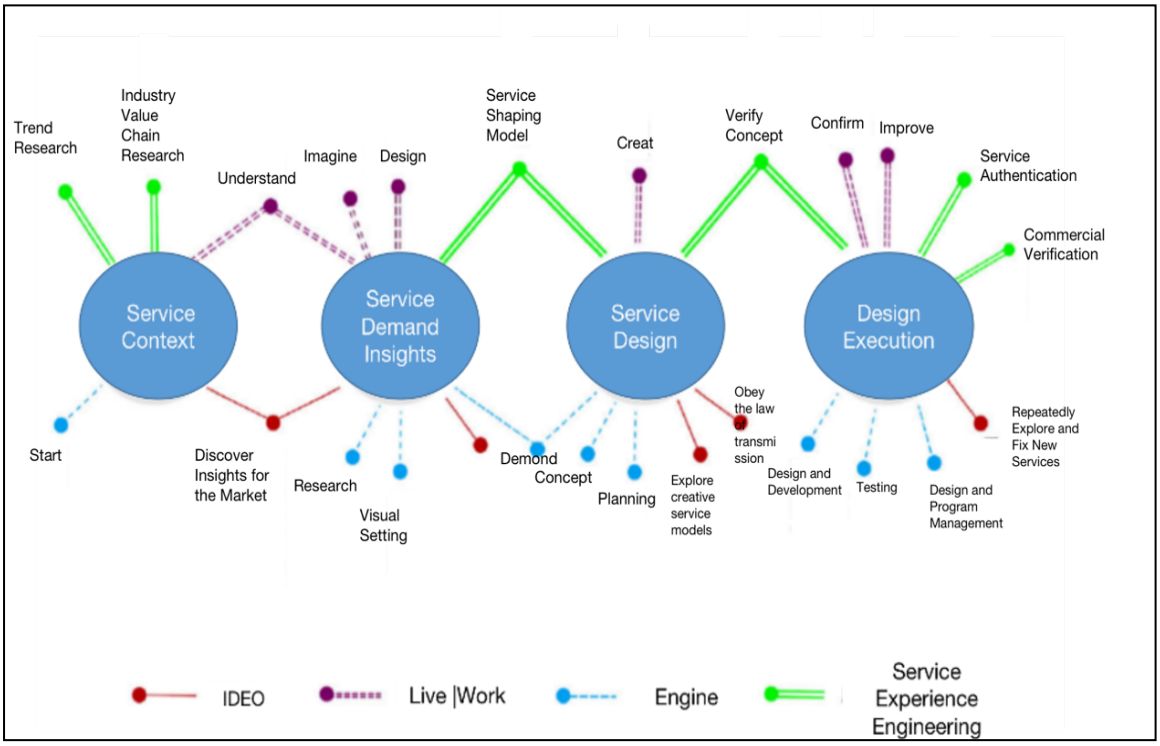


Figure 2.4: General Policy Process For Service Design (Source: Hu & Li, 2019)

Service design process based on the double diamond model. The full name of the Double Diamond Model is "The 'Double Diamond' Design Process Model," often abbreviated as 4Ds. This model is a graphical representation used to illustrate the design process. It was formulated by the British Design Council in 2005 based on research conducted on eleven prominent global product and service companies, including LEGO. The model emerged through benchmarking the design processes of these companies, gaining industry consensus (Design Council, 2007).

The Double Diamond Model is a dynamic process that emphasizes continuous exploration, testing, and iteration. It comprises four distinct phases: Explore, Define, Develop, and Deliver, as illustrated in Figure 2.5.

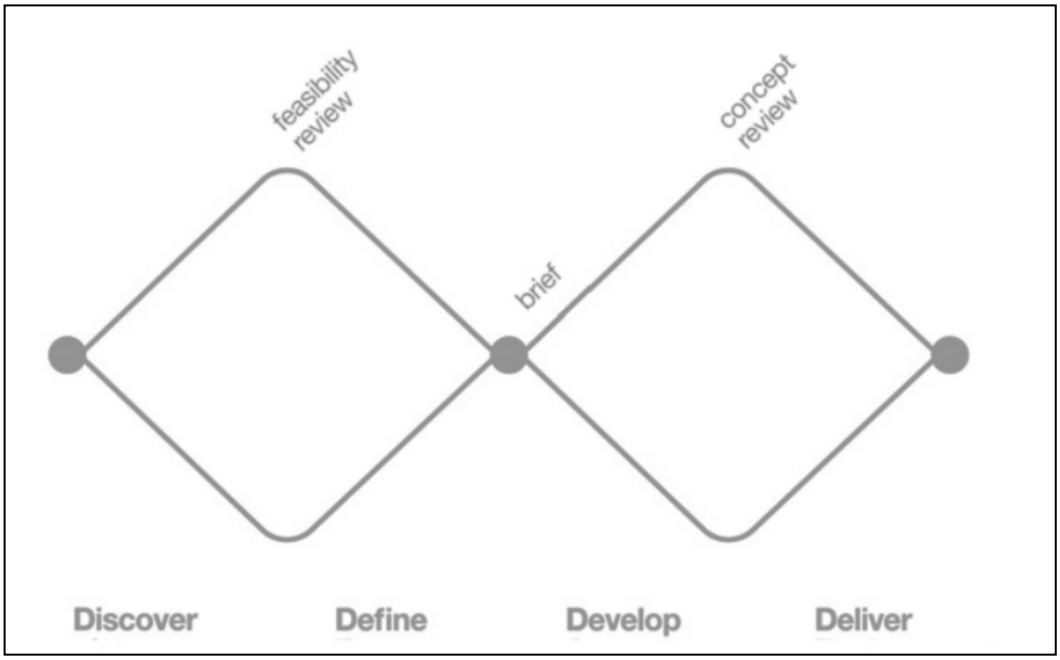


Figure 2.5: Double Diamond Process (Source: Design Council, 2005)

Wang et al. (2020) applied the service design process and design methods based on the Double Diamond Model to enhance the service experience of Chinese homestays, conducting a practical service design initiative. Their findings suggest that the service design process and methods, aligned with the Double Diamond Model, are highly feasible and applicable. These approaches were instrumental in enhancing information interaction and cultural exchange experiences within Chinese homestay services.

Service design process offer structured approaches to developing and optimizing service experiences. These service design process provide systematic frameworks for understanding, designing, and implementing services that meet user needs and enhance overall service quality. These service design process collectively underscore the importance

of a structured, iterative, and user-centered approach to service innovation and improvement. Each process provides valuable insights and frameworks that can be tailored to specific service design projects, ensuring effective and impactful outcomes.

Service design models provide essential frameworks for creating and refining service experiences, yet no model is without limitations. The following summary highlights the key lack identified in the existing service design models discussed in the literature:

The lack of IDEO's Service Design Process: While IDEO's process is iterative and user-focused, it lacks specific guidelines for scalability and adaptation to different cultural contexts. There is a need for more concrete methods to handle diverse market dynamics and cross-cultural challenges.

The lack of Live Work's Service Design Process: This model excels in collaboration and strategic implementation but falls short in providing a standardized approach to measure long-term service performance and customer satisfaction consistently. Metrics for evaluating the success of implemented services over time are not clearly defined.

The lack of Engine's Service Design Process: Engine's three-stage process is comprehensive but somewhat rigid. The transition from strategy to execution can be challenging without clear iterative feedback mechanisms. This model could benefit from integrating more flexible, real-time adaptation strategies to handle unforeseen changes during implementation.

The lack of Service Experience Engineering (SEE): SEE is very structured and linear, which might not be suitable for all types of services, especially those requiring rapid

innovation and flexibility. The model does not adequately address how to iterate quickly or manage rapid technological advancements and market shifts.

The lack of General Policy Process for Service Design: Although this model is adaptable and dynamic, it lacks detailed implementation strategies and tools for specific industries like tourism. More industry-specific examples and case studies would help in applying this general process to particular contexts effectively.

The lack of Double Diamond Model: The Double Diamond Model emphasizes continuous exploration and iteration, but it may be too broad and high-level for detailed service design projects. There is a need for more granular, step-by-step guidance within each phase to ensure precise execution and alignment with specific project goals.

The lack across all models: Scalability and Cultural Adaptation: Most models lack detailed guidelines on scaling services across different cultural and market contexts. Long-Term Performance Metrics: There is a general need for more robust frameworks to measure and ensure long-term service quality and customer satisfaction. Flexibility and Real-Time Adaptation: Models should incorporate more flexible, real-time feedback mechanisms to adjust services based on immediate customer feedback and market changes. Industry-Specific Application: Generic models need more industry-specific adaptations to address unique challenges and requirements, particularly in rapidly evolving fields like tourism and technology. Integration with Emerging Technologies: Current models do not fully leverage the potential of emerging technologies such as AI, IoT, and big data analytics to enhance service design and delivery.

By addressing these lack, future research and development in service design can create more comprehensive, adaptable, and industry-specific models. This will help in better

meeting the evolving needs of customers and markets, ensuring sustained service excellence and innovation.

2.7 Tourism and Service Design

2.7.1 An Emerging Field in the Tourism Industry

Stickdorn (2009) posits that service design is a burgeoning area within the tourism sector. This assertion is supported by the increasing number of academic contributions in tourism studies and the growing focus on service and customer orientation in tourism businesses. Stickdorn acknowledges that service design, while promising, is still in its developmental stages as a discipline and calls for further research into the development, application, and evaluation of service design tools and methodologies within the tourism context.

Expanding on this foundation, Stickdorn and Frischhut (2012) conducted a research project with the primary aim of evaluating the applicability of service design in tourism. They propose that service design can significantly enhance the competitiveness and sustainability of the European tourism industry. Their project employs service design thinking and integrates established tourism research methods such as mobile ethnography to generate valuable insights for the sector.

Beesley (2012) underscores the practical benefits of service design for tourism companies, highlighting its role in fostering innovative ideas that prioritize customer satisfaction over company-centric perspectives. Beesley anticipates that as service design gains broader recognition and adoption, travel companies that embrace this approach will achieve a competitive advantage by improving their services in ways that are more aligned with customer needs and preferences.

Fragnière et al. (2017) examine the intersection of service design and educational challenges to drive innovation in the tourism industry, with a particular focus on the Matterhorn region of Switzerland. They argue that service design education can effectively nurture students' innovative capabilities, especially in the service sector. Their study emphasizes the practical application of service design in tourism and suggests that enhancing students' practical skills through education can be beneficial for the industry.

Buhalis (2019) explores the impact of technological advancements on service innovation in the tourism and hospitality industries. By adopting a value co-creation perspective, Buhalis provides insights into how service innovation can influence the broader ecosystem. The study emphasizes the need for ongoing research into service innovation, driven by the rapid and transformative nature of technological progress.

In summary, the literature collectively suggests that service design is an emerging and valuable field in the tourism industry, with significant potential to enhance competitiveness, sustainability, and innovation. While the discipline is still evolving, the integration of service design thinking and methodologies, coupled with technological advancements, presents promising opportunities for the tourism sector. Further research is needed to refine these tools and approaches, particularly in educational contexts, to fully realize their potential.

2.7.2 Service Design Analyse and Evaluate Customer Experience

A service design approach is highly valuable for analyzing and evaluating intricate service experiences, thanks to its customer-centric focus and various tools that make complex experiences visual, tangible, and designable. Trischler and Zehrer (2012) utilized a range of service design methods to assess a theme park experience in Gold Coast, Australia.

Their study affirms that service design provides a comprehensive understanding of customer experiences and identifies key factors influencing events. They argue that adopting a user-centered approach to service design is both valid and applicable, especially in the context of leisure and tourism.

Building on this, Hyun et al. (2013) not only graphically analyzed the service design process but also provided a numerical explanation of the cultural elements involved in the theme park service design process. Their approach contributes to a more detailed understanding of user behavior in theme parks, underscoring the multifaceted nature of service experiences.

Trischler et al. (2018) explored how design approaches can be adapted from situational and systems perspectives to analyze the overall customer experience comprehensively. The methods they employed include common service design techniques, emphasizing the flexibility and adaptability of service design in various contexts.

Sipilä (2018) applied service design tools to enhance the customer experience at Korpoström, a tourist destination in the Archipelago. The study highlights that service design methods can identify and address potential disruptions and challenges affecting customer experience. This research demonstrates that service design is a powerful tool for improving customer experience, particularly in brand building.

Bourliou (2021) analyzed and proposed improvements to the service and customer experience at the Tsitsanis Museum using the "double diamond" model approach. The study employed service design tools such as user journey maps, user diaries, shadow tracking, and questionnaires. It concludes that service design can effectively enhance the museum experience and improve user experience through specific design solutions. This systematic

approach is applicable to service industries like museums, aiming to optimize customer experience.

Ruano and Huang (2023) integrated AHP and TRIZ methodologies to introduce a new approach to service design in the tourism industry. Their framework considers both consumer and business perspectives, providing a precise application for creating intangible products such as travel packages. This integration highlights the evolving nature of service design and its potential to innovate within the tourism sector.

In summary, the literature demonstrates that service design is a potent tool for analyzing and evaluating customer experiences across various contexts. It provides a comprehensive understanding of customer behavior and identifies critical factors affecting service experiences. The adaptability of service design methods allows for their application in diverse settings, from theme parks to museums and tourist destinations, enhancing both user experience and brand development. The integration of additional methodologies like AHP and TRIZ further expands the potential of service design, showcasing its capability to innovate and optimize services in the tourism industry.

2.7.3 Service Design Improve and Enhance Service Experience

Designing and managing services and experiences require careful consideration. Lockwood (2010) describes service design as the integration of the experience economy with traditional customer experience management to create superior service experiences and competitive advantages. Miettinen et al. (2014) illustrated this by developing a new service concept for a zoo in Finland, aimed at attracting more visitors. They argue that service design is a new competency that aids in managing and developing multi-channel service experiences.

Technological advancements have empowered customers to assess service quality and prices in real-time, influencing their purchasing decisions significantly. Beesley (2012) explored the application of service design in the tourism sector using theories from service design, design thinking, and comprehensive management. His research, involving interviews and secondary data analysis, concluded that although service design is not extensively applied in tourism, it holds substantial potential. Beesley emphasizes that tourism, being service-oriented, can benefit from service design as it addresses challenges, enhances services, meets customer needs, and boosts enterprise competitiveness.

Bosio et al. (2017) demonstrated the use of mobile ethnography to evaluate customer experiences, highlighting its ability to minimize cognitive and emotional biases for a more accurate understanding. Their case study of the Alpine destination SERFAUS-FISS-LADIS showcases how this method can enhance tourism services. Kurt (2018) further explored this by studying how regional organizations coordinate various touchpoints to elevate the overall tourism experience, involving a competitive analysis of digital and physical touchpoints across multiple destinations. Hakim et al. (2018) used fuzzy gap analysis and TRIZ methods to analyze questionnaire results and derive potential solutions for improving the Ragunan Zoo ticketing service. Their service blueprint-based enhancements showcase the practical application of service design tools.

Similarly, Hlee et al. (2019) applied service design to innovate services at Seoul Children's Grand Park, developing tourist journey maps and application touchpoints using information and communication technology to enhance the tourist experience. de Oliveira Sousa (2019) focused on improving passenger-perceived quality at Lisbon Airport through process optimization and service design methodologies, such as the Double Diamond

Diagram. This approach effectively improved passenger experience and service quality, demonstrating the practical application of service design in operations management amidst significant passenger traffic growth.

Tomej and Xiang (2020) studied the application of the concept of affordances in tourism service design to improve service experience. The concept provides a robust theoretical framework for designers to better understand and create service experiences that meet tourists' needs. Xu (2020) explored the research value of service design in optimizing user experience in "smart tourism." Through case studies, Xu focused on designing and optimizing touchpoints in the service blueprint, summarizing a complete scenic spot tour experience model. This research, based on actual projects in the ancient city of Taierzhuang, demonstrates how service design methods can improve user satisfaction through touchpoint optimization

Rego et al. (2022) examined how service design can improve patient experiences in cardiovascular services in Portugal. They emphasized the importance of personalizing services and integrating necessary resources to meet patient needs. Their research highlights the need for a deep understanding of patient needs, challenges, and experiences to better integrate service design into organizational processes, improving service delivery and impact. Wu et al. (2022) used methods such as field research, shadow observation, user interviews, and user journey analysis to explore tourism service touchpoints and user pain points. They proposed tourist-centered tourism service innovation strategies and design practices, suggesting that service design can create high-quality, poetic tourism scenes and humanized leisure tourism experiences along the Oujiang Poetry Road.

Wu et al. (2022) also developed a tourism service design model based on heritage interpretation. Their research highlights the importance of user-centered design, controlling key touchpoints, creating immersive atmospheres, enhancing sensory stimulation, and expanding value-added services. Their findings show that service design through heritage interpretation can significantly improve tourist experience satisfaction, offering new perspectives and methods for cultural tourism service design.

Virkkula's (2024) research uses service design methods to understand customer experience through customer journey mapping. The study emphasizes the importance of addressing visitor safety issues during the design stage to promote safety and enhance the user experience of outdoor activities.

In summary, the literature illustrates that service design plays a crucial role in improving and enhancing service experiences across various industries, particularly in tourism. It provides a comprehensive framework for addressing challenges, optimizing touchpoints, and meeting customer needs. The integration of service design with emerging technologies and methodologies, such as mobile ethnography, TRIZ, and affordances, further enhances its applicability and effectiveness. By focusing on user-centered design and process optimization, service design not only improves service quality and customer satisfaction but also contributes to competitive advantages in the service sector.

2.7.4 Service Design Develop New Services and Service Innovations

Service design plays a pivotal role in developing new services and fostering innovation across various industries. Eskina (2013) conducted a case study on an innovative approach to designing restaurant services, utilizing service design theory and service design

thinking to implement inventive solutions. This highlights the transformative potential of service design in traditional service settings.

Rytkönen (2014) adopted a user-driven innovation approach to create a new service module for the Anttolanhovi Resort, aimed at providing off-season services. This study underscores the importance of user participation and story-driven design in balancing seasonal demand in the tourism industry. Similarly, Peng and Lin (2016) applied service science to assist social entrepreneurs in the sustainable development of rural tourism in Hengshan, Taiwan. They developed a comprehensive service system, demonstrating how interdisciplinary knowledge can enhance rural tourism services.

Chang and Lin (2015) proposed a creative tourism experiential service design framework and conducted case studies on three creative tourism destinations in Taiwan. They combined empathy maps and customer journey maps to offer insights into visitor experiences, emphasizing that customer experience is dynamic and involves multiple touchpoints, some of which are beyond the company's control (McColl Kennedy et al., 2015; Lemon & Verhoef, 2016).

Vainio (2016) utilized service design methods to develop the cultural heritage of Alvar Aalto in Cumenlaxo, promoting cultural tourism. The study highlighted the effectiveness of service design in protecting and utilizing cultural heritage, engaging stakeholders, and increasing heritage value for future generations.

Zhu et al. (2018) discussed service design methods and tools, using Lingshui Village as a case study to construct a tourism industry service system and design new products. Their findings suggest that service design can facilitate innovation in rural tourism services. Chi et al. (2018) explored how airports can evoke local culture and create a sense of place for

travelers. They used service design tools like personas, user journey maps, and prototypes, demonstrating that these tools can effectively showcase and promote national brand and culture in airports.

Sarantou and Huhmarniemi (2021) investigated the processes designer-makers and communities should engage in before adopting a service design approach for creative tourism experiences. They proposed a practical mapping tool to help analyze and convey the interactions between internal processes and tourists, fostering transformation for both.

Simanjuntak (2021) developed an innovative service design and business model framework for Siregar Aek Nalas village tourism, emphasizing community participation and green sustainable service design. The business model canvas provided a clear visual map for strategic planning, showcasing the importance of visual tools in business logic and strategy.

Ericson et al. (2024) explored innovative practices during crises through interviews with tourism entrepreneurs. They found that during crises, entrepreneurs adapt their businesses to uncertain conditions rather than creating entirely new service designs. They suggest future research should address user-centered design, design thinking, user experience, and agile innovation, particularly in tourism and hospitality.

Tajeddini (2024) examined how the exploration and exploitation of service innovations affect service design in tourism and hospitality, influencing enterprise performance. The study revealed that service innovations positively affect service design, which in turn enhances sustained competitive advantage and firm performance. This emphasizes the critical role of entrepreneurial strategies and service design in improving performance in tourism and hospitality.

In summary, the literature demonstrates that service design is instrumental in developing new services and driving service innovation. It effectively integrates user-driven approaches, interdisciplinary knowledge, and innovative frameworks to address challenges and enhance service experiences. The dynamic and iterative nature of customer experience, the engagement of stakeholders, and the adaptation to changing conditions underscore the versatility and impact of service design in various contexts, particularly in tourism and hospitality. By fostering creativity, sustainability, and strategic planning, service design not only improves service quality and customer satisfaction but also contributes to the competitive advantage and performance of enterprises.

2.7.5 Service Design Help the Management of Tourism Destinations, Build Tourism Service Ecosystems and Achieve Sustainable Development

The primary strategic challenge in contemporary tourism management revolves around optimizing the value derived from service experiences for customers. Addressing this challenge requires the development of new management procedures. Zehrer (2009) employed hermeneutics to investigate the connection between service experience and service design, identifying challenging factors that aid small and medium-sized enterprises (SMEs) in the tourism industry in coping with operational efficiency and profitability. Zehrer emphasizes the importance of gaining comprehensive insights into customer experiences, involving the collection and evaluation of pertinent data. She advocates embedding service design holistically in the organizational culture of service providers, suggesting this as a means to ensure the competitive advantage of SMEs and foster collaboration among tourism service providers. Zehrer asserts that SME operators should synergistically focus on service design in the management of tourist destination services to create an unforgettable service experience for consumers.

Stickdorn and Zehrer (2010) implemented the service design method at the Innsbruck Alps Zoo in Austria, revealing the significance of service design thinking for small and medium-sized tourism enterprises. The outcomes underscored that even a fundamental grasp of service design methodologies and tools can exert a positive impact on service quality, subsequently influencing customer satisfaction.

In response to the growing demand for authenticity in tourism experiences, Kim (2011) employed not only qualitative research methods but also service design research methods. Using a co-creation method, Kim developed an experience for the Helsinki library aimed at providing authentic new cultural services in Helsinki City. This initiative not only strengthened the role of the library but also enhanced the overall Finnish brand.

Stickdorn and Zehrer (2012) assert that tourism destination products typically consist of multiple touchpoints, and tourists can perceive these service touchpoints before, during, and after their holidays. To address customer needs and enhance satisfaction, it is essential to continually design and measure these needs. They leverage mobile phone software to identify touchpoints in the customer journey by analyzing and aggregating the touchpoints added and modified by customers themselves, thereby achieving service-oriented management of the destination.

Stickdorn et al. (2014), in their EU-funded research project "Tourism Service Design," chose seven pilot regions to investigate the application of mobile ethnography in the tourism industry. Mobile ethnography is a research method that identifies, evaluates, and records customer journeys through smartphone applications. Data can be analyzed to uncover positive and negative touchpoints across a destination. The study's results in St. Anton, Austria, illustrate the mobile ethnographic research design for tourism destinations

and demonstrate that it is feasible to iteratively enhance the destination's customer experience.

Feng et al. (2019) aimed to revitalize tourism at Baotu Spring Park in Jinan, utilizing service design thinking to identify existing problems. They proposed five suggestions to promote the sustainable development of park tourism. de Macedo (2019) believes that innovation can play a role in the tourism industry, helping to balance the needs of local residents and tourists in Lisbon through strategic planning and achieving sustainable tourism development. The researchers believe that the service design method provides a useful framework, through collaborative work, to better understand the needs of residents and tourists and create a more sustainable tourism experience.

Lin et al. (2020) studied how service design methods and tools can assist leisure farms in creating customer journey maps and identifying service innovation opportunities. This was used to propose new sustainable business models to advance the sustainable development of leisure farms.

Font (2021) believes that sustainable value propositions need to be created through collaboration across the entire supply chain. As an important participant in the supply chain, travel agencies need to be seen as value co-creators and integrators. User-centered design methods help understand the value co-creation of sustainable communication in order to design communication methods that resonate with customer values. This study provides a new perspective on the sustainable tourism marketing literature and shows how value co-creation can be achieved through service design methods. It has practical significance for understanding how to introduce sustainable features into the co-creation of tourism products.

Antosova et al. (2021) utilized a case study of a municipality on the Pacific coast of Colombia to propose user-centered tourism planning, aiming to address the issue of sustainable tourism development. This research emphasizes the innovative use of user-centered design tools and co-creation methods to engage various stakeholders in developing plans. Chang and Chuang (2021) introduced service design thinking and tools to students through a taught course. The students integrated these concepts into religious tourism brand design strategies, identifying problems and needs and proposing service design solutions. They argue that incorporating service design into teaching and design strategies for religious heritage branding contributes to cultural sustainability.

Efficiently and dynamically integrating resources to form an interactive collaborative network poses a significant task and challenge for destination management managers (Baccarani & Cassia, 2017; Vargo & Lusch, 2011). Gao et al. (2022) have proposed a conceptual framework for the service design of destination tourism service ecosystems and developed an integrated model of service design. Using Tangbu Village in China as an example, they explain the practical application of the model. The authors contend that service design can enhance the competitiveness of tourism destinations, and the service design method can offer innovative and effective solutions for destination management organizations to address complex problems. The service blueprint aids service providers in identifying their position, discovering potential partners and collaboration directions, and is also beneficial for service operation and service process management.

Deng and Wong (2024) adopted a qualitative research method and collected data through in-depth interviews. Based on the service-dominant logic and service ecosystem literature, a framework for designing tourism co-creation platforms was proposed. The

service platform ecosystem was constructed from the perspective of multiple stakeholders. Four key participants in building cultural tourism co-creation platforms were identified: platform owners, platform partners, technology providers, and platform customers, and the actions and advantages of these participants were explored. The researchers proposed a new service ecosystem framework, emphasized the importance of achieving new value co-creation through ecosystems, and pointed out the main characteristics that China's cultural tourism co-creation ecosystem should focus on. The researchers provided a new perspective for understanding the construction and management of cultural tourism co-creation platforms, and provided destination management organizations with new insights into value creation and digital service innovation.

The reviewed literature highlights the critical role of service design in tourism management, particularly in enhancing service experiences, ensuring operational efficiency, and achieving sustainable development. From the conceptual frameworks proposed by Zehrer (2009) and Gao et al. (2022) to the practical applications seen in studies by Stickdorn et al. (2014) and Feng et al. (2019), it is evident that service design methodologies are instrumental in addressing contemporary challenges in tourism. The integration of user-centered design and co-creation methods has shown promise in fostering collaboration among stakeholders, balancing local and tourist needs, and advancing sustainable tourism practices. As the field evolves, the continuous adaptation of service design thinking, supported by innovative technologies like mobile ethnography, will be crucial for destination management organizations aiming to stay competitive and meet the dynamic needs of tourists.

2.8 Destination Tourism and Sustainable Development

Currently, the research on tourism destinations mainly focuses on image, positioning, marketing, competitiveness, loyalty, visitor management, governance and sustainable development of tourism destinations. This chapter reviews the relevant literature on sustainable development of destination tourism.

Tourist destinations serve as spatial entities that inspire tourists to develop tourism motivations and engage in tourism activities. They align with the origins of tourists and serve as the focal point for tourism activities from a spatial standpoint. International exploration of tourist destinations commenced in the 1970s, with the introduction of the "tourist destination zone" by American scholar Gunn (1972), encompassing elements such as attraction complexes, service communities, passages, and more. British scholar Buhalis (2000) posits that a tourist destination constitutes an independent and cohesive geographical area with centralized management and planning.

Research on the sustainable development of tourism destinations predominantly revolves around the conceptualization, practical realization, and development model exploration. Scholars have employed various theories and methodologies to construct sustainable development models for tourism destinations. For instance, Ahn et al. (2002) implemented the LAC (Landscape, Actors, and Connections) change framework model to assess the sustainability of regional tourism planning implementation. Rodriguez et al. (2007) highlighted the application of the system dynamic model by destination managers during the development stage of the tourism industry to formulate strategic plans.

A tourism destination can be defined as a geographically delineated area with a cohesive identity, offering diverse tourism products (Binter et al., 2016; Buhalis, 2000).

Tourism services within a destination involve the participation of multiple stakeholders (Hillebrand et al., 2015). It can be conceptualized as a service ecosystem comprising various actors exchanging resources and interacting to co-create value (VanRiel et al., 2019). Therefore, efficiently and dynamically integrating resources to form an interactive collaborative network stands as a crucial task and challenge for destination managers (Baccarani & Cassia, 2017; Vargo & Lusch, 2011).

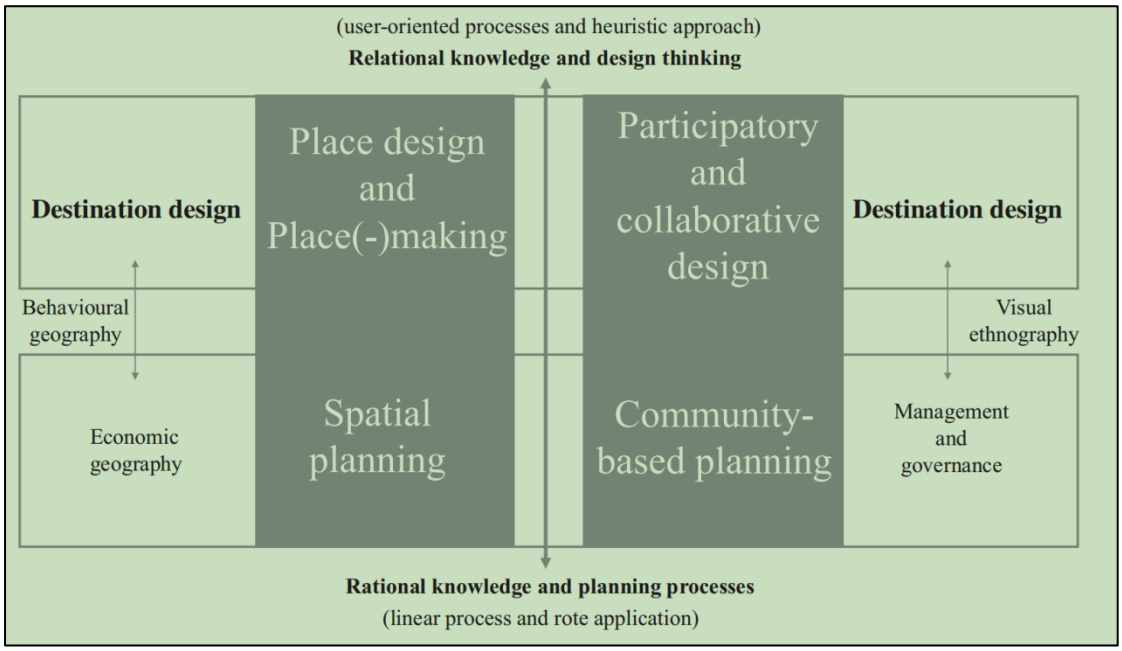


Figure 2.6: Destination Design (Source: Scuttari et al. 2021)

Scuttari et al. (2021) investigated how design thinking can be used to promote sustainable innovation in tourism planning. They highlighted the potential of design science in supporting the transition to more sustainable practices, especially innovation in solving sustainability-related problems. Define destination design as a new framework (Figure 2.6) that leverages the cognitive style of design thinking to address the sustainability paradox. The study argues that destination design provides new perspectives on tourism planning issues and promotes sustainable innovation through its heuristic approach.

Font et al. (2021) explored value co-creation in sustainable tourism and showed how value co-creation can be achieved through service design methods. The researchers argue that value co-creation in sustainable tourism can be better understood and achieved through user-centered design methods. It also provides a new theoretical basis for tourism supply chain management.

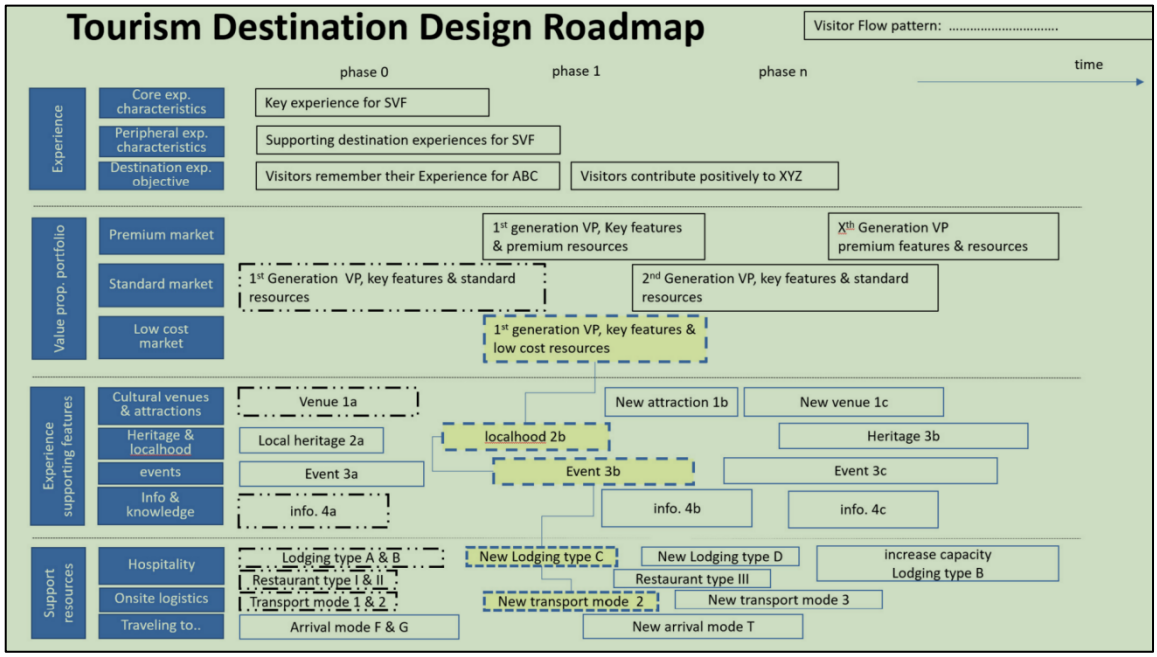


Figure 2.7: Example of a Tourism Destination Design Roadmap (TDDR) (Source: Koens et al. 2021)

Koens et al. (2021) proposed and demonstrated a proactive, design-driven approach to sustainable destination development, using the perspective of design science to explain the limitations of the application of concepts such as the tourism life cycle in practice. The Tourism destination design roadmap (TDDR) was introduced to analyze and design destination development, considering tourist flows, destination characteristics, and supporting resources. The study provides new perspectives and tools for the sustainable development of tourism destinations. This roadmap (Figure 2.7) can help destination

managers and stakeholders better understand and respond to the challenges of destination development and promote the positive and sustainable development of destinations.

Volgger et al. (2021) explored how design and design thinking can provide new perspectives and innovative solutions for the development of tourism destinations. The concept of "destination design" is proposed, and aesthetic thinking, technological progress, and tourism destination development research are integrated. This study provides a new perspective for the development of tourism destinations and emphasizes the role of design thinking in promoting innovation and sustainability in tourism destinations.

Lai et al. (2023) believed that the key issue in sustainable tourism research lies in the gap between tourists' friendly attitudes towards sustainable behaviors and their actual behaviors. Through interview surveys, tourists' low-carbon behaviors and attitudes towards food were studied. Four main reasons that affect high-carbon dietary behaviors were found. And the requirements of tourists for low-carbon dietary services were found. Finally, a low-carbon tourism catering service design framework (Figure 2.8)containing four service elements was refined. The four design elements of low-carbon tourism catering services are: low-carbon information display services, low-carbon service product attractiveness enhancement, low-carbon catering environment atmosphere creation, and low-carbon behavior of service providers.

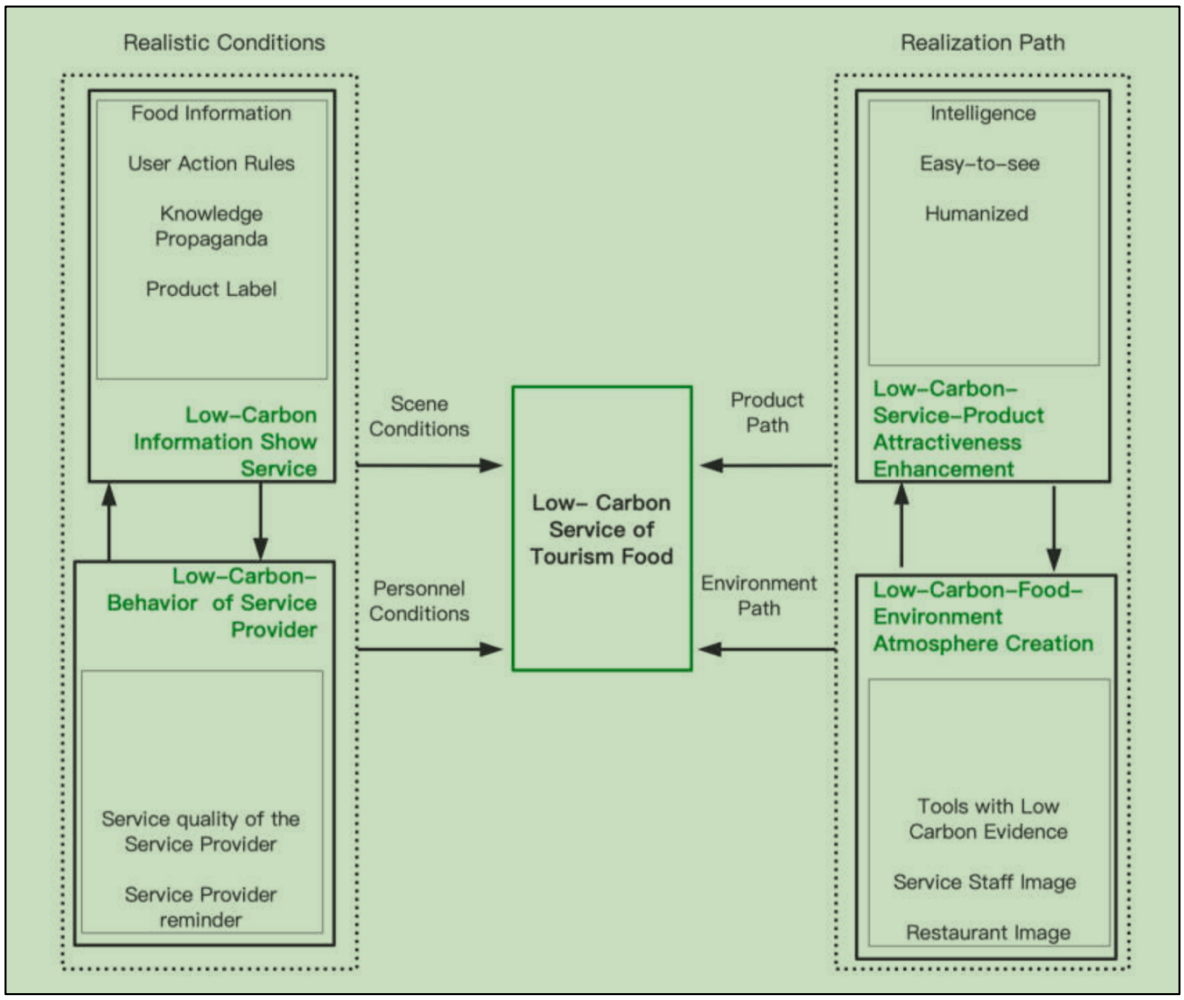


Figure 2.8: Low Carbon Tourism Food Service Framework (Source: Lai et al. (2023))

Madrid (2024) conducted an empirical investigation of tourism development in Zambales and identified differences in perceptions of different stakeholders on the degree of tourism development and analyzed the Political, Economic, Social, Technological, Legal, and Environmental (PESTLE) factors and how to develop tourism sustainably. His study provides a better understanding of tourism stakeholders' views on the current state of the tourism industry and how to develop it comprehensively, emphasizing the important role of different stakeholders in sustainable tourism development.

Similarly, the case studies by Gao et al. (2022) on service ecosystem frameworks and co-creation platforms offer practical insights into the implementation of sustainable tourism

strategies. Destination Tourism Service Ecosystem Framework (Figure 2.9). The conceptual framework of destination tourism service ecosystem is a two-layer nested structure, including internal core operating system and background support environment.

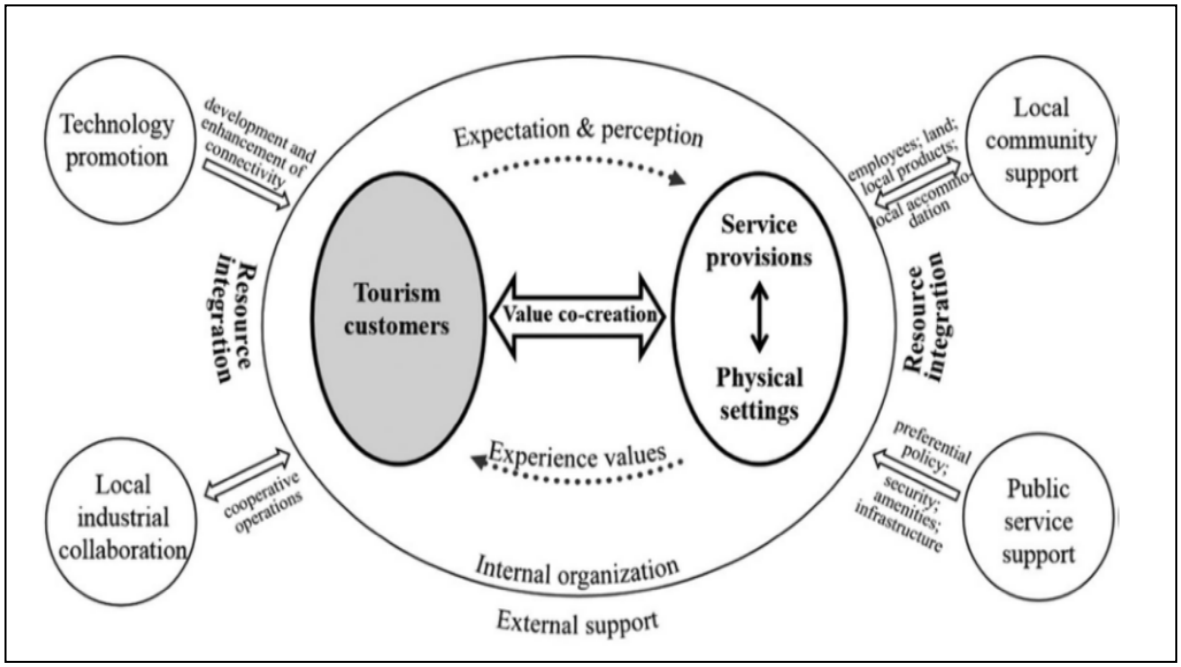


Figure 2.9: A Conceptual Framework of A Destination Tourism Service Ecosystem (Source: Gao et al., 2022)

The internal core operating system consists of two integral components: physical setup and service delivery, both significantly impacting the customer experience. The physical setup encompasses a combination of physical components and environmental elements (Zomerdijk & Voss, 2010), representing crucial hardware aspects in destination research. Service delivery comprises four dimensions: human factors, organized activities, situational factors, and intermediary services (Chen, 2014; Tussyadiah, 2014).Background support environment is the integration of resources in a wider social environment, including local industry co-creation, local community support, public service support and technical support.

The incorporation of this framework effectively illustrates the interconnections among destination stakeholders, outlining the comprehensive and hierarchical supply and demand structure of destinations. Stakeholders can strategically position themselves within this framework, facilitating collaboration with external partners. Destination managers benefit from this framework as it aids in the rationalization and allocation of resources, optimizing service provision in tourist destinations.

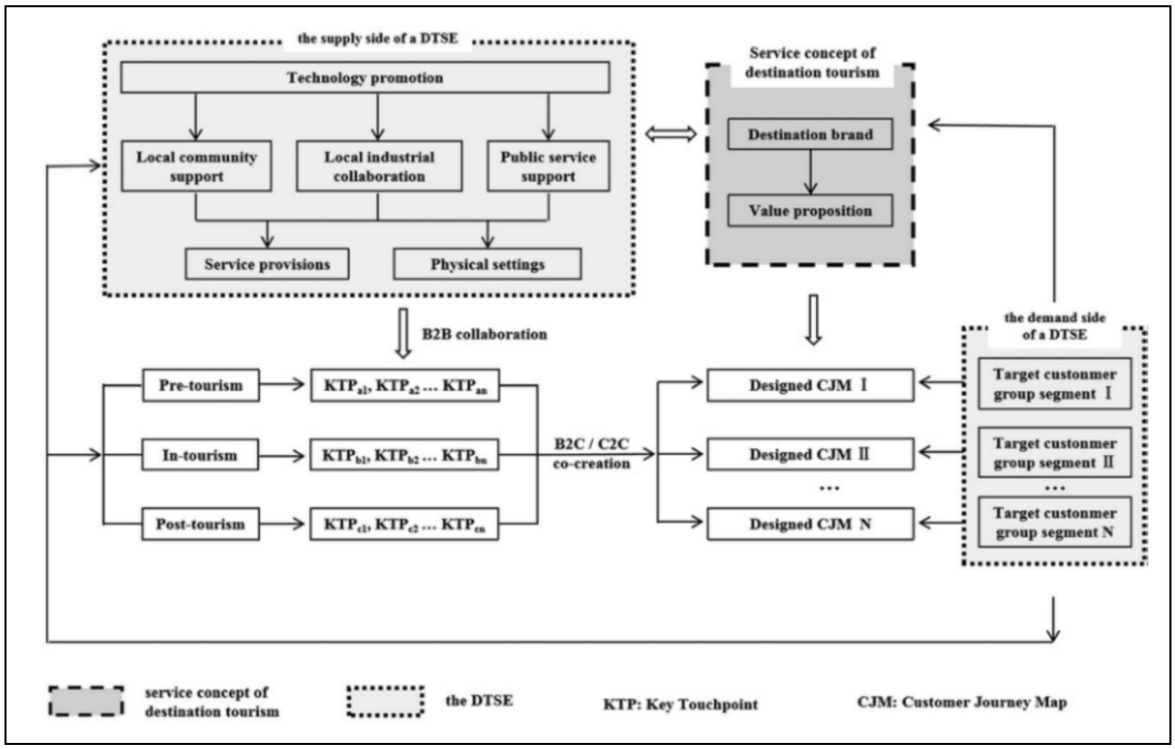


Figure 2.10: A Conceptual Model of Service Design on A Destination Tourism Ecosystem (Source: Gao et al., 2022)

Destination Tourism Service Ecosystem Service Design Blueprint. The primary objective of a service blueprint is to enhance the service process and delivery by detailing every activity and step involved in service provision (Gyimóthy, 2000; Zehrer, 2009). In the context of destination tourism, products can be viewed holistically, provided by a single entity (Binter et al., 2016). The service blueprint integrates service concepts, service

ecosystems (encompassing customers and service delivery systems), and service processes, offering a comprehensive overview of destination tourism product development and design (Figure 2.10). The destination service design blueprint comprises three levels: a) Destination tourism service concept, encompassing destination brand and value proposition. b) Destination tourism service ecosystem, detailing its supply structure and customers. c) The service process aligned with the target customer's journey map.

The initiation of tourism service design hinges on establishing a service concept. The service concept articulates the fundamental value tourists associate with the destination brand and service experience. Destinations must thoroughly comprehend the factors that attract customers to a specific destination and what unique offerings the destination can provide. Destination branding involves the definition of a distinct and coherent service design direction for the destination management organization and its stakeholders. A brand serves as a commitment to customers, fostering consensus among all stakeholders on brand value and collaborating to forge and uphold a destination brand (Giannopoulos et al., 2020). A consistent brand vision enables continuous presentation of a value proposition that sets it apart from competitors in the service design process (Zehrer, 2009).

Service requirements management is integral to every phase of service design and serves as a prerequisite for developing a service design blueprint. This aspect of service demand management should concentrate on critical activities and events that might trigger negative emotions or other undesirable outcomes. Additionally, it should address any absent service touchpoints that fail to meet customer needs (Tomej & Xiang, 2020). In the design of the service process, it is essential to actualize the customer's potential interests, anticipated preferences, and knowledge of demands.

The systematic involvement of stakeholders in defining and co-creating services holds significant importance in service design (Bassano et al., 2019). Aligning the destination supply system with customer needs (Karadayi-Usta & SerdarAsan, 2020), enabling the created value from both the demand and supply sides to benefit all stakeholders (Giannopoulos et al., 2021), represents the core task of destination tourism service design.

The importance of research in sustainable tourism development cannot be overstated, as it addresses the urgent need for balancing economic growth with environmental preservation and social equity. The literature reviewed highlights the multifaceted nature of sustainable tourism development, emphasizing the critical role it plays in mitigating the negative impacts of tourism on natural and cultural environments while promoting economic benefits for local communities. Sustainable tourism models and practices not only enhance the resilience of tourism destinations but also contribute to global efforts in combating climate change and conserving biodiversity. The insights from studies by Scuttari et al. (2021), Font et al. (2021), and Koens et al. (2021) underscore the potential of design-driven approaches and user-centered methodologies in enhancing the sustainability of tourism destinations, making them more adaptable to the ever-evolving demands of modern tourists. Moreover, the integration of multiple stakeholders and the development of collaborative networks, as discussed by Baccarani & Cassia (2017) and Vargo & Lusch (2011), are critical for achieving sustainable tourism, as they foster innovation and facilitate the co-creation of value in tourism experiences. Furthermore, empirical investigations, such as those by Madrid (2024), provide practical insights into the current state and sustainable development of tourism destinations, emphasizing the significance of stakeholder perceptions and contributions. The importance of this research field lies in its ability to guide policymakers, tourism operators, and communities in developing strategies that ensure tourism not only

thrives economically but also preserves the integrity of destinations for future generations. As highlighted by Gao et al. (2022), practical applications and case studies demonstrate the real-world implications of theoretical models, making this research field indispensable for shaping the future of tourism globally.

2.9 Tourism in Qingzhou Ancient City

Research on Qingzhou Ancient City tourism predominantly centers around the protection and development of its cultural heritage, offering optimization suggestions and countermeasures for the tourism industry. Additionally, there is a significant focus on design research, encompassing areas such as image design, cultural creative product design, and space landscape design.

The ancient city of Qingzhou, steeped in a rich history and culture, boasts numerous cultural heritages. Research on the protection and development of the cultural inheritance of Qingzhou's ancient city has been a focal point for scholars. Early literature in this domain primarily addresses the challenges confronting its current development while offering pertinent recommendations.

Fang and Wang (2014) advocate for the formulation of a scientifically grounded plan for the protection and restoration of the ancient city. They emphasize continuous improvement of laws and regulations governing its protection and restoration, the creation of a brand system for reconstruction, and the establishment of a sustained protection mechanism.

Ji (2017) underscores the principle of balanced development and protection. Emphasizing the need to effectively integrate cultural resources, Ji suggests leveraging

cultural elements to enhance tourism advantages, elevate tourism quality, fortify the cultural tourism brand of Qingzhou's ancient city, and position tourism as a new engine for the local economy.

Zhang (2017) delves into the foreign exchange of Qingzhou's ancient city folk culture, highlighting its current status, necessity, and effective strategies. Expanding foreign exchange, according to Zhang, is pivotal for strengthening the inheritance and development of Qingzhou's folk culture, propelling the utilization of folk tourism resources, fostering related industries, and propelling the rapid development of the local economy.

Hao (2021) identifies development challenges in Qingzhou's ancient city, focusing on inheritance. Proposed solutions encompass scientific and reasonable planning, the development of local characteristic culture, intensified publicity and promotion efforts, and the establishment of a competent talent team.

For optimizing suggestions and countermeasures within the Qingzhou ancient city tourism industry, the approach typically involves identifying existing issues from managerial perspectives and proposing relevant solutions. Wu (2021) presented recommendations and strategies focusing on Qingzhou's cultural tourism products and the marketing of these products. Using case analysis and empirical research methods, Huang (2021) derived weight and comprehensive evaluation results for the current state of cultural and tourism integration development in Qingzhou ancient city, identifying influencing factors for promotional strategies and offering guiding opinions. Sun and Miranda (2021) conducted a comprehensive analysis of tourism promotion problems in Qingzhou City through literature research, field research, and interviews, proposing a series of suggestions to address existing challenges. From the perspective of tourist experience, Sun (2020) utilized literature research,

field research, questionnaires, network surveys, and interviews, employing both qualitative and quantitative methods to provide improvement strategies and suggestions for the construction and development of smart scenic spots in the ancient city of Qingzhou. Focusing on the sustainable development of the ancient city of Qingzhou, Yao (2020) analyzed existing problems and explored sustainable development in the tourism industry. Wang (2014) identified restrictive factors affecting the sustainable development of tourism in Qingzhou, offering countermeasures and suggestions to promote sustainable tourism development. While most studies adopt a top-down perspective, one study delves into the construction of smart scenic spots from the unique viewpoint of tourist experience.

Design research concerning Qingzhou ancient city tourism encompasses various aspects such as tourism image design, product design, and landscape design. Ju and Xia (2022) conducted field research on the tourism identification system of the ancient city of Qingzhou, proposing enhancements to provide tourists with more convenient, efficient, and dynamic information. Analyzing the visual image design of 5A-level tourist attractions in Qingzhou ancient city, Hou and Qi (2018) identified existing problems and explored specific strategies for enhancing visual design within these scenic spots. He and Liu (2020) delved into the unique characteristics of Qingzhou dialect, utilizing visual design elements derived from adverbs, allegorical words, and special dialect words to artistically enhance cultural and creative product design. Examining the status and issues of cultural and creative industries and products in Qingzhou ancient city, He et al. (2020) proposed development strategies for cultural and creative product design across three levels. Ju (2017) explored the implementation of landscape design reflecting regional cultural characteristics in the historical district of Qingzhou City. Meanwhile, Liang (2013) investigated the layout and landscape features of Shili Ancient Street in Qingzhou Ancient City, uncovering its deep

cultural connotations and providing suggestions based on the current state and identified issues.

It is noteworthy that the existing design research primarily focuses on the tangible aspects of design objects, with limited emphasis on service and experiential design from the perspective of tourists.

2.10 Hypothesis

2.10.1 Construction of ancient city tourism service quality evaluation model

Parasuraman et al. (1985) introduced the SERVQUAL model alongside the service quality perception model. This model is the first systematic scale designed to evaluate service quality, comprising five dimensions and 22 items. The dimensions include tangibility, reliability, responsiveness, assurance, and empathy. The SERVQUAL model has gained widespread acceptance among service quality researchers for its demonstrated reliability and validity, making it applicable across various service industries.

The applicability of the SERVQUAL model in assessing service quality may not be universal, and researchers have raised concerns about its limited applicability in certain industries (Boulding et al., 1993). The SERVQUAL model has been successfully applied in diverse sectors such as hospitality, healthcare, banking, and higher education, demonstrating its versatility and broad applicability (Jonkisz et al. 2022; Bayraktaroğlu & Atrek, 2010).

The SERVQUAL model effectively evaluates service quality in various industries, aiding in management, consumer preference, and resource allocation decisions (Shi & Shang, 2020). To enhance its adaptability to diverse contexts, modifications in terms of measurement dimensions, items, and wording are necessary (Carman, 1990). Carman

emphasized the importance of adjusting or expanding dimensions based on specific services to enhance the scale's reliability. For example, the fuzzy SERVQUAL method has been adapted for the certification and inspection industry in China (Liu et al. 2015)and the SERVQHOS model has been used for hospital care evaluation in Colombia (Numpaque-Pacabaque & Rocha-Buelvas, 2016).

In the context of tourism, researchers have developed specific service quality evaluation models based on the SERVQUAL framework. Examples include the Lodge Service (LODGSERV), Dine Service (DINESERV), Holiday Satisfaction (HOLSAT), Historical Quality (HISTOQUAL), and Ecological Service Quality (ECOSERVQ) models. These models are utilized for evaluating service quality in various sectors such as hotels, catering industries, resorts, tourism products, and ecotourism (Xu, 2006). The modified SERVQUAL model is applied to multiple service industries, including retail, medical, e-commerce, and tourism, to evaluate management, consumer preference, and resource allocation (Shi & Shang, 2020).

The SERVQUAL model has been successfully applied to measure service quality in diverse tourism settings, including hotels, museums, and ecotourism destinations. Each application highlights the model's flexibility and diagnostic utility in different contexts (Yusof et al. 2014; Fernández & Bedia 2005).

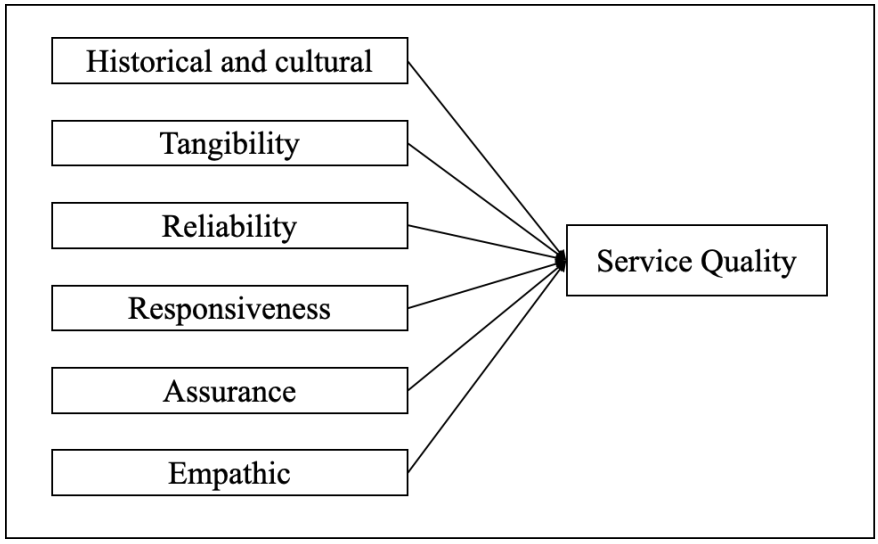


Figure 2.11: Ancient City Scenic Spot Tourism Service Quality Evaluation Model

In this study, the SERVQUAL model has been adapted to suit the specific context of assessing the service quality of ancient city scenic spots. To better align with the environment, the original five dimensions of the model were expanded to six dimensions (as illustrated in Figure 2.11), introducing a new dimension, namely, historical and cultural. Given the unique characteristics of ancient city scenic spots as tourism destinations, the historical and cultural dimension was included. Information on historical significance can be derived from policy documents such as the "Regulations on the Protection of Famous Historical and Cultural Cities, Famous Towns and Famous Villages," revised by the State Council of China in October 2017. These regulations outline five conditions for the declaration of national historical and cultural cities, emphasizing aspects such as the richness of cultural relics, concentration of historical buildings, retention of traditional layout and historical style, historical significance, and the presence of multiple historical and cultural blocks within the protected area.

The modified SERVQUAL model is now referred to as the "Ancient City Scenic Spot Tourism Service Quality Evaluation Model," encompassing six dimensions: historical

culture, tangibility, reliability, responsiveness, assurance, and empathic (the description of each dimension as outlined in Table 2.4).

After the construction of the tourism service quality evaluation model of the ancient city scenic spot is completed, it will become the theoretical basis for measuring the service quality of the ancient city scenic spot. In this study, the ancient city scenic spot refers to the Qingzhou ancient city scenic spot.

Table 2.4: Six Dimensions of the Service Quality Model for Ancient City Scenic Areas

Dimensionality	Description
Historical and cultural	This refers to the ability of visitors to see ancient buildings that are over 100 years old and to feel the heritage of traditional culture during their visit. In this study historical and cultural nature mainly refers to the good protection of ancient buildings in the scenic area of the old city and the inheritance and development of traditional culture. Folk culture exhibitions are abundant and can be experienced.
Tangibility	This refers to what tourists can see and touch during their experience. In this study, tangibility refers to the tangible elements associated with the Old Town, such as those related to objects (service centres, service equipment, rubbish bins and toilets) and those related to people (clothing, posture, language and expressions of service staff).
Reliability	It refers to the level of reliability of the company in fulfilling its service commitments. In the context of this study, reliability refers to whether the tourist attractions in the ancient city scenic area are able to ensure

Table 2.4 continued

	that the standard of service provided is error-free when providing services to tourists and that the ancient city scenic area is able to make timely and best efforts to resolve difficulties encountered when visitors encounter difficulties.
Responsiveness	Refers to the level of responsiveness and initiative of a company in providing services to its tourists. In the context of this study, responsiveness refers to the level of initiative and speed in providing service to visitors in the tourism scenic area of the Old City in terms of attitude.
Assurance	It refers to the level of knowledge of the service staff, their courtesy in the service process and the extent to which they can make the tourist trust them. In the context of this study, assurance refers to whether the operator of the ancient city scenic spot has the tourist as one central two basic points (starting and ending points), whether the staff of the scenic spot have professional service capabilities and service skills, and the extent to which the tourist can rely on the services provided by the ancient city scenic spot.
Empathic	It refers to the customer-centredness of the company, providing personalised services tailored to the needs of different tourists. In this study, empathy refers to the ability to provide unique services to meet the distinctive needs of different tourists and the ability of the service

Table 2.4 continued

	staff to give emotional care to the tourists during the service process, to keep people with emotions.

2.10.2 Hypothesis

Next, the research hypothesis model in the first phase of quantitative research is presented. There are six dimensions influencing the quality of tourism services in Qingzhou Ancient City: historical and cultural, tangibility, reliability, responsiveness, assurance, and empathic. Based on the exploratory factor analysis identifying six dimensions influencing service quality in Qingzhou Ancient City, the following hypotheses are formulated:

Firstly, the historical and cultural dimension is hypothesized to have a significant impact on tourists' perceived service quality in Qingzhou Ancient City. This hypothesis is grounded in the premise that historical and cultural elements play a crucial role in enhancing the tourism experience by providing unique and authentic attractions that meet tourists' expectations.

H1: The historical and cultural dimension significantly impacts tourists' perceived service quality in Qingzhou Ancient City.

Secondly, the tangibility of tourism services is proposed to significantly affect tourists' perceived service quality. Tangibility includes the physical aspects of the service environment, such as cleanliness, facilities, and equipment, which are essential in shaping tourists' perceptions of service quality.

H2: The tangibility of tourism services significantly affects tourists' perceived service quality in Qingzhou Ancient City.

Thirdly, the reliability of tourism services is hypothesized to have a substantial influence on tourists' perceived service quality. Reliability refers to the ability of service providers to deliver dependable and consistent services, which is a critical factor in building trust and satisfaction among tourists.

H3: The reliability of tourism services significantly influences tourists' perceived service quality in Qingzhou Ancient City.

Fourthly, the responsiveness of tourism service providers is suggested to significantly influence tourists' perceived service quality. Responsiveness entails the willingness and ability of service providers to assist tourists promptly and efficiently, which enhances the overall service experience.

H4: The responsiveness of tourism service providers significantly influences tourists' perceived service quality in Qingzhou Ancient City.

Fifthly, the assurance provided by tourism services is hypothesized to significantly affect tourists' perceived service quality. Assurance includes the competence, courtesy, and credibility of service providers, which contribute to tourists' sense of security and confidence in the services offered.

H5: The assurance provided by tourism services significantly affects tourists' perceived service quality in Qingzhou Ancient City.

Lastly, the empathy shown by tourism service providers is proposed to have a significant impact on tourists' perceived service quality. Empathy involves the personalized attention and care provided to tourists, which fosters a positive and memorable service experience.

H6: The empathy shown by tourism service providers significantly impacts tourists' perceived service quality in Qingzhou Ancient City.

These hypotheses aim to test the significance of the relationship between the identified dimensions and the overall perceived quality of tourism services. This structured approach ensures that the research is directly aligned with the dimensions revealed by the exploratory factor analysis, providing a comprehensive framework for assessing service quality in Qingzhou Ancient City.

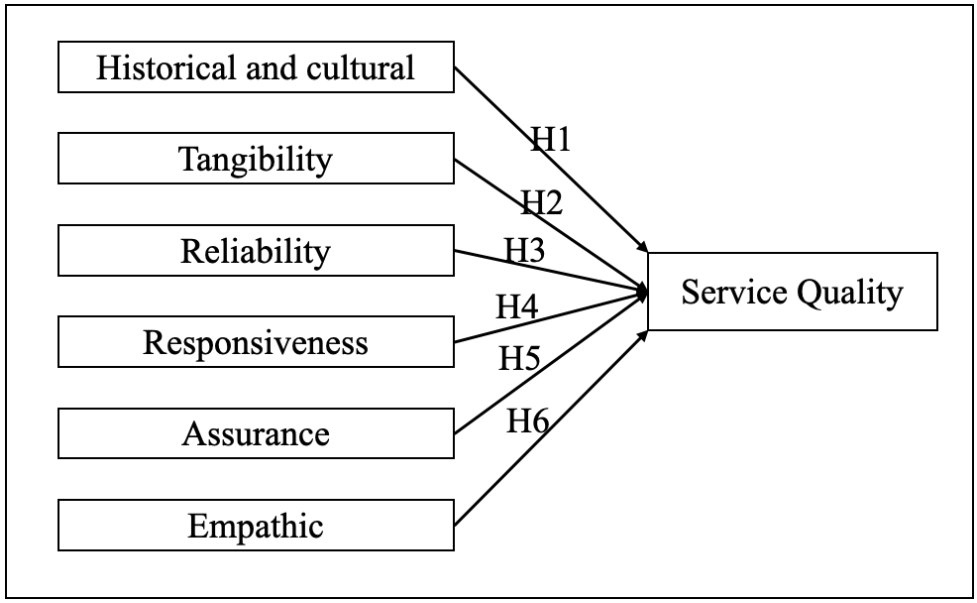


Figure 2.12: Theoretical Model Of Factors Affecting Ancient City Tourism Service Quality

There is a significant gap between tourists' perceived service quality and their expected service quality in Qingzhou Ancient City.

H7: There is a significant difference between tourists' perceived service quality and their expected service quality in Qingzhou Ancient City.

This hypothesis aims to test whether the perceived service quality, as experienced by tourists, significantly deviates from their expected service quality. This hypothesis is integral to understanding the discrepancies and identifying areas for improvement in tourism services.

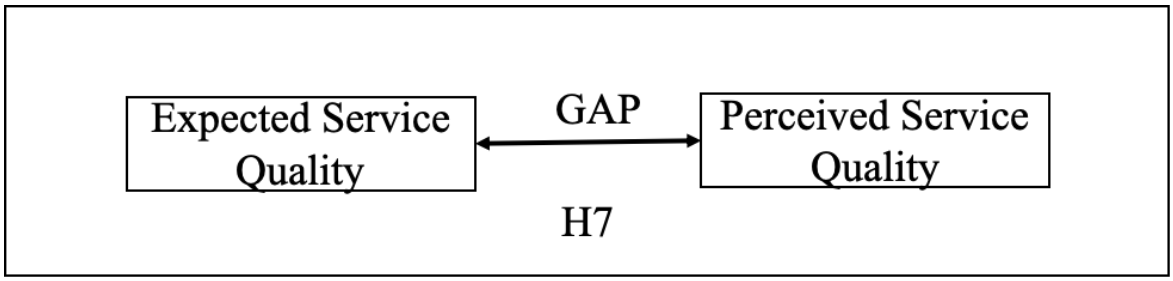


Figure 2.13: Gap Model Between Perceived Service Quality And Expected Service Quality

The six dimensions of tourism service quality in Qingzhou Ancient City (independent variables) have a significant impact on tourists' overall satisfaction with the tourism service quality (dependent variable).

H8: The historical and cultural dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H9: The tangibility dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H10: The reliability dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H11: The responsiveness dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H12: The assurance dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

H13: The empathy dimension of tourism service quality has a significant impact on tourists' overall satisfaction with the tourism service quality in Qingzhou Ancient City.

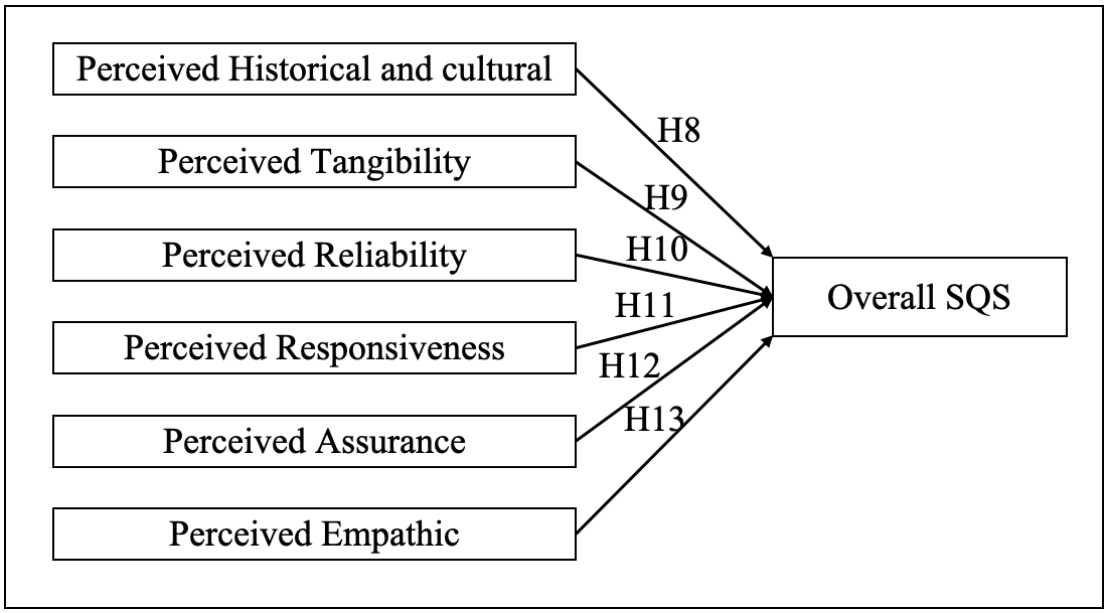


Figure 2.14: Theoretical Model Of Perceived Service Quality And Overall Satisfaction

2.11 Chapter Summary

This chapter presents a comprehensive review of the research literature related to various aspects of service, experience, service design, tourism service, tourism experience, tourism service design, destination management, and Qingzhou ancient city tourism. It elaborates on the concepts and terminology associated with service, experience, and service design.

Specific emphasis is placed on examining research in tourism service quality, which includes the evaluation models, tourist satisfaction, evaluation methods, and evaluation indices. Additionally, the literature explores tourism service experience, covering the structure, types, influencing factors, and quality evaluation of tourism experiences from both product and service quality perspectives.

The chapter also discusses service design, detailing the development context, interdisciplinary research, concepts, principles, methodologies, and processes of service design. In the context of tourism and service design, the literature is analyzed to evaluate customer experiences, improve and enhance service experiences, develop new services and innovations, manage tourism destinations, build tourism service ecosystems, and achieve sustainable development.

Further, the review includes research on the management of tourism destinations with a focus on sustainability. Specific studies related to preserving and transmitting Qingzhou's historical and cultural heritage, strategies for the development of the Qingzhou tourism industry, and design research concerning Qingzhou tourism are also highlighted. The literature reviews provide essential theoretical foundations for subsequent research on the strategic framework of tourism service design in Qingzhou ancient city. At the same time, based on relevant research literature, a service quality measurement model for Qingzhou Ancient City was proposed, and the research hypotheses of this study were put forward.

In Despite significant advancements in service design for destination tourism ecosystems, several gaps remain that need to be addressed to enhance its effectiveness and adaptability. Firstly, while the General Policy Process for Service Design is noted for its adaptability and dynamic nature, it falls short in providing detailed implementation strategies

and tools tailored to specific industries, such as tourism. The inclusion of industry-specific examples and case studies would significantly improve the applicability of this general process to particular contexts, enabling more effective and relevant implementations.

Moreover, most existing models lack detailed guidelines on scaling services across different cultural and market contexts. This gap highlights the necessity for more robust frameworks that can measure and ensure long-term service quality and customer satisfaction across diverse environments. Addressing these scalability and cultural adaptation challenges is crucial for the successful global implementation of service design strategies.

Another critical gap is the need for flexibility and real-time adaptation in service design models. Current models do not fully leverage the potential of emerging technologies such as artificial intelligence (AI), the Internet of Things (IoT), and big data analytics. Integrating these technologies can enhance the service design and delivery process by incorporating flexible, real-time feedback mechanisms. This would allow services to be adjusted based on immediate customer feedback and market changes, ensuring they remain relevant and effective.

Finally, there is a pressing need for more robust frameworks to measure and ensure long-term service quality and customer satisfaction. While models like IDEO's Service Design Process and Live Work's Service Design Process excel in certain areas, they fall short in providing a standardized approach to consistently measure long-term service performance. Developing such frameworks will be essential for maintaining service excellence and innovation over time.

By addressing these gaps, future research and development in service design can create more comprehensive, adaptable, and industry-specific models. This will help meet the

evolving needs of customers and markets, ensuring sustained service excellence and innovation.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Overview

This chapter expounds upon the methodological foundation of the study, aligning with the overarching goal to construct a service design strategy framework for tourism service ecosystems. The approach adopted in this study follows the structure outlined in the research onion diagram (Figure 3.1), as proposed by Saunders and Tosey (2013).

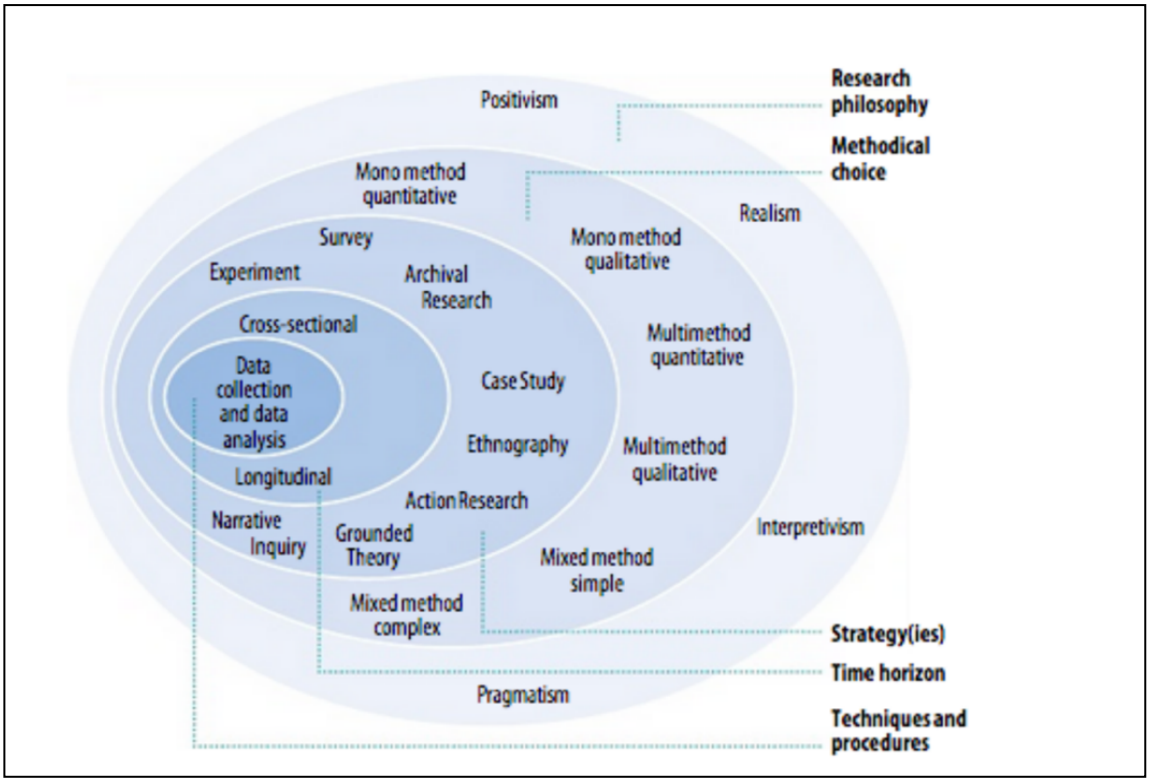


Figure 3.1: Research Onion (Source: Saunders & Tosey, 2013)

This chapter is divided into five different sections: Research Paradigm, Research Strategy, Research Design and Research Methods, and Introduction to Research Phases. Research Paradigm and Research Strategy aim to clarify the basic principles of methodology,

while Research Design and Methods and Introduction to Research Phases go into detail about data collection and data analysis methods.

3.2 Research Paradigm

Different research philosophies exert significant influence on decision-making throughout the research process. Research philosophy is essentially shaped by the researcher's perspective on knowledge and how knowledge is created (Saunders & Tosey, 2013). Key terms in dissertation construction, such as ontology, epistemology, methodology, and paradigm, encapsulate the assumptions guiding researchers during their investigations. Clearly articulating one's research philosophy is crucial as it impacts whether the reader comprehends the underlying assumptions that have shaped the study's design and process. As stated by Saunders and Tosey (2013), "How a researcher sees the world, her or his assumptions about the nature of human knowledge and the reality encountered, inevitably determine the way research questions are understood and the associated research design." A researcher's worldview and assumptions about human knowledge and reality influence the understanding of research questions and research design (Otoo, 2020). A researcher's ontological perspective influences the choice of research topics, question formulation, and research design, including qualitative data analysis (Toker, 2022).

3.2.1 Epistemological and Ontological Assumptions

Ontology, in research philosophy, pertains to how one perceives the world. It addresses questions about the nature of the world and the fundamental reality that exists. Essentially, ontology is the perspective or cognitive framework that provides specific answers to questions such as "what is it." It forms the basis for understanding the essential nature of existence and shapes the researcher's conceptualization of reality.

Epistemology, within the realm of research philosophy, represents a fundamental perspective on issues related to knowledge. It serves as a "philosophical theory about the source of human cognition and the process of cognition development." In essence, epistemology delves into the nature and structure of human cognition, functioning as the "science of knowledge." Its primary focus revolves around examining the relationship between human cognition and objective reality. Epistemological considerations significantly impact how researchers understand and approach the process of acquiring knowledge.

Methodology, within the context of research philosophy, pertains to the theory and study of methods. It involves an examination of whether the methods employed in research align with the evolving body of knowledge at that particular time. The overarching objective of methodology is to identify the most effective methods and strategies for problem-solving. This is achieved through the evaluation of tools, methods, techniques, approaches, and procedures used within a specific research field. The ultimate aim is to propose more generalized principles that contribute to the advancement of knowledge and problem-solving within the given domain.

The concept of paradigm, along with related theories, was introduced by the renowned American philosopher of science, Kuhn (1970), and systematically expounded in his seminal work "The Structure of Scientific Revolutions." Paradigm, in this context, denotes a collection of shared beliefs, values, technologies, and other fundamental aspects within a community. According to Kuhn, a paradigm serves as the theoretical basis and practical norms guiding normal science. It represents a common commitment to ontology, epistemology, and methodology—a worldview and behavior shared by a group of researchers engaged in a particular scientific discipline.

In the realm of tourism, which lacks the status of a formal science, it becomes necessary to draw insights from various scientific domains. In this study, researcher posit that tourism functions as a discipline within the broader field of social sciences, influenced by insights from other disciplines. Given the complex nature of tourism as a social phenomenon, multiple perspectives can be employed to comprehend social reality. It is emphasized that a clear understanding of the underlying philosophical foundations is crucial for guiding research in this context.

Social research has traditionally been categorized into two primary paradigms: positivism and interpretivism, which represent enduring schools of thought in the social sciences. Positivism, characterized by a separation between the researcher and reality, posits that reality exists independently of the human mind, with the primary aim of explaining problems. It embraces the belief in unchanging laws of nature and utilizes methods involving experimental manipulation, observation separation, and quantitative techniques. On the other hand, interpretivist research views the researcher and the research object as interdependent, constructing knowledge through lived experiences with the goal of understanding problems. This approach relies on interpretation, observational interactions, and qualitative techniques.

The emergence of positivism in the 20th century led to a divergence within positivism itself, giving rise to post-positivism. A fundamental shift in post-positivism is its acknowledgment that outcomes are imperfect, and reality is not an absolute certainty, as believed in classical positivism. Instead, post-positivism views reality as probabilistic. While quantitative techniques in post-positivism may incorporate some qualitative analysis, they still rely on observer separation and experimental methods (Corbetta, 2003). However, for

postmodern researchers, this binary positioning (positivism-interpretationism) appears overly limiting and constrained.

In recent years, with the influence of Kuhn's seminal work "The Structure of Scientific Revolutions," discussions about new paradigms in science, particularly in the social sciences, have gained momentum (Denzin, 2010). Presently, social science encompasses diverse paradigms, allowing for alternative knowledge claims. Figure 3.2 (Creswell, 2009) outlines four main paradigms.

Theoretical perspective	*Ontology*	*Epistemology*	*Methodology*	*Methods*
Post positivism	Critical realism	Modified dualist/objectivist	Modified experimental/ manipulative	Quantitative include: sampling, measurement, statistical, questionnaire, could be also qualitative: focus group, interview
Constructivism	Relativist realism	Transactional and subjectivist	Hermeneutical, dialectical, phenomenological, ethnographic, interpretivist	Qualitative methods: interviews, observations,
Advocacy/ Participatory	Political realism	Collaboration	Critical theory, neo-Marxism, feminist, emancipatory, participatory.	Qualitative methods with quantitative mixed methods: Civil actions, interviews, observations, focus group.
Pragmatism	Practical realism	Objectivist and Subjectivist	Mix-methods	Methods are matched to the specific questions and purpose of the research

Figure 3.2: Four Main Paradigms

(Source: based on Crotty 1998, Creswell 2019, Guba & Lincoln 1994 and Mackenzie & Knipe 2006)

Post-positivism relies on determinism and reductionism, emphasizing empirical observation, measurement, and theoretical validation. This approach is often referred to as

the "scientific method" or "scientific research," encompassing quantitative research or empirical science. Post-positivism emerged as a re-evaluation of positivism, challenging established ideas about the absolute truth of knowledge. Instead, it introduces a new perspective where truth is based on statistical probability.

Constructivism is rooted in an approach to research questions that delves into the meaning, social constructions, and historical perspectives of various actors, aiming to generate theories. Often aligned with interpretivism, constructivism asserts that individuals actively seek understanding of the world in which they live and work.

Advocacy/engagement in research is inherently political, focused on issues of change and empowerment, and emphasizes collaboration. It can be perceived as a form of participatory constructivism, where active involvement and collaboration with stakeholders play a crucial role in the research process.

Pragmatism, as a research paradigm, is characterized by its problem-focused and pluralistic approach, emphasizing the consequences of actions. Pragmatists prioritize "what works" and seek practical solutions to problems. In this paradigm, the emphasis is more on the significance of the research question than on a specific method, leading researchers to employ various methods to gain a comprehensive understanding. Mixed methods research aligns well with the pragmatic stance, as it allows researchers to utilize diverse approaches to address research questions effectively.

3.2.2 The Pragmatic Approach

For pragmatists, the task of science is not to find truth or reality, whose existence is always contested, but to facilitate human problem-solving. According to Creswell (2009), pragmatism is based on the following knowledge claims:

- Pragmatism is not bound to any specific philosophical or ontological system. This flexibility is particularly relevant in mixed methods studies, allowing for the extraction of conclusions from both qualitative and quantitative hypotheses.

- Individual researchers under the pragmatist paradigm have the freedom to select research methods, techniques, and procedures that align most effectively with their specific needs and objectives. This flexibility reflects the pragmatic approach that prioritizes practicality and problem-solving.

- Pragmatists, within their philosophical perspective, do not perceive the world as an absolute unity. This notion underscores the recognition of diverse perspectives, experiences, and contextual variations, emphasizing the importance of considering multiple factors in understanding the complexity of reality.

- Truth is what works at the time, it is not based on a strict dualism between thought and reality. Researchers use both types of quality data to provide the best understanding of a problem.

- The pragmatist researcher studies the "what" and "how" in terms of its intended outcome. Researchers need to identify the purpose of a mixed approach and explain its rationale and why mixing is needed.

- Pragmatists acknowledge that research occurs within social, historical, political, and various other contexts. A mixed-methods approach, aligned with pragmatism, may incorporate a postmodern turn, reflecting a theoretical perspective that emphasizes social justice and political objectives. Pragmatists argue for a shift away from questioning reality and natural law, emphasizing the importance of addressing issues and effecting change.

The pragmatism embraced by mixed methods researchers provides flexibility for employing various approaches, accommodating diverse worldviews, assumptions, and methods of data collection and analysis in mixed methods research.

Tourism, being a multidisciplinary field that spans disciplines such as geography, political science, law, economics, philosophy, psychology, sociology, anthropology, strategy, human resource management, operations management, and marketing, is susceptible to theoretical fragmentation.

In line with this, discussions on the origins, epistemological foundations, and methodological approaches relevant to tourism have taken place. However, within the business economics and sociological anthropological approaches, there has been a polarization between positivism and interpretivism (Pansiri, 2005). Pragmatism, in this context, offers a pathway for tourism research (Pansiri, 2006). Applying pragmatism to service research and practice enhances understanding of customer lives and dynamics in service markets, benefiting both research and practice (Heinonen & Strandvik, 2022). Nevertheless, recent calls in the social sciences, including tourism, propose that an appreciation of both the positivist and phenomenological philosophical traditions, as well as the use of quantitative and qualitative data collection and analysis techniques, is suitable.

Tourism is a social, dynamic, and contemporary phenomenon that demands research methods capable of engaging with the market. Hence, aligning with the perspective that "being in a certain paradigm is to see the world in a certain way" (Burrell & Morgan, 1979), this thesis adopts a research philosophy that embraces a contemporary pragmatic viewpoint, rejecting a binary "either-or" approach. This approach acknowledges and accommodates evolving trends in tourism research.

Mixed methods research in tourism, using a systematic qualitative phase before a quantitative phase, can produce robust and detailed findings, with in-depth interviews being more effective than focus group interviews and open-ended questionnaires (Mason et al. 2021). Mixed methods research in tourism and hospitality journals contributes to addressing generic and specific research problems (Truong et al. 2020). Hence, it is posited that adopting the perspective of practice ontology, coupled with a mixed-method methodology, offers the most comprehensive theoretical foundation for addressing research problems.

3.3 Research Strategy

3.3.1 Mixed Methods Strategy

The mixed methods approach is considered a viable research strategy that effectively bridges the gap between quantitative and qualitative methodologies. It is often characterized as eclectic and multivariate, rejecting traditional dualistic views (Creswell, 2003).

Many researchers argue that there's a misconception that using either quantitative or qualitative methods requires a shift in underlying assumptions. Consequently, there are fewer examples of articles utilizing mixed methods. However, it is unnecessary to see it this way, as the consistency with philosophical assumptions matters more than the specific method employed (Bahl & Milne, 2005). The appropriateness and use of methods should

align with the researcher's orientation and the phenomenon being studied. Geertz (1973 in Bahl & Milne, 2005) pointed out that the method does not define research; instead, intellectual effort is the key determinant.

It is asserted that tourism is inherently multi-methodical, encompassing various forms of data collection, multiple studies, and the use of triangulation. According to Wilson and Hollinshead (2015), substantial aspects of tourism's future are inevitably grounded in the social sciences and humanities of tourism, emphasizing interpretive and 'soft' ways of understanding others, self, and hybrids. Moreover, qualitative methods can be successfully employed in empirical research, and quantitative methods can be utilized in interpretive research. Mixed methods in tourism research provide relevant and unbiased findings, helping formulate development strategies and determine the right direction of development and strategy (Rianty & Brahmantyo, 2022).

With this perspective, a mixed methods strategy was adopted in this study. Combining research themes and areas, the research method of service design was also incorporated.

This study employs a mixed research methods approach, utilizing both qualitative and quantitative methods, along with service design methods and tools. The mixed-method approach is particularly well-suited for this research due to several reasons:

Comprehensive understanding: the mixed-method approach allows for a more comprehensive understanding of the research problem by combining the strengths of both quantitative and qualitative methods. quantitative methods provide statistical rigor and generalizability, while qualitative methods offer depth and context-specific insights. This combination is essential for exploring the multifaceted nature of service design in tourism.

Mixed methods, such as explanatory or exploratory sequential designs, can lead to more accurate and comprehensive results in tourism and hospitality research (Mariani & Baggio, 2020).

Addressing multiple research questions: different research questions often require different types of data. By using a mixed-method approach, this study can address each research question with the most appropriate method:

For the first question ("What are the factors that affect the perceived service quality of tourists in Qingzhou ancient city?"), the quantitative research method, specifically a questionnaire survey, is used to gather broad, generalizable data from a large sample of tourists. Using mixed methods in tourism research can provide a better understanding of a problem by combining survey methods and interviews (Puhakka & Siikamäki, 2014).

For the second question ("How to examine the tourism service experience of tourists in Qingzhou ancient city?"), a multi-step qualitative research method is employed. This includes personas, observation, guided interviews, service safaris, and customer journey mapping, which provide in-depth insights into the tourists' experiences and interactions with the services.

For the third question ("How to construct the tourism experience of tourists in Qingzhou ancient city?"), qualitative methods such as interviews and observations are combined with service design methods like customer journey mapping and service blueprints to develop a detailed and actionable framework for enhancing the tourist experience.

Triangulation and validity: using both qualitative and quantitative methods allows for triangulation, which enhances the validity of the research findings. Triangulation

involves using multiple methods or data sources to cross-check and verify results, ensuring that the findings are robust and reliable.

Service design integration: The mixed-method approach is particularly aligned with the principles of service design, which emphasizes a user-centered and iterative process. Service design tools such as personas, customer journey maps, and service blueprints are inherently qualitative but benefit from the quantitative data that identifies key issues and trends. This integration ensures that the service design process is both informed by broad data and deeply contextualized.

3.3.2 Triangulation

While acknowledging that all methods have their limitations, the researchers maintain the belief that the inherent bias in any single method can be mitigated or counteracted by the bias of other methods. In this model, the triangulation of data sources is employed to establish a bridge between qualitative and quantitative approaches (Creswell, 2009). The concept of triangulation, originating from ancient Greek mathematics but applied in modern times as a system of checks, ensures a more comprehensive and robust understanding of the research phenomena.

Triangulation, as a research strategy, involves employing multiple methods (data, theory, or researcher) in the study of a phenomenon. It can be categorized into four types: data triangulation, investigator triangulation, theory triangulation, and method triangulation (Yin, 2014). Data triangulation: researchers obtain their data from different groups, places and times;

Triangulation of investigators. More than one investigator or assessor is involved; Triangulation of investigators enhances research validity by involving multiple researchers in the study process. In this research on Qingzhou Ancient City, several investigators participated at different stages to ensure comprehensive and unbiased findings. Field researchers conducted immersive experiences to identify service encounters and consumer needs. Teams of 2-4 members documented their service experiences through written records, visuals, and audio, capturing diverse perspectives. These findings were then compared and analyzed collaboratively, highlighting areas for service improvement and innovation.

The use of multiple investigators reduced bias and allowed for cross-verification of data, making the research findings robust and reliable. This collaborative approach provided a well-rounded understanding of service quality, significantly contributing to innovative service design strategies. Triangulation ensured that insights were thorough and credible, supporting effective and impactful research outcomes.

Theoretical triangulation: using different theoretical perspectives when studying a problem; Method triangulation: Different methodologies are used.

The researchers used triangulation to enhance the reliability and validity of their findings by addressing the inherent biases and limitations of any single research method. Triangulation, as a research strategy, involves employing multiple methods, data sources, theories, or investigators to study a phenomenon, thereby providing a more comprehensive and robust understanding of the research subject. By triangulating data from different groups, places, and times (data triangulation), involving multiple researchers in the study process (investigator triangulation), applying various theoretical perspectives (theoretical triangulation), and using different methodologies (method triangulation), the researchers

aimed to cross-verify their findings and reduce potential biases. This approach ensures that the insights generated are thorough, credible, and reliable, ultimately supporting effective and impactful research outcomes. In the context of the Qingzhou Ancient City study, triangulation allowed for a well-rounded understanding of service quality, contributing to innovative service design strategies by capturing diverse perspectives and identifying areas for service improvement and innovation.

3.4 Research Design and Methods

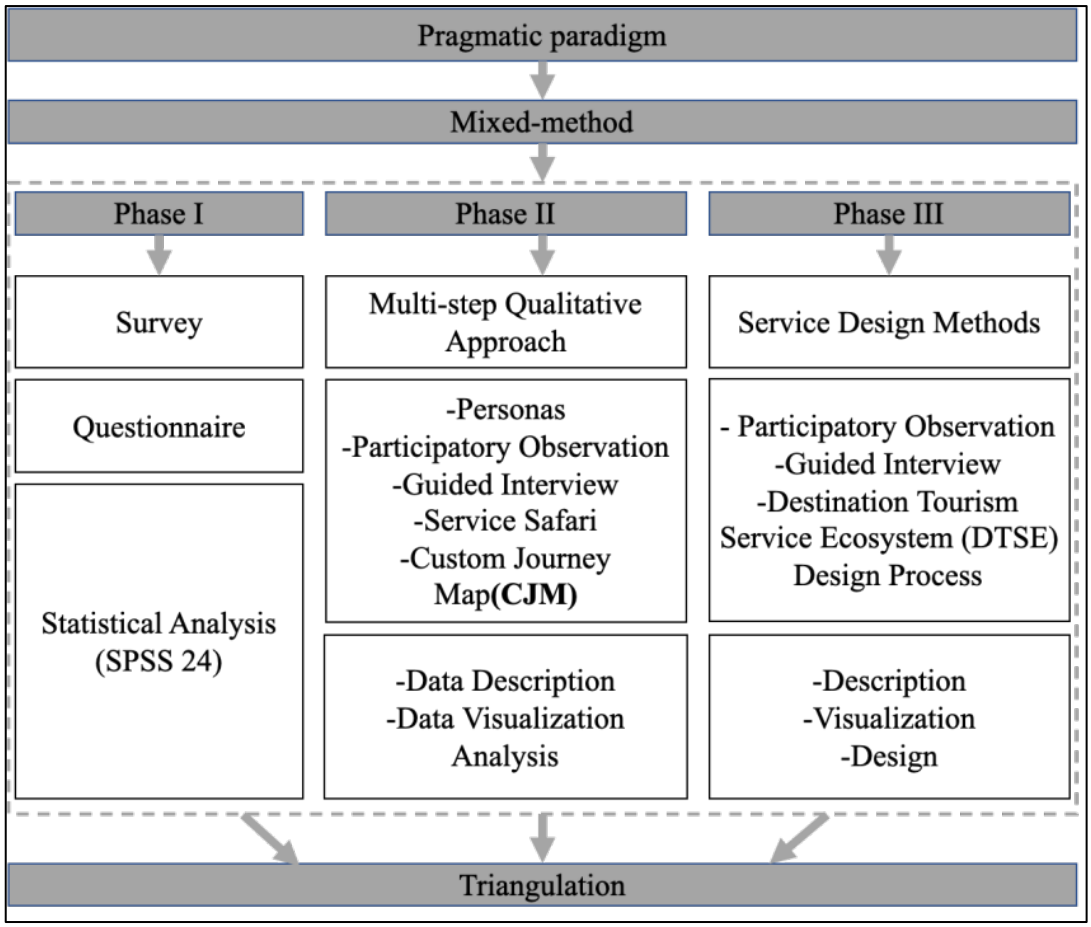


Figure 3.3: Research Design

The research design employed by the author is depicted in Figure 3.3, accompanied by a description of the research methods utilized. Both data collection and data analysis in this study are structured into three stages, with specific details provided.

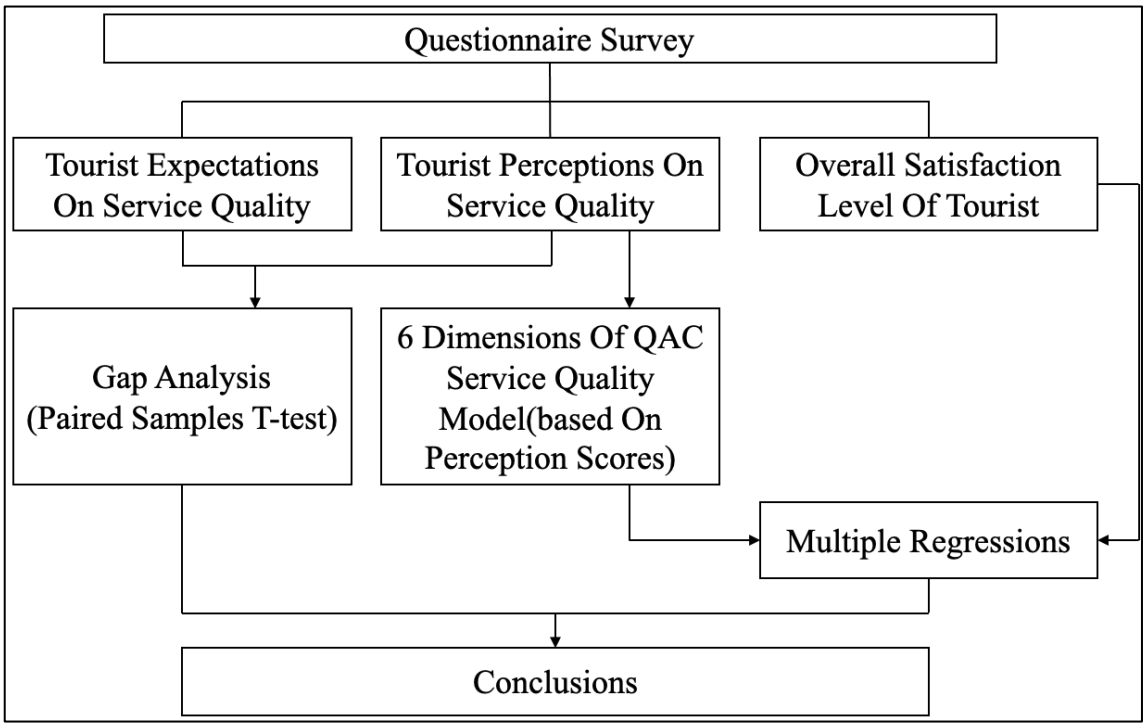


Figure 3.4: Detail of Research Path in Phase One

The first phase involves a quantitative survey aimed at identifying the factors that influence perceived service quality. Quantitative research offers advantages such as reaching a higher sample size, quick data collection, and generalizability of the findings (Kittur, 2023). The survey will be conducted through a questionnaire survey with questions designed to understand the gap between perceived service quality and expected service quality, as well as the relationship between each dimension of perceived service quality and tourist overall satisfaction. Expectation confirmation theory (ECT) plays a key role in understanding consumer satisfaction, especially when evaluating convenience and practicality. The theory emphasizes the key connection between consumers' expectations and actual experiences, and points out that it has a significant impact on satisfaction. In the tourism context, expectation confirmation theory (ECT) has been used to build models to explore the factors that affect tourists' satisfaction by analyzing constructs such as travel motivation, service quality, travel experience, and post-trip behavioral intentions (Yuan, 2024).

In response to the first research question, the researchers first constructed a measurement model to measure the service quality of Qingzhou Ancient City tourism, and proposed six measurement dimensions based on the research of previous scholars. After exploratory factor analysis, six factors affecting the service quality of Qingzhou Ancient City tourism were identified. After that, the researchers also conducted a series of studies using the measurement model. The paired sample T test was used to verify the gap between the perceived service quality and the expected service quality of Qingzhou Ancient City tourism. Regression analysis was used to verify the influence relationship between the perceived service quality dimensions of Qingzhou Ancient City and overall satisfaction.

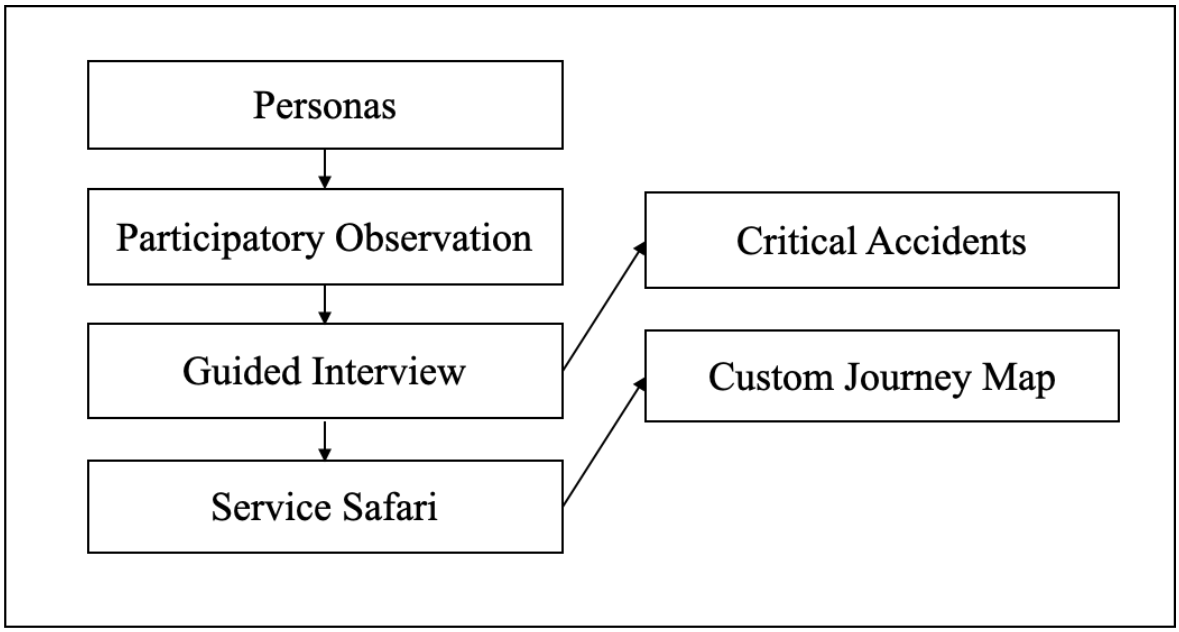


Figure 3.5: Detail of Research Path in Phase Two

Phase Two (Figure 3.5) involves a multi-step qualitative method to examine the tourism service experience. Using multiple research methodologies in business research can clarify key issues, highlight novel ideas, emerging trends, and uncharted territory for future research (Lo, 2020). This includes developing personas to represent different types of tourists. Tourist behavior and interactions with services will be monitored through

observation. Guided interviews will be conducted to gather critical accidents. The service safari method will be used to experience services as a tourist and identify pain points. Finally, customer journey mapping will be done to highlight key touchpoints and opportunities for improvement.

In the third research phase (Figure 3.6), the goal is to construct a service design strategy model for the tourism service ecosystem of Qingzhou ancient city. First, the interview method is used to conduct an investigation and propose the core concept of tourism services in Qingzhou ancient city. Secondly, based on the various dimensions of the tourism service ecosystem, participatory observation is used in combination with the interview method to identify the existing service touch points in Qingzhou ancient city. Thirdly, based on the dimensions of tourists' expectations for Qingzhou ancient city, a service design opportunity point model for the tourism service ecosystem is designed. Finally, based on the tourism service brand of Qingzhou ancient city, peak touchpoints are set up before, during and after the tour. In order to achieve peak touch points and achieve the tourism service brand, co-creation among different stakeholders can realize the construction of the service design strategy framework for the tourism service ecosystem.

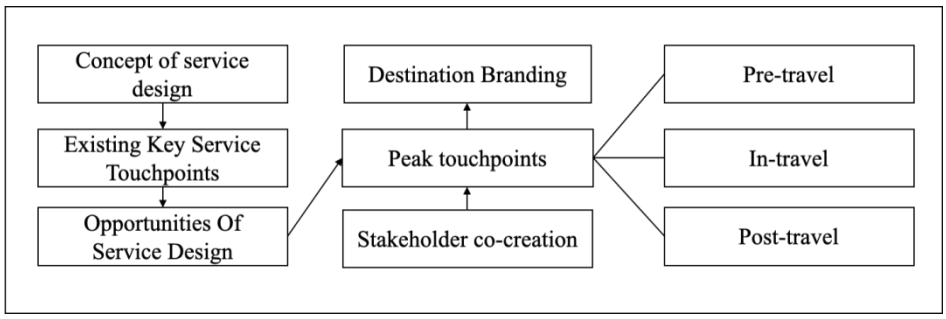


Figure 3.6: Detail of Research Path in Phase Three

In summary, the mixed-method approach provides a balanced and comprehensive strategy for addressing the research questions, ensuring that both the breadth and depth of

data are captured. This approach not only enhances the validity and reliability of the findings but also aligns perfectly with the iterative and user-centered principles of service design.

3.5 Research Phase

The research design of this study incorporates mixed research methods, dividing the study into three stages. Different research methods are employed in each stage based on the distinct research questions and purposes. The subsequent sections will provide introductions, discussions, and explanations for each of the three-stage mixed methods strategies. An overview of the data collection plan is presented in Table 3.1.

In the initial stage, data collection was conducted through a questionnaire survey, with subsequent analysis involving both descriptive statistical analysis and inferential statistical analysis. The second phase employs a multi-step qualitative approach to data collection, encompassing personas (utilizing the service design method), participant observation, guided interviews, service safaris (applying the service design method), and customer journey maps (utilizing the service design method). Data analysis in this phase involves visual presentation based on content analysis. The third stage incorporates additional service design methods based on data gathered in the initial two stages for both data collection and analysis, including customer journey maps and service blueprints.

Table 3.1: Data Collection Plan

Phase	Method	Why	With Whom/ Number	When/ Where	How
1.0	Survey	To identify factors affecting perceived service quality and pre-visit expectations of tourists in Qingzhou ancient city. This aligns with the SERVQUAL model, measuring the gap between expectations and perceptions.	Tourists who have travelled to the ancient city of Qingzhou, aged 18-65, with varying travel frequencies. Aim for 450 valid questionnaires.	September 2022 to October 2022	Use the online survey tool of the Internet questionnaire: Questionnaire Star. A total of 500 questionnaires were collected
2.0	Multi-step qualitative research method				
2.1	Personas (SD Method)	Need to go deep into the daily life of the target group and examine their attitudes, values, characteristics and needs. Outline a more authentic and distinct target audience.	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	October 2022 to November 2022	Interview and record
2.2	Observation (participatory observation)	Need to observe tourists in the Old City Scenic Area and review touchpoints along the journey. Special focus on emotion, body language and the senses.	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	From November 2022 to December 2022 Qingzhou Ancient City	Choose a recommended travel route, follow the observed people from entering to leaving the scenic spot, and observe their service experience

Table 3.1 continued

2.3	Guided interview	Need tourists to evaluate touchpoints, identify key events, and talk about their experience	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	From November 2022 to December 2022 Qingzhou City	All interviews are recorded and edited
2.4	Service Safari (SD Method)	The researchers actually conducted service experience in person to find out what they think is good and bad service experience.	3 university teachers (including the author himself)	From October 2022 to November 2022 Qingzhou City	Take pictures, effects or audio recordings
2.5	Customer Journey Mapping (SD Method)	Need to visualize service experience results and categorize experiences into experience cues.	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	From November 2022 to December 2022 Qingzhou City	Distribute a unified CJM to respondents, and mark the experience of touch points according to their own feelings
3.0	Observation (participatory observation)	Need to identify existing service touchpoints in QAC.	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	From November 2022 to December 2022 Qingzhou City	Choose a tourist route at will, follow the observed people from entering to leaving the scenic spot, and observe their service experience

Table 3.1 continued

3.1	Guided interview	Need to capture the needs expectation; Need to Identify existing touchpoints and critical accidents.	Target group: 7 college students and 5 university teachers randomly selected with stipulations of varying travel experiences and interests in cultural tourism.	From November 2022 to December 2022 Qingzhou City	All interviews are recorded
3.2	SD-CJM	Need to repurpose existing service touchpoints and opportunities for service design. Visual Service Design Framework.	Design based on the data in the above stages		
3.3	SD-service blueprint	Need to visual service ecosystem service design strategy to achieve value co-creation.	Design based on the data in the above stages		

3.5.1 Phase I - Survey and Statistical Analysis

Surveys provide evidence on practice, attitudes, and knowledge, with valid and reliable results, an adequate response rate, and appropriate precision (Story et al. 2019). A survey is often the most direct and cost-effective way to solicit people's opinions, but it is subject to various types of biases (Hui et al. 2019). Statistics is the science of collecting, arranging, displaying and analysing data with the aim of exploring the inherent quantitative regularities of the data. The statistical aspect of this study involves two main components. First, it explores the development and application process of research tools, specifically focusing on the construction of the ancient city tourism service quality evaluation model and

the design of the questionnaire. Second, the statistical analysis is detailed, including a description of the tests employed and their underlying assumptions.

3.5.1.1 Survey on visiting tourists

This chapter will provide an overview of the construction of the ancient city tourism service quality evaluation model and the process of questionnaire design.

i. Survey design

a. Questionnaire structure and indicators

The questionnaire survey aims to gauge tourists' perceived level of service quality for tourism services in the Qingzhou ancient city scenic spots. It also serves to validate the developed evaluation model for tourism service quality in ancient city scenic spots and assess the influence of service quality dimensions on tourists' satisfaction. The survey encompasses five sections, and participants must meet the screening criterion of having visited the Qingzhou ancient city scenic spot (the appendix 4A for questionnaire details).

The initial section of the survey focuses on gathering demographic information from tourists. This includes details such as gender, age, occupation, education level, personal income, source of tourists, number of visits, companions, and travel methods.

The second section of the survey is designed to collect data on tourists' expectations regarding the service quality of an excellent ancient city scenic spot. The survey includes 23 measurement items, which have been adjusted to suit the context of an ancient city scenic spot.

The third section of the survey is focused on collecting data regarding tourists' perceived service quality when visiting the Qingzhou ancient city scenic spot. The

measurement items in this section align with those presented in the second part related to tourists' expectations.

Respondents were instructed to assess both expected and perceived service quality using a 5-point Likert scale. Each set of questions, consisting of 23 items for both expected and perceived service quality, utilized a scale where respondents could choose from five options. The response scale ranged from 1 to 5, with the leftmost option assigned a score of 1, progressing to 5 for the rightmost option. The scale included a pair of adjectives with opposite meanings at the two ends.

In the section on expected service quality, tourists were asked to assess the importance of the items listed, considering whether these items were crucial to the excellent service characteristics of the scenic spots. This assessment was to be based on their past experiences with the service quality of the scenic spots during their travels. Respondents used a 5-point scale, where 1 represented "very unimportant," 2 was "unimportant," 3 stood for "average," 4 denoted "important," and 5 indicated "very important."

In the section on perceived service quality, respondents were asked to provide a score in the box next to each question based on their perception of the service quality at the Qingzhou ancient city scenic spot. This was intended to measure whether tourists' perceptions aligned with the items described in the questions. The scoring ranged from 1 to 5, where 1 represented "very disagree," 2 indicated "disagree," 3 stood for "general," 4 denoted "agree," and 5 meant "very agree."

In the fourth part of the survey, respondents were prompted to assess their satisfaction with the service quality at Qingzhou ancient city scenic spot. The scoring system ranged from "dissatisfied" to "satisfied," with 5 levels in between.

In the fifth part of the survey, respondents were asked to assess their willingness to revisit and recommend Qingzhou ancient city scenic spots. The scoring system ranged from "unwilling" to "willing," with 5 grades in between.

The indicators for tourists' perception of service quality in ancient city scenic spots were determined through a comprehensive process. Initially, items were obtained from the literature analysis. Researcher take the dimensional indicators of the measurement model proposed by Parasuraman et al. (1985) as the basis, and combine the indicators of the ancient town scenic spot tourism service quality evaluation model proposed by Zhang (2020) and the Biyanshan scenic spot service quality evaluation index system proposed by Che (2020) to form our ancient town scenic spot tourism service quality measurement index system. Subsequently, the indicators were developed (as outlined in Table 3.2). To enhance the content validity of the items, modifications were made based on the suggestions provided by relevant experts and members of the research team. The adjustments were aimed at strengthening the content validity index, ensuring that the indicators adequately capture the factors influencing tourists' perceived service quality in tourism.

This meticulous process involving literature analysis, expert input, and research team collaboration aimed to establish robust indicators that comprehensively represent the dimensions of service quality perceived by tourists visiting ancient city scenic spots.

Table 3.2: Service Quality Measurement Dimensions and Indexes

No.	*Responsiveness (5 items)*
D3	The employees of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner
D2	The service staff of Ancient City Scenic Area can quickly and accurately handle your complaints
D4	The service staff of the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties
D1	The staff of the ancient city scenic spot can respond to the needs of tourists in a timely manner
D5	The ancient city scenic spot fulfills the service promised to tourists in a timely and accurate manner
	Reliability (4 items)
C2	The tour order of ancient city scenic spot is good
C1	Ancient City Scenic Area has good security conditions
C3	There are obvious warning signs for tourists in the ancient city scenic area
C4	The various facilities and surrounding environment in the Ancient City Scenic Spot make you feel safe
	Assurance (4 items)
E3	The shopping environment in Ancient City Scenic Area is good and can operate with integrity
E4	The staff of the ancient city scenic spot have strong communication skills and an accurate understanding of tourists' needs

Table 3.2 continued

E5	publicity is in line with the actual feelings of tourists
E2	Ancient City Scenic Area has convenient internal transportation
	Empathy (3 items)
F3	ancient city scenic spot staff provide personalized service for tourists
F2	ancient city scenic spot service staff can take the initiative to understand your needs and preferences
F4	The service staff in the ancient city scenic area are enthusiastic and willing to help tourists
	Tangibles (4 items)
B2	Tourist facilities such as catering and accommodation are complete and comfortable
B1	Ancient City Scenic Area has complete infrastructure (such as toilets, trash cans, sightseeing cars, and others.)
B5	The internal road design of scenic spot is reasonable
B6	All kinds of signs and signs in the ancient city scenic area are eye-catching, and the instructions are clear
	Historical and cultural (3 items)
A4	The local residents in the scenic area live in the original ecology and the folk customs are simple
A3	The historical and cultural buildings in the scenic area are well preserved
A5	Catering in the scenic area is full of regional cultural characteristics

b. Pilot test

In September 2022, the author conducted a pre-test survey based on theoretical research. The method employed was an online questionnaire survey, targeting tourists who had visited the ancient city of Qingzhou. The questionnaire was distributed using questionnaire software (https://www.wjx.cn/), resulting in the collection of 140 questionnaires. Out of these, 128 were deemed valid, yielding a valid questionnaire recovery rate of 91.4%. The primary objective of the pre-investigation was to ensure the reliability and clarity of the content through the analysis of questionnaire reliability and validity. Invalid items, along with any confusing and biased questions, were eliminated to further enhance the effectiveness and scientific rigor of the questionnaire, leading to the final scale.

c. Questionnaire reliability analysis

Reliability reflects the consistency or stability of measurement results; higher reliability indicates more credible measurements. Four commonly used reliability analysis methods include the split-half reliability method, test-retest reliability method, parallel forms reliability method, and Cronbach's α reliability coefficient method. The Cronbach's α coefficient is the most widely used reliability coefficient, particularly suitable for understanding tourist attitudes and opinion-style Likert scale questionnaires. This study uses Cronbach's α coefficient to assess the consistency among the scores of each item in the scale. The specific evaluation criteria for Cronbach's α coefficient are shown in Table 3.3 below.

Table 3.3: Cronbach α coefficient criterion

Range of α values	The Reliability Meaning of α Value
α >0.8	Very high
0.7<α <0.8	Acceptable
0.6<α <0.7	Barely can
0.3<α 0.6	Relatively low
α< 0.3	Very low

According to Table 3.4-3.5, the Alpha coefficients of each dimension of the service quality scale are above 0.70. Therefore, this questionnaire exhibits a considerable degree of stability and reliability, making it suitable for use in formal surveys.

Table 3.4: Reliability Statistics

Crobach's Alpha	Cronbach's Alpha Based on Standardized Iterms	N of Iterms
0.971	0.972	23

Table 3.5: Item-Total Statistics

Test Items (The no. based on table 3.3)	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A3	0.649	0.971
A4	0.659	0.97
A5	0.669	0.97
B1	0.668	0.97
B2	0.724	0.97
B5	0.794	0.969
B6	0.762	0.97
C1	0.809	0.969
C2	0.849	0.969
C3	0.808	0.969
C4	0.78	0.969
D1	0.826	0.969
D2	0.862	0.969
D3	0.824	0.969
D4	0.795	0.969

Table 3.5 continued

D5	0.792	0.969
E2	0.731	0.97
E3	0.788	0.969
E4	0.811	0.969
E5	0.797	0.969
F2	0.692	0.97
F3	0.682	0.97
F4	0.765	0.969

d. Formal Investigation

The data collection period spanned approximately 16 days. This questionnaire was conducted using China's well-known online questionnaire survey software (https://www.wjx.cn/). Tourists can scan the QR code provided by the author to reach the questionnaire filling page. In October 2022, the author conducted the formal questionnaire survey for this study, building on the insights gained from the pre-survey. Respondents were selected through random sampling, and the survey was administered using the online questionnaire platform Questionnaire Star. If a respondent had not visited the Qingzhou ancient city scenic area, they were instructed not to fill out the questionnaire. A total of 500 questionnaires were collected during the entire survey process.

The next step in the data analysis process involved data cleansing. Data cleaning and pre-processing are crucial steps in ensuring the reliability and accuracy of data for subsequent analysis, helping derive meaningful insights. Data cleaning involves the removal of redundant, unnecessary, or erroneous information, ensuring data quality and providing a reliable foundation for analysis. In this study, the following steps were taken for data cleaning: removing duplicate information, filling in missing values, correcting erroneous values, deleting outliers, and standardizing the data format. After completing the data cleaning process, 450 valid questionnaires remained, resulting in a recovery rate of 90%.

3.5.1.2 Statistical data analysis

Statistics is the science of collecting, arranging, displaying and analysing data with the aim of exploring the inherent quantitative regularities of the data. With the help of statistics, researchers can summarize data, measure correlations between variables, and infer populations from samples (Babbie, 2020). This study carried out statistical analysis with the support of Statistic Package for Social Science (SPSS) 24 software, and carried out a number of tests and analysis, as follows:

i. Exploratory factor analysis

Factor analysis is mainly used in the exploratory stage of scale development data analysis. By analysing the structure between variables, the original many index variables are reduced and synthesized into a few that can explain most of the information of the original variables. common factors, thereby simplifying variable dimensionality. This study mainly uses principal component analysis and orthogonal rotation method to conduct factor analysis on the original survey data.

ii. Descriptive Analytics

Descriptive statistics are simply summaries of observations in a sample. Descriptive statistical analysis mainly focuses on frequency statistics, frequency analysis, mean value calculation, contingency table analysis and corresponding graphic display for the research objects. These analyses aim at providing basic eigenvalues to describe the basic facts of the research object (Xie, 2018).

iii. T test

The purpose of the two paired sample T-test is to use paired samples from two populations to infer whether there is a significant difference in the means of the two populations. The idea is: first, calculate the difference between each pair of observations for the two groups of samples to obtain a difference sample; then, use the difference sample to infer whether the difference between the two population means is significant by testing whether its mean is significantly 0. Significantly 0. If the mean of the difference sample is significantly different from 0, the mean of the two populations can be considered to be significantly different; conversely, if the mean of the difference sample is not significantly different from 0, it can be considered that the mean of the two populations does not exist Significant differences. In this study paired samples t-test was used to determine the gap between perceived service quality and expected service quality.

In this study, the paired samples T-test was used to determine the gap between perceived service quality and expected service quality. By calculating the p-value, we can objectively assess whether the differences in service quality perceptions are significant. This helps in understanding whether the service improvements are needed and where the specific gaps lie. Using the p-value ensures that the conclusions drawn about service quality

differences are based on robust statistical evidence, making the findings reliable and actionable.

Table 3.6: The Meaning of Paired Sample T test Sig. value

Sig. range of value	Sig. meaning of value
Sig. <0.05	Significant difference
Sig. >0.05	No significant difference

iv. Multiple regression analysis

Social researchers often find that a dependent variable is affected by multiple independent variables at the same time. Multiple regression analysis is a good tool for analysing this situation. Based on tourists' perception scores, the six dimensions of the service quality model of the ancient city scenic spot will be applied to multiple regression to determine the impact and relative importance of each dimension in determining tourists' overall satisfaction with the ancient city scenic spot.

3.5.2 Phase II - Multi-steps Qualitative Research

This study adopts a multi-step qualitative research method (Figure 3.7) comprising five distinct components: personas, observations, guided interviews, service safaris, and CJM. This comprehensive approach is designed to tackle the intricate and intangible nature of the service experience. Notably, a similar combination of these approaches has demonstrated success in a previous study conducted at a Gold Coast theme park in Australia (Trischler & Zehrer, 2012). Using multiple qualitative data analysis approaches (constant

comparison, discourse, and discourse analysis) enhances analysis saturation, increasing verstehen (understanding) in qualitative research (Sechelski & Onwuegbuzie, 2019).

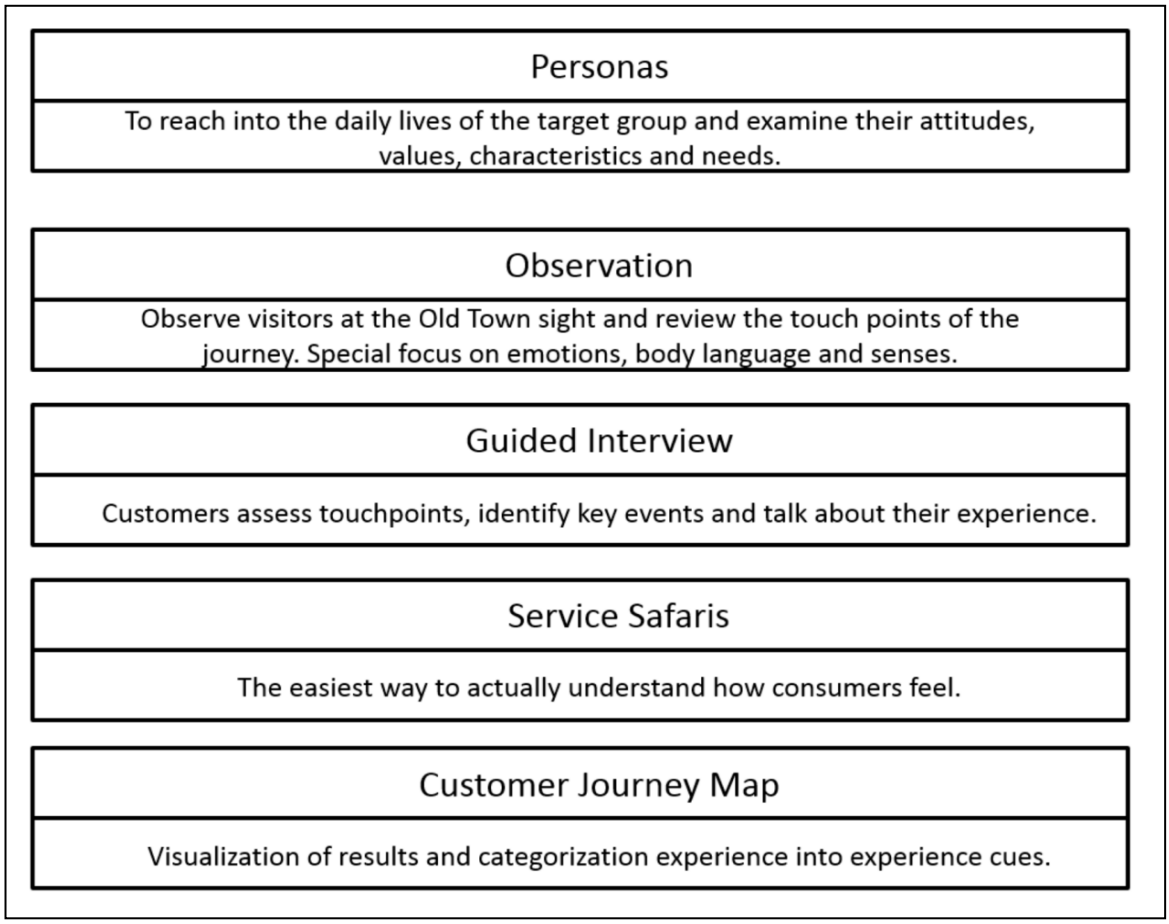


Figure 3.7: Multi-step Approach to Analysing the Service Experience

3.5.2.1 Persona

Personas represent a novel approach in service design, gaining recognition in user-centered design methodologies for providing comprehensive insights into tourist attitudes, behaviors, and interests. Incorporating personality traits into personas can influence conceptual design, helping software engineers to tailor designs to the needs of specific user personalities (Anvari, et al. 2017). Personas, when combined with other design methods like observations and collaborative service mapping, provide deep insights into the customer's broader lifeworld context, supporting a holistic analysis of the customer experience

(Trischler, 2018). This method involves the analysis of archetypes of target groups, offering detailed descriptions of user behaviors, values, and needs. Recognized as a valuable tool by designers, personas facilitate a continuous exchange of insights and experiences related to user values and needs (Hu, 2019), enabling a more profound analysis and understanding of users (Lidwell et al., 2010). Through the creation of authentic and distinct target audience profiles, designers can effectively address and satisfy user needs (Stickdorn & Schneider, 2010). Typically, the fundamental information for constructing a persona is conveyed through text or images, synthesized to present a comprehensive portrait of the character (Hu, 2019). In AI applications, personas can be adapted to support the development of human-centered AI interfaces, ensuring that the technology aligns with user expectations and needs (Holzinger et al. 2022). Personas are widely used across multiple domains, including software development, healthcare, and higher education, demonstrating their versatility and broad applicability (Salminen, 2022).

As teenagers are typically opinion leaders in their families, particularly with regard to leisure activities (Baker, 2001), tourists representing this segment were selected to analyze the qingzhou ancient city experience. The primary target groups for this study comprises college students and teachers from three prominent educational institutions situated in Qingzhou City. The city is home to three universities, one at the provincial level and two at the municipal level. These academic institutions attract a diverse demographic of young individuals hailing from various regions in China. They often visit Qingzhou Ancient City scenic area on weekends or holidays. Given their frequent visits to the ancient city's scenic spots, this demographic group serves as a valuable and relevant cohort for understanding and assessing the tourism service experience in Qingzhou City.

Two key criteria guided the selection of the target group for this study. Firstly, participants needed to have visited the ancient city scenic spot at least once. Secondly, the focus was on students and teachers from local colleges and universities in Qingzhou City.

3.5.2.2 Observation - Participatory Observation

Applies concepts from environmental psychology to understand how the physical environment influences tourist behavior and perceptions. Environmental psychology, as discussed by Gifford (2007), explores the interplay between individuals and their surroundings. In tourism contexts, it helps understand how physical and social environments influence visitor experiences and behaviors. Observation can be categorized into participatory observation and non-participatory observation. This study adopts participatory observation, a method wherein researchers immerse themselves in the subjects' lives for observation, predominantly employed in the "exploration" stage of service design. Tailored to specific research questions and contexts, this method unfolds within a designated setting. Throughout the observation period, researchers not only scrutinize individuals' actions but also pay attention to their body language, gestures, and any actions they refrain from (Hu, 2019). Participatory observation techniques like netnography can help develop appropriate response strategies by understanding tourists' natural perceptions and market segments in rural tourism (An & Alarcón, 2021). Participatory observation in tourism supports inclusive and sustainable development(Ottaviani, 2023). In this study, observation serves as the second step, aiding observers or designers in gaining a more nuanced understanding of the personas (Stickdorn & Zehrer, 2009).

In conducting participatory observation for this study, specific criteria were established to ensure systematic and comprehensive data collection. Firstly, participant immersion and engagement were closely monitored. This involved assessing the degree to

which participants immersed themselves in the activities and surroundings, noting the types and frequency of their interactions with the environment and services. Observers recorded emotional responses and engagement levels throughout the route to understand participants' overall experience.

Behavioral observations constituted another critical criterion. Specific actions taken by participants at each location were noted, including interactions with exhibits and usage of tourist services. Additionally, body language and gestures indicating interest, confusion, satisfaction, or dissatisfaction were documented. Observers also paid attention to any actions or services that participants avoided or showed reluctance towards, providing insight into potential areas of improvement.

Interactions with service providers were scrutinized to gauge the quality of the tourism experience. The frequency and quality of interactions with service staff, such as those at the Tourist Service Centre or cultural pavilion guides, were recorded. Observers documented the nature of queries and responses between participants and service providers, noting the staff's responsiveness and ability to address participants' needs and questions.

Participants' physical and emotional responses were carefully observed. This included noting any signs of physical comfort or discomfort, such as fatigue or frustration, as well as emotional reactions to different aspects of the route. These observations provided a deeper understanding of the participants' overall satisfaction and areas where the service experience could be enhanced.

Environmental and contextual factors were also considered. Observers noted how environmental conditions, such as weather and crowd levels, influenced participants'

experiences. Contextual elements, such as the time of day or special events during the visit, were also documented to understand their impact on the observation.

Finally, the overall service experience was evaluated. General impressions and feedback about the service quality at each location were gathered. Observers identified notable pain points or areas where the service experience could be improved, as well as positive highlights and particularly enjoyable aspects of the route.

To implement these criteria effectively, participants were provided with a pre-observation briefing, including basic information about the route and comprehensive background details. Observations were documented using standardized observation sheets or digital tools, ensuring consistency and thoroughness. Each participant underwent independent observation from entry to departure to capture diverse perspectives and comprehensive data.

For the purpose of this study, the "Fine History Route," a recommended tourist itinerary available on the public website of Qingzhou Ancient City Tourist Attractions, was selected as the focal point for observing the service experience. The route spans the following locations: Fucai Gate, Tourist Service Centre, Memory of the Ancient City Cultural Pavilion, Li Cheng Memorial Hall, Ouyang Xiu Memorial Hall, Ouyuan Garden, Qingzhou Prefecture Tribute Courtyard, and exit.

This route is documented to encompass a 20 km distance and requires approximately 4 hours to complete. To enhance the observational context, participants were briefed on the basic information about the route and were subsequently provided with more comprehensive background details, taking into account their daily lives.

During the study, each participant group underwent independent observation, starting from the moment of entry into the landscape until their departure.

3.5.2.3 Guided interview

To gain a deeper understanding of tourists' behaviors and experiences in Qingzhou Ancient City, guided or in-depth interviews were conducted. These interviews complement observational data, allowing participants to articulate their experiences and perspectives in their own words, which is crucial for a holistic understanding (Gummesson, 2005). In-depth, semi-structured interviews are a qualitative research method that facilitates the co-construction of knowledge between the researcher and the participant, offering insights into their social worlds (Barrick, 2020).

In this study, the researcher employed the Critical Incident Technique (CIT) to identify specific interactions between customers and service firm employees that are particularly satisfying or dissatisfying (Bitner et al., 1990). Combining CIT with content analysis effectively identifies critical emotional behaviors in salesperson-customer interactions, aiding in decision-making (Klein, 2020). These critical incidents provide valuable insights into service quality perceptions. Guided interviews also help uncover segments of the service process that significantly deviate from the desired service experience. According to the expectancy-disconfirmation paradigm (EDP) by Rust and Oliver (1994), such deviations often result in negative disconfirmation, impacting overall customer satisfaction. By integrating these theories, guided interviews capture a comprehensive view of the tourist experience, identifying critical touchpoints and areas for service improvement.

To gain a comprehensive understanding of the experiences of the two target groups, structured one-to-one interviews were conducted at the conclusion of the "Fine History

Route" tour in Qingzhou Ancient City. The interviews were designed to explore motivations, beliefs, attitudes, and feelings observed during the tour. Each interview lasted 60-70 minutes and was recorded for accuracy. The interviewer-facilitator used a stepped interview technique, posing additional sub-questions based on the participants' responses to ensure a deep understanding of their experiences. Scholars (Miles & Rowe, 2004) advocate for the effectiveness of this method in early-stage UX research for eliciting underlying values and feelings. The collected data were analyzed to identify key factors related to sources of expectation, satisfaction, dissatisfaction, and post-departure behavior. Detailed interview results can be found in the appendix.

3.5.2.4 Service safari

The journey of service safari entails researchers venturing into the field for immersive experiences, advocating for methods that uncover both positive and negative service encounters (Hu, 2019). Researchers stand in the customer's perspective and experience the service from the customer's perspective, which is an early qualitative research method, namely service safari. The service safari method can establish empathy with customers in the early stage of the design process by directly experiencing the service, thereby discovering the strengths and weaknesses of the service (IxDF, 2024). Service safari serves as the most direct means for team members to genuinely grasp consumer sentiments. By conducting extensive observations, team members can discern common consumer needs and identify opportunities for service innovation. The method involves several steps: firstly, identifying the services to explore. Subsequently, submitting the exploration plan to the team. The third step entails forming a team of 2-4 people to undergo the service experience, with members documenting their experiences through written records and appropriate visual or

auditory materials. Finally, the results of the safari are compared, and conclusions are drawn to contribute to the innovation process (Hu, 2019).

To ensure a comprehensive exploration of the tourism experience in the ancient city of Qingzhou, the researchers, including the author, conducted an on-site service exploration tour following the "Fine History Route."

3.5.2.5 Customer Journey Map

In the final step, to enhance the clarity of the service experience and visualize ideas and processes, the utilization of a customer journey map is recommended (Stickdorn & Schneider, 2010; Mager, 2009). A customer journey map is a method that depicts a user's journey by illustrating various touchpoints where interaction with a service occurs. This approach aids designers in comprehending complex customer experiences and facilitates the development of products and services aligned with the principles of customer experience, providing value for both customers and developers (Hu, 2019). The customer journey, encompassing multiple interactions across multiple channels, is a growing field in academia and business practice, with personalization, relational needs, and customer journey mapping playing key roles in optimizing experiences (Harris & Veen, 2020). Customer journey monitoring contributes to service sustainability by advancing service innovation, effective channel management, and enabling better resource allocation and service design (Pantouvakis & Gerou, 2022). Service designers employ visualization in service design for several reasons: to articulate their own insights, communicate these insights to customers, and sustain empathy.

As illustrated in Figure 3.7, the framework of the multi-step qualitative approach embraced in this study integrates service design tools and persona research to undertake a

comprehensive analysis of the service experience. Qualitative methods are deemed more suitable than quantitative ones, particularly when scrutinizing and assessing service experiences (Trischler & Zehrer, 2012). It has been contended that crucial insights may elude capture through quantitative techniques (Gummesson, 2006; Lidwell et al., 2010).

This chapter employs a multi-step qualitative method to assess and analyze the tourist experience at Qingzhou ancient city attractions. The aim is to identify service areas that require enhancement and improvement. Using a multi-step qualitative approach can identify five solutions that lead to high levels of customer satisfaction in supply chain management (Russo, et al. 2019).

3.5.3 Phase III - The Service Design Method of DTSE

This chapter introduces the foundation and procedural methodology of destination tourism service ecosystem service design. The chapter is bifurcated into two segments: the first part outlines the conceptual framework employed, while the second part delineates the step-by-step process of service design.

3.5.3.1 Conceptual Framework of Destination Tourism Service Ecosystem

The conceptual framework employed in this chapter comprises three main components: the destination tourism service ecosystem framework, service design blueprint, and customer journey map. These elements are grounded in the conceptual framework of the destination tourism service ecosystem proposed by Gao et al. (2022). The subsequent sections will expound on each component individually.

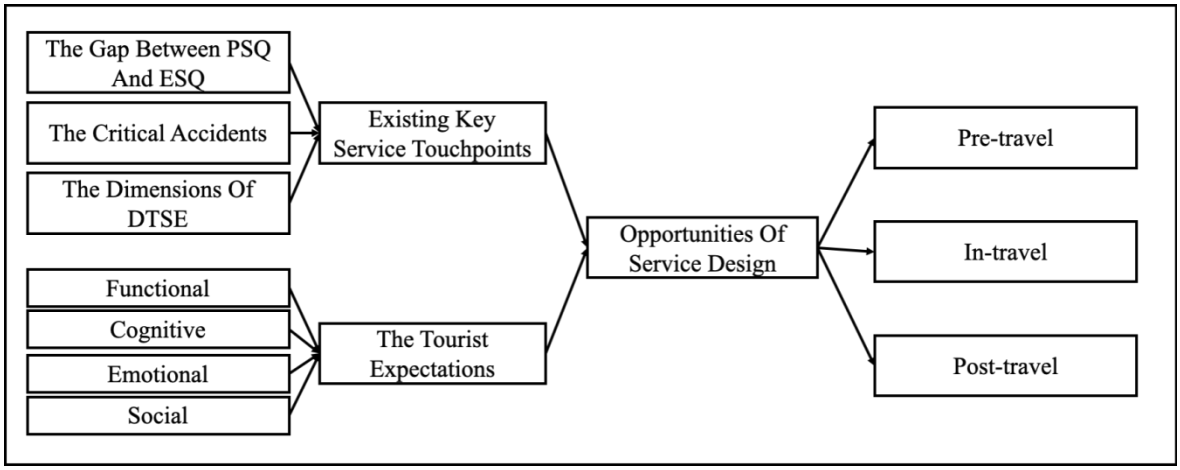


Figure 3.8: Conceptual Model of Service Design Opportunity Design

The conceptual model of service opportunity point design is proposed based on the problems of existing service touchpoints and the dimensions of tourists' expectations. The conceptual model of service opportunity point design is proposed based on the problems of existing service touchpoints and the dimensions of tourists' expectations. The identification of the types of existing service touchpoints is based on the dimensions of the tourism service ecosystem model. The identification of problems of existing service touchpoints is based on the gap between tourists' perceived tourism service quality and expected service quality, as well as critical accidents obtained from interviews. The design goal of service opportunity points is based on the different dimensions of tourists' expectations.

3.5.3.2 Destination Tourism Service Ecosystem Customer Journey Map

A customer journey map is an effective tool for organizing and managing customer experience (Cassia et al., 2020; Lin et al., 2020; Rosenbaum et al., 2017). It visualizes the core process of destination tourism service design, helping to identify touchpoints of key service provision. This map enables a detailed understanding of the action process of key service touchpoints, facilitating the delivery of high-quality services to customers (Lin et al., 2020).

The time blueprint considers tourists' encounters across three stages: before travel, during travel, and after travel (Gyimóthy, 2000). Online reputation plays a crucial role in service design for both pre-travel and post-travel stages. In the pre-travel stage, destination management organizations can engage with tourists through social media for brand communication and participate in their pre-travel planning (Lin et al., 2020; Mi et al., 2019). Providing timely and targeted replies to customer inquiries is an effective way to manage customers, making them feel valued and possibly influencing their travel experience positively (Chatterjee & Mandal, 2020; Shin et al., 2020).

In touchpoint design, identifying potential interaction opportunities is crucial, encompassing various dimensions such as business-to-business (B2B), business-to-consumer (B2C), and consumer-to-consumer (C2C). Additionally, consideration should be given to physical environments (related to the five senses), social environments (organizing events), and media environments (co-producing content for online platforms).

The design of a customer journey map involves two phases. In Phase 1, key touchpoints are identified, planned, and organized based on service elements across all levels of the destination tourism service ecosystem. This includes considering the needs, motivations, and preferences of tourists, proposing opportunities for cross-organizational cooperation to create value. In Phase 2, suitable key touchpoints are selected and sequenced based on the needs of each target customer group, forming multiple customized customer journey solutions.

The choreography of touchpoints, including their sequence, progression, and duration, can be systematically arranged akin to a play structure (Zomerdijk & Voss, 2010) or a story script (Bassano et al., 2019). In the customer journey map, the delivery of services

should identify peak moments, particularly at the commencement and conclusion of the trip. This strategic emphasis on critical moments enhances the overall customer experience.

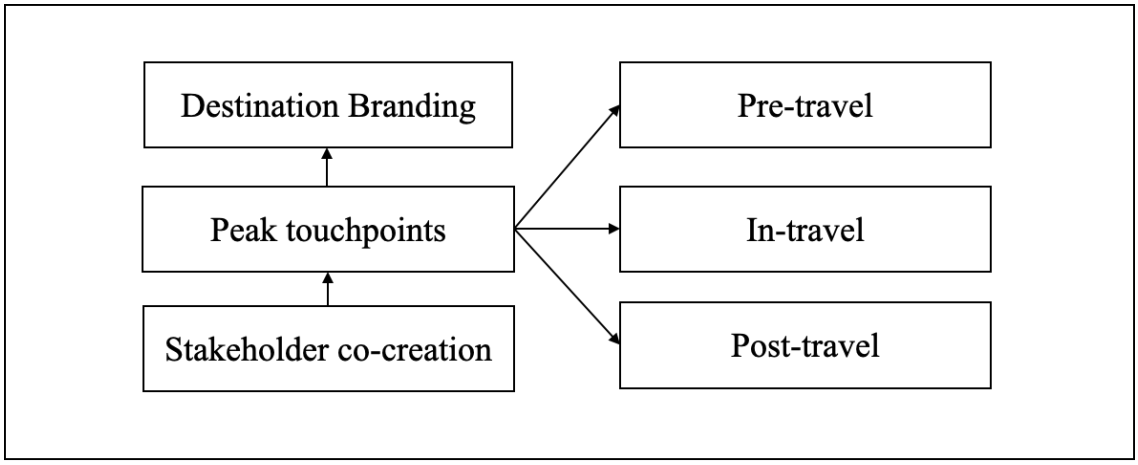


Figure 3.9: Conceptual Model Of Tourism Service Ecosystem Design Strategy

Collective thinking is a fundamental aspect of service design, emphasizing the integration of multiple related service touchpoints. A customer journey map serves as a cohesive whole, weaving together various touchpoints that are interrelated. The integration of these touchpoints is tailored to the specific needs of customer groups, with each touchpoint deriving significance from its relationship with others. The creation of a comprehensive blueprint for destination tourism service design can be a challenging task due to the extensive scope and complexity inherent in destination tourism.

A practical solution to address this complexity is to identify peak touchpoints within the service delivery process. These peak touchpoints play a crucial role in defining the structure of the customer journey. By focusing on designing these peak touchpoints, the destination brand can be efficiently and swiftly realized. This approach allows for a more streamlined and targeted service design process, ensuring that the most impactful aspects of the customer journey are prioritized. The essence of service design strategy lies in the exploration and creation of collaboration opportunities, fostering the value co-creation

within the destination tourism service ecosystem. Various stakeholders are situated at distinct touchpoints, presenting numerous opportunities for interaction among them.

3.5.3.3 Destination Tourism Service Ecosystem Service Design Process

Based on the conceptual model outlined above, the identification and design of key touchpoints represent the core of destination tourism service ecosystem service design. Derived from these models, researcher identify four stages in the ecosystem service design for tourism services in destinations. The first stage involves determining the concept of service design. In the second stage, existing tourism service touchpoints are identified. The third stage entails exploring opportunities for tourism service design. The fourth stage focuses on the service design of the visual tourism service ecosystem.

3.6 Chapter Summary

This chapter outlines the research methodology adopted for the study, structured around Saunders' research onion diagram. The research follows a pragmatic philosophy and employs a mixed-method approach, incorporating both qualitative and quantitative techniques. This approach emphasizes practical solutions and allows for the comprehensive use of various methods to effectively address the research questions.

The methodology is divided into three main sections: Research Paradigm, Research Strategy, and Research Phases. The Research Paradigm section discusses the epistemological and ontological assumptions underlying the study, emphasizing a pragmatic approach that combines different methodologies. The Research Strategy section elaborates on the mixed methods strategy, including triangulation to enhance the robustness of the findings by integrating qualitative and quantitative data for a comprehensive understanding.

The Research Phases are conducted in three distinct stages. Phase I involves a survey and statistical analysis, including the construction of a tourism service quality evaluation model, hypothesis testing, and various statistical analyses such as exploratory factor analysis, T-tests, and multiple regression analysis. Phase II employs multi-step qualitative research methods like persona development, participatory observation, guided interviews, service safari, and customer journey mapping to capture nuanced tourist experiences. Phase III focuses on developing a service design strategy model for Qingzhou Ancient City, identifying existing service touchpoints, exploring design opportunities, and constructing a framework to facilitate value co-creation among stakeholders. This chapter establishes a solid methodological foundation, ensuring the reliability and validity of the study through a detailed approach to data collection and analysis.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Overview

This chapter is organized into three parts, corresponding to the three stages of data collection outlined in Chapter Three. The first part utilizes exploratory factor analysis to identify factors that influence the quality of tourism services in Qingzhou Ancient City. It examines the gap between tourists' perceptions of service quality and their expected service quality, with multiple regression analysis used to assess the impact of these factors on customer satisfaction. The second part employs a multi-step qualitative research method to analyze tourist experiences, focusing on visualizing and scrutinizing areas in Qingzhou Ancient City's tourism service experience that require improvement and enhancement.

In the final part, customer journey maps and service blueprints are applied for service design. This section elaborates on and analyzes the formation process of the service design strategy framework for the Qingzhou Ancient City tourism service ecosystem.

4.2 Phrase I- The Factors that Affect the PSQ of Tourists in QAC

4.2.1 Reliability and Validity Analysis

4.2.1.1 Reliability Analysis

Reliability, also known as reliability, is an effective analysis method to evaluate whether the questionnaire is stable and reliable. At present, the commonly used method for measuring internal consistency in scientific research is the Alpha coefficient method created by Cronbach in 1951, and the evaluation standard is consistent with the front-side reliability

evaluation standard. Table 4.1 is the reliability analysis results of the service quality evaluation part of the questionnaire in this study.

Table 4.1: Reliability Analysis Results

Dimension	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Historical and cultural	0.737	0.740	3
Tangibility	0.736	0.737	4
Reliability	0.805	0.805	4
Responsiveness	0.882	0.882	5
Assurance	0.786	0.790	4
Empathic	0.802	0.802	3

4.2.1.2 Validity Analysis

Validity analysis is simply the validity and accuracy of the questionnaire design, which is used to measure whether the design of the questionnaire items is reasonable. There are three main types of validity: content validity, criterion validity, and construct validity.

The research in this study is based on the mature Likert scale in the research, combined with the theme of this investigation and then modified appropriately, so it can have good content validity. Criterion validity is rarely used in actual analysis, so this study will focus on the analysis of the questionnaire's construct validity, using the Kaiser-Meyer-Olkin (KMO) sample measure and Bartlett's sphericity test in exploratory factor analysis.

Bartlett's spherical test value P<0.05 means that there is a very significant correlation between variables.

Table 4.2: KMO sample test value and Bartlett P value

Detection category	Range of values	Application of factor analysis
KMO value	>0.9	Very suitable
	0.8<KMO <0.9	Very suitable
	0.7< KMO <0.8	Suitable
	0.6< KMO 0.7	Barely fit
	0.5< KMO<0.6	Not suitable
	<0.5	Not suitable
Bartlett P value	Less than or equal to 0.05	Suitable

From the data in Table 4.3, it can be seen that the KMO test statistic of the survey sample data in this thesis is 0.933, and the Bartlett test statistic Sig value is 0.000, indicating that the questionnaire design of Qingzhou ancient city tourism service quality is effective and has a high degree of accuracy. At the same time, the KMO value is greater than 0.9, and the Bartlett test statistic Sig value is less than 0.05, indicating that the questionnaire in this study is very suitable for factor analysis.

Table 4.3: KMO and Bartlett's Test

KMO		0.933
Bartlett	Approx. Chi-Square	4500.721
	df	190
	Sig	0.000

4.2.2 Descriptive Analysis

4.2.2.1 Demographic Profile

The demographic profiles of the respondents are summarized in Table 4.4. Among the 450 participants, a majority were female (81.6%), while 18.4% were male. The age distribution indicates that the largest portion of respondents fell between 18 and 25 years old (27.3%), followed by those aged 31 to 40 (31.6%), and 18 or younger (20.4%). The majority of respondents were residents of Shandong Province, with only 1.3% being tourists from outside the province. In terms of education, a significant portion of respondents had completed a college education (48.0%), and 41.6% held a college degree or higher.

Table 4.4: Demographic Information of Respondents (N = 450)

Variable		%
Gender	Male	18.4
	Female	81.6
Age	Under 18 years	20.4

Table 4.4 continued

	18~25	27.3
	31~40	31.6
	41~50	20.7
Occupation	Student in school	47.7
	Government/office officials/civil servants	8.2
	General employee (office/office worker)	31.9
	Professional (e.g.doctor/lawyer/sports/journalist/teacher, and others.)	12.2
Education	High school/junior college/technical school	10.4
	University college	48.0
	Undergraduate	37.8
	Master's degree and above	3.8
Place of residence	Qingzhou	27.3
	Weifang	10.0
	Shandong Province	61.3
	Outside the province	1.3

4.2.2.2 Overall Satisfaction of Tourists

The overall satisfaction of tourists was assessed using a 5-point Likert scale, and the findings are presented in Table 4.5. The survey results indicate that the average satisfaction rate of tourists is 3.95, suggesting that tourists generally express satisfaction with the service quality provided in Qingzhou ancient city. Specifically, nearly 61.6% of respondents reported being satisfied, approximately 21% expressed a neutral stance, and only 0.4% reported dissatisfaction. Notably, 16.9% of respondents indicated being very satisfied with their experience.

Table 4.5: Overall Satisfaction Level of Visitors (N = 450)

Satisfaction level	%
Unsatisfactory	0.0
Relatively dissatisfied	0.4
Neutral	21.1
Satisfied	61.6
Very satisfied	16.9
Average value	3.95

4.2.2.3 Willingness of Tourists to Revisit

Tourists' willingness to revisit was evaluated using a 5-point Likert scale, and the outcomes are detailed in Table 4.6. The survey findings reveal that the average willingness

of tourists to revisit is 3.82, indicating a positive inclination. Approximately 57.8% of respondents expressed their willingness to revisit Qingzhou Ancient City Scenic Area, with about 13.1% explicitly indicating a strong willingness to return. Notably, only 1.3% of respondents conveyed an unwillingness to revisit.

Table 4.6: Visitors' Willingness to Revisit (N = 450)

Willingness to revisit	%
Very reluctant	0.4
Reluctant	1.3
Neutral	27.3
Willing	57.8
Very willing	13.1
Average	3.82

4.2.3 Exploratory Factor Analysis

4.2.3.1 Hypothesis

Exploratory Factor Analysis (EFA) was conducted on a sample of N=450 respondents who visited Qingzhou ancient city tourist attractions at least once. EFA was employed to uncover the dimensions influencing tourism service quality for these 450 tourists. This analytical method aids in the identification and refinement of underlying structures through an iterative process, enabling the recognition of relational patterns

(correlations) in the data. The initial dimensions and factors were derived from the SERVQUAL model, a service quality measurement model.

In this study, the SERVQUAL model was adjusted to suit the context of measuring service quality in ancient city scenic spots. To align with this environment, the original five dimensions of the model were expanded to six dimensions. The revised model, named the Ancient City Scenic Spot Tourism Service Quality Evaluation Model, includes the dimensions of Tangibles, Reliability, Responsiveness, Assurance, Empathy, and a new addition, Historical and cultural. The inclusion of Historical and cultural recognizes the unique historical and cultural aspects of ancient city scenic spots, making it a relevant dimension for evaluating service quality in this context.

The exploratory factor analysis was conducted using SPSS 24.0 software, and the terminal factors were subjected to varimax rotation. The varimax rotation method is commonly used in social science research, aiming to simplify the factor matrix columns (Nie et al., 1975). Several criteria were considered during testing, in line with established measures of sampling adequacy for exploratory factor analysis:

(a) Fixed factor extraction with eigenvalues greater than 0.7 (Jolliffe, 1972).

(b) Scree tests, including examination of scree plots (Cattell, 1966).

(c) Kaiser-Meyer-Olkin (KMO) measurements and Bartlett's test for sphericity, with significance levels set at $p \leqslant 0.05$ (Tabachnick & Fidell, 2001).

These criteria were applied to ensure the robustness and appropriateness of the exploratory factor analysis in revealing the underlying structures of tourism service quality dimensions for the respondents who visited Qingzhou ancient city tourist attractions.

In this iterative process, variables are removed according to some statistical criteria if they: (1) do not have loadings exceeding 0.50 on any factor (Pestana & Gageiro, 2000), or (2) are crossed on two or more factors Loading, loadings above 0.40 (Hatcher 1994; Tabachnick & Fidell, 2001). Beyond that, in order to be a reliable measurement, the instrument needs to produce results in a consistent manner whenever repeated measurements are performed (Malhotra , 2009).

4.2.3.2 Testing the Hypothesis

To determining the Factors Affecting the Quality of Tourism Service in Qingzhou Ancient City. The survey results show that there are six dimensions of factors affecting the quality of ancient city tourism services. As can be seen from the table, the average values of 1-5 importance range from 4.35 to 4.47, which indicates that all dimensions are in the important to very important range.

Table 4.7: Distribution Scores for the Dimensions of Affecting Service Quality Index: Means, Standard Deviation, Skewness, Kurtosis, and Percentage Indicating Level of Importance

Dimensions of service quality	Means	St.D	Skewness	Kurtosis	Importance*(%)
Historical and cultural (3 items)	4.3585	0.53657	-0.638	-0.383	89.1
A3 The historical and cultural buildings in the scenic area are well preserved	4.5	0.616	-0.815	-0.334	93.6
A4 The local residents in the scenic area live in the original ecology and the folk customs are simple	4.3	0.672	-0.445	-0.787	88.0

Table 4.7 continued

A5 Catering in the scenic area is full of regional cultural characteristics	4.28	0.697	-0.439	-0.888	85.8
Tangibles (4 items)	4.3939	0.50138	-0.62	-0.316	89.0
B1 Ancient City Scenic Area has complete infrastructure (such as toilets, trash cans, sightseeing cars, and others.)	4.5	0.668	-0.973	-0.238	90.2
B2 Tourist facilities such as catering and accommodation are complete and comfortable	4.34	0.683	-0.555	-0.768	88.0
B5 The internal road design of scenic spot is reasonable	4.26	0.702	-0.415	-0.917	85.1
B6 All kinds of signs and signs in the ancient city scenic area are eye-catching, and the instructions are clear	4.48	0.63	-0.793	-0.387	92.7
Reliability (4 items)	4.4761	0.51385	-0.845	-0.016	91.5
C1 Ancient City Scenic Area has good security conditions	4.52	0.658	-1.023	-0.119	90.9

Table 4.7 continued

C2 The tour order of ancient city scenic spot is good	4.43	0.654	-0.717	-0.536	90.9
C3 There are obvious warning signs for tourists in the ancient city scenic area	4.44	0.638	-0.696	-0.517	92
C4 The various facilities and surrounding environment in the Ancient City Scenic Spot make you feel safe	4.52	0.637	-0.992	-0.106	92.2
Responsiveness (5 items)	4.4761	0.51385	-0.845	-0.016	90.6
D1 The staff of the ancient city scenic spot can respond to the needs of tourists in a timely manner	4.43	0.665	-0.759	-0.523	90.2
D2 The service staff of Ancient City Scenic Area can quickly and accurately handle your complaints	4.43	0.674	-0.761	-0.551	89.5

Table 4.7 continued

D3 The employees of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner	4.47	0.671	-0.879	-0.389	90.0
D4 The service staff of the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties	4.42	0.633	-0.632	-0.566	92.2
D5 The ancient city scenic spot fulfills the service promised to tourists in a timely and accurate manner	4.4	0.637	-0.597	-0.603	91.8
Assurance (4 items)	4.4307	0.54076	-0.771	-0.202	87.3
E2 Ancient City Scenic Area has convenient internal transportation	4.18	0.763	-0.32	-1.219	78.5
E3 The shopping environment in Ancient City Scenic Area is good and can operate with integrity	4.5	0.648	-0.938	-0.227	91.5

Table 4.7 continued

E4 The staff of the ancient city scenic spot have strong communication skills and an accurate understanding of tourists' needs	4.37	0.645	-0.534	-0.662	90.9
E5 Publicity is in line with the actual feelings of tourists	4.38	0.684	-0.645	-0.701	88.4
Empathy (3 items)	4.3578	0.5358	-0.572	-0.501	75.6
F2 Ancient city scenic spot service staff can take the initiative to understand your needs and preferences	3.96	0.843	-0.184	-1.003	67.6
F3 Ancient city scenic spot staff provide personalized service for tourists	3.99	0.79	-0.093	-1.121	70.2
F4 The service staff in the ancient city scenic area are enthusiastic and willing to help tourists	4.34	0.665	-0.507	-0.735	89.1
Total	4.38	0.65	-0.66	-0.529	87.8
*Percentages shown combine 4 and 5 on the scale of 1 = not important					

Each dimension consists of two to five items with loadings equal to or higher than 0.579. Alpha levels are consistently high, ranging from 0.736 to 0.882, with an alpha level of 0.935 for the total index. According to the EFA test (Table 4.8), the six dimensions explain 66.2% of the service quality influencing factors, and according to the assumptions explained in the methodology chapter, all the factors are quite robust and can be easily explained. It can be seen from the data results that assumptions H1-H6 are valid.

Table 4.8: Exploratory Factor Analysis of Service Quanlity

Dimensions of service quality	Eigenvalue	Explained (%)	Cronbach alpha	Factor Loadings
Responsiveness (5 items)	9.074	15.284	0.882	
D3 The employees of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner				0.761
D2 The service staff of Ancient City Scenic Area can quickly and accurately handle your complaints				0.725
D4 The service staff of the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties				0.715
D1 The staff of the ancient city scenic spot can respond to the needs of tourists in a timely manner				0.663

Table 4.8 continued

D5 The ancient city scenic spot fulfills the service promised to tourists in a timely and accurate manner				0.634
Reliability (4 items)	1.901	11.205	0.805	
C2 The tour order of ancient city scenic spot is good				0.732
C1 Ancient City Scenic Area has good security conditions				0.700
C3 There are obvious warning signs for tourists in the ancient city scenic area				0.609
C4 The various facilities and surrounding environment in the Ancient City Scenic Spot make you feel safe				0.581
Assurance (4 items)	1.316	10.584	0.786	
E3 The shopping environment in Ancient City Scenic Area is good and can operate with integrity				0.732
E4 The staff of the ancient city scenic spot have strong communication skills and an accurate understanding of tourists' needs				0.700

Table 4.8 continued

E5 Publicity is in line with the actual feelings of tourists				0.609
E2 Ancient City Scenic Area has convenient internal transportation				0.581
Empathy (3 items)	1.078	10.170	0.802	
F3 Ancient city scenic spot staff provide personalized service for tourists				0.812
F2 Ancient city scenic spot service staff can take the initiative to understand your needs and preferences				0.786
F4 The service staff in the ancient city scenic area are enthusiastic and willing to help tourists				0.633
Tangibles (4 items)	0.951	9.873	0.736	
B2 Tourist facilities such as catering and accommodation are complete and comfortable				0.690
B1 Ancient City Scenic Area has complete infrastructure (such as toilets, trash cans, sightseeing cars, and others.)				0.650

Table 4.8 continued

B5 The internal road design of scenic spot is reasonable				0.608
B6 All kinds of signs and signs in the ancient city scenic area are eye-catching, and the instructions are clear				0.579
Historical and cultural (3 items)	0.907	9.126	0.737	
A4 The local residents in the scenic area live in the original ecology and the folk customs are simple				0.810
A3 The historical and cultural buildings in the scenic area are well preserved				0.794
A5 Catering in the scenic area is full of regional cultural characteristics				0.663

Note: KMO= 0.935, (Bartlett test of sphericity 4887.247; p=0.00) total variance explained 66.2%, total reliability .927 for 23 items

In the context of tourism service quality evaluation for ancient city scenic spots, the dimension of "historical and cultural nature of service" (9.126%) underscores the importance of providing tourists with the opportunity to witness and experience ancient buildings with a history of more than one hundred years. This dimension aims to evoke a sense of traditional culture's inheritance during the tour. In the context of this study, the historical and cultural nature specifically pertains to the effective preservation of ancient structures within the

ancient city scenic area, showcasing the continuation and evolution of traditional culture. Furthermore, it emphasizes the richness of folk culture exhibitions that allow tourists to actively engage and experience the cultural heritage.

In the context of tourism service quality evaluation for ancient city scenic spots, the dimension of "tangibility of services" (9.873%) highlights the tangible elements that tourists can visually and physically perceive throughout their experience. This dimension emphasizes the aspects that are observable and touchable during the visit. In the current study, tangibles primarily refer to the tangible elements associated with the ancient city scenic spots. This includes objects such as service equipment in service centers, amenities like trash cans and toilets within the scenic area, as well as aspects related to people, such as the attire of service staff, their posture, language, and facial expressions.

In the context of tourism service quality evaluation for ancient city scenic spots, the dimension of "service reliability" (11.205%) underscores the reliability of enterprises in fulfilling their service commitments. In this study, reliability pertains to the ability of the ancient city scenic spot to ensure adherence to the correct service standards when catering to tourists. It also involves the responsiveness of the scenic spot in addressing challenges faced by tourists, ensuring timely solutions, and making earnest efforts to resolve difficulties encountered by visitors.

In the context of this research, the dimension of "service responsiveness" (15.284%) is indicative of the level of enthusiasm and initiative demonstrated by enterprises in delivering services to tourists. Specifically, responsiveness in this study refers to the proactive and prompt nature of the ancient city scenic area's tourist attractions in providing

services to tourists. It encompasses the initiative and speed with which services are offered to enhance the overall visitor experience.

The dimension of "service assurance" (10.584%) in this study pertains to the knowledge level of service personnel, their polite attitudes during the service process, and their ability to instil trust in tourists. Specifically, assurance in this context involves whether the operators of the ancient city scenic spot prioritize tourists and whether the staff possess professional service abilities and skills. It also encompasses the extent to which tourists can rely on the service provided by the ancient city scenic spot.

The dimension of "service empathy" (10.170%) in this study signifies that enterprises are customer-centered and offer personalized services to meet the diverse needs of different tourists. Specifically, empathy in this context refers to whether the ancient city scenic spots can provide distinct services tailored to the unique needs of various tourists. It also encompasses whether service personnel can offer emotional care to tourists, creating a warm and caring atmosphere during the service process.

4.2.4 Gap Analysis

4.2.4.1 Testing Gap Hypothesis

Table 4.9 shows the average scores of tourists' expectations and perceptions of Qingzhou ancient city scenic spots. The expectation value of tourists is 4.42, and the perceived level is 3.74. There were significant negative differences in all 23 attributes, $p<0.05$. So the hypothesis of gap (H7) is supported.

Table 4.9: Gap Scores Between Expectation and Perception of Visitors (N = 450)

Dimensionality	Measurement questions	Expectations score（E）		Perceived score（P）		Quality of Service P-E	Paired samples t-test	
		Average score	Standard deviation	Average score	Standard deviation		T value	p value
Historical and cultural	A3 The historical and cultural buildings in the scenic area are well preserved	4.50	0.616	4.00	0.708	-0.49	-11.983	0.000
	A4 The local residents in the scenic area live in an original and simple way	4.30	0.672	3.76	0.757	-0.55	-12.818	0.000
	A5 Food and drink in the scenic area is rich in regional cultural characteristics	4.28	0.697	3.58	0.814	-0.70	-14.214	0.000

Table 4.9 continued

Tangibility	B1 The ancient city scenic area has complete infrastructure (e.g. toilets, rubbish bins, tour buses, and others.)	4.50	0.668	3.84	0.737	-0.66	-14.779	0.000
	B2 Tourism facilities such as catering and accommodation are complete and comfortable	4.34	0.683	3.78	0.692	-0.56	-13.611	0.000
	B5 The internal roads in the scenic area are well designed	4.26	0.702	3.88	0.694	-0.38	-8.978	0.000
	B6 Signage in the Old Town is visible and clear	4.48	0.630	3.91	0.716	-0.57	-13.780	0.000

Table 4.9 continued

Reliability	C1 Good security conditions in the Old Town	4.52	0.658	3.91	0.713	-0.60	-13.909	0.000
	C2 Good order of visitation in the Old Town	4.43	0.654	3.88	0.696	-0.55	-13.594	0.000
	C3 Clear visitor warning signs in the Old Town	4.44	0.638	3.90	0.728	-0.54	-12.574	0.000
	C4 The facilities and surroundings of the Old Town feel safe	4.52	0.637	3.94	0.688	-0.58	-14.816	0.000
Responsiveness	D1 The staff at the Old Town Scenic Area are responsive to visitors' needs	4.43	0.665	3.66	0.794	-0.78	-16.464	0.000

Table 4.9 continued

	D2 The service staff at the Old Town area are able to deal with your complaints promptly and accurately	4.43	0.674	3.58	0.786	-0.84	-18.177	0.000
	D3 The staff of the Old Town will deal with your complaint in a timely and appropriate manner	4.47	0.671	3.63	0.763	-0.84	-18.413	0.000
	D4 The staff of the Old Town will take an active interest in helping visitors when they encounter difficulties	4.42	0.633	3.65	0.784	-0.77	-16.668	0.000

Table 4.9 continued

	D5 The services promised to visitors are completed in a timely and accurate manner	4.40	0.637	3.68	0.758	-0.72	-16.046	0.000
Assurance	E2 Transportation within the Old Town is convenient	4.18	0.763	3.57	0.765	-0.62	-12.649	0.000
	E3 Good shopping environment in the Old Town and honest business practices	4.50	0.648	3.71	0.781	-0.79	-16.905	0.000
	E4 The staff of the Old Town have good communication skills and understand the	4.37	0.645	3.70	0.760	-0.68	-15.171	0.000

Table 4.9 continued

	needs of visitors accurately							
	E5 External publicity is in line with the actual feelings of visitors	4.38	0.684	3.69	0.750	-0.69	-15.247	0.000
Empathic	F2 The staff at the Old Town are sensitive to your needs and preferences	3.96	0.843	3.48	0.801	-0.48	-9.704	0.000
	F3 Old Town staff provide personalised service to visitors	3.99	0.790	3.50	0.840	-0.50	-10.141	0.000
	F4 The staff at the Old Town are enthusiastic and willing to help visitors	4.34	0.665	3.74	0.740	-0.60	-13.690	0.000

Table 4.9 continued

	Overall mean	4.42	0.421	3.74	0.513	-0.68	-23.457	0.000

4.2.4.2 Gap analysis

Table 4.9 presents the average scores reflecting tourists' expectations and perceptions of Qingzhou ancient city scenic spots. The overall expectation value is 4.42, while the overall perception level is 3.74. Notably, there were significant negative differences in all 23 attributes, with $p < 0.05$.

The two attributes exhibiting the most substantial negative differences (above -0.8) are related to the level of responsiveness. Specifically, "the service staff of the ancient city scenic spot can handle your complaints quickly and accurately" and "the staff of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner" are particularly noteworthy. Conversely, an attribute with the smallest negative difference is associated with the tangibility dimension: "reasonable design of internal roads in scenic spots."

However, a total of seven out of the 23 attributes revealed significant negative gaps above -0.7 with a difference of $p < 0.05$. Among these, five attributes are more or less related to employee performance. Examples include "the service personnel in the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties," "the ancient city scenic spot's service promised to tourists is completed in a timely and accurate manner," and "the employees of the ancient city scenic spot can respond to the

needs of tourists in a timely manner." These findings suggest a general dissatisfaction among tourists with the performance of the staff in the ancient city scenic spot.

The remaining two negative gaps above 0.7 pertain to the historical and cultural dimension and the guarantee dimension. Specifically, "the catering in the scenic area is full of regional cultural characteristics" and "the shopping environment in the ancient city scenic spot is good and can operate with integrity." It is evident that tourists express dissatisfaction with the shopping environment and specialized catering provided in the ancient city scenic area.

Additionally, among the six dimensions, the "responsiveness" dimension exhibited the most substantial negative gap (Gap= -0.79), indicating a significant shortfall in meeting tourist expectations in this regard. A potential contributing factor identified in the analysis is the limited number of permanent staff in the scenic spot and the absence of an effective appeals processing channel.

In the dimensions of "guarantee" (Gap= -0.695), "reliability" (Gap= -0.568), and "tangibility" (Gap= -0.543), the negative gaps range between -0.543 and -0.695. Among these, the largest negative gap pertains to "assurance," while the smallest is observed in "tangibility." Attributes within these dimensions focus on the reliability of services provided by the staff, the correctness of services, timely resolution of tourist issues, and the completeness of tourist facilities. The findings underscore a notable disparity between the performance of staff in the ancient city scenic area and the expectations of tourists.

Notably, the two dimensions with the smallest negative gaps are "empathy" (Gap= -0.565) and "historical and cultural" (Gap= -0.58). This indicates commendable performance

in areas influencing the preservation of historical and cultural buildings, showcasing residents' lifestyles, and highlighting regional cultural characteristics.

4.2.5 Multiple Regression Analysis

4.2.5.1 Hypothesis

For multiple linear regression, some key conditions are assumed: (1) There is a linear or curvilinear relationship between the predicted Y values; (2) The variables obey the normal distribution; (3) There is no multicollinearity between the independent variables, that is, the variables are not highly (4) There is homoscedasticity, that is, the variances of the error terms among the respective variables are similar (Pestana & Gageiro, 2000).

Multiple linear regression was performed on SPSS24.0 software to obtain all assumptions. The linearity condition and homoscedasticity of the samples were tested by the scatter plot to determine the normality of the samples. Outliers were not considered to be influential due to Cook's distance. The predictors are not overly correlated as none of them are above 0.7. Beyond that, collinearity statistics showed a suggested tolerance level of >.10 and a variance inflation factor (VIF) of less than 4 for all factors (Tabachnick & Fidell, 2001). The following VIFs and dependencies (Table 4.10 and Table 4.11):

Table 4.10: Measurements and Model Collinearity Statistics

Independent variable	Tolerance	VIF
Perception of historical culture	0.535	1.868
Perceived tangibility	0.434	2.306
Perceived reliability	0.366	2.730

Table 4.10 continued

Perceived responsiveness	0.319	3.137
Perceived assurance	0.331	3.018
Perceived empathy	0.364	2.746

Dependent variable：Overall satisfaction

Table 4.11: Correlations

Construct	Mean	St.D	Osa	Phc	Pta	Prel	Pres	Pas	Pem
Osa	3.95	0.629							
Phc	3.7793	0.62424	0.495						
Pta	3.8500	0.53210	0.489	0.605					
Prel	3.9072	0.56398	0.500	0.566	0.699				
Pres	3.6404	0.67581	0.524	0.557	0.560	0.698			
Pas	3.6661	0.60670	0.585	0.581	0.595	0.644	0.736		
Pem	3.5711	0.70316	0.529	0.540	0.527	0.578	0.735	0.744	

4.2.5.2 Testing Hypothesis

Based on the findings from the exploratory analysis, it is postulated that six key factors play a substantial role in influencing overall satisfaction with tourism service quality in Qingzhou ancient city. The independent variables include the six dimensions of tourists' perception of service quality, namely, perceived historical and cultural dimension of service

quality, perceived tangibility of service quality, perceived reliability of service quality, perceived responsiveness in service quality, perceived guarantee of service quality, perceived empathy in service quality. The dependent variable is overall satisfaction with service quality.

Table 4.12: Explanation of the independent and dependent variables

Independent variables		Dependent variable
Perception of historical culture	Tourists' perception of the historical and cultural attributes of service quality after visiting QAC	Overall Satisfaction of Service Quality (OSSQ) It refers to the evaluation given by tourists on the overall satisfaction of service quality after visiting QAC.
Perceived tangibility	Tourists' perception of the tangibility attributes of service quality after visiting QAC	
Perceived reliability	Tourists' perception of the reliability attributes of service quality after visiting QAC	
Perceived responsiveness	Tourists' perception of the responsiveness attributes of service quality after visiting QAC	
Perceived assurance	Tourists' perception of the assurance attributes of service quality after visiting QAC	

Table 4.12 continued

Perceived empathy	Tourists' perception of the empathy attributes of service quality after visiting QAC	

However, to ascertain the specific impact of each factor on service quality overall satisfaction, the following hypotheses were rigorously tested:

H8. The perceived historical and cultural dimension of service quality significantly affects OSSQ (Overall Satisfaction of Service Quality).

H9. The perceived tangibility of service quality significantly affects OSSQ.

H10. The perceived reliability of service quality significantly affects OSSQ.

H11. The perceived responsiveness in service quality significantly affects OSSQ.

H12. The perceived guarantee of service quality significantly affects OSSQ.

H13. The perceived empathy in service quality significantly affects OSSQ.

Typically, relationships between variables were statistically confirmed at a 95%-99% confidence level ($p<0.05$ or 0.01). However, wider confidence levels can be considered if one considers that linear regression does not determine causality, but still provides hints of relationships between elements. Therefore, in this study, it is assumed that all six independent variables may affect the dependent variable, albeit to different degrees:

- From 95% to 99% is a very high confidence level;

- From 80-90% is a high level;

- 40-50% is a medium level;

-0-40% is a low level of confidence.

Multiple regression analysis results are as follows (Table 4.13):

Table 4.13: Impacts of Service Quality Dimensions on the Satisfaction Level of Visitors

Independent variables	β	Beta	t	Sig.
Perceived historical & cultural	0.146	0.144	2.880	0.004**
Perceived tangibility	0.121	0.102	1.837	0.067
Perceived reliability	0.073	0.066	1.084	0.279
Perceived responsiveness	0.052	0.056	0.866	0.387
Perceived reassurance	0.279	0.269	4.226	0.000**
Perceived empathy	0.105	0.117	1.931	0.054

Table 4.13 presents the outcomes of assessing the impact of tourism service quality dimensions in ancient city scenic spots on tourist satisfaction. Notably, "Perceived reassurance" and "Perceived Historical and cultural" demonstrate statistical significance at the 95% confidence level. Consequently, the independent variables " Perceived reassurance" and "Perceived Historical and cultural" emerge as robust predictors ($p < 0.05$) of tourist satisfaction, playing pivotal roles in shaping overall tourist contentment. Beta values affirm that " Perceived assurance" stands out as the most influential predictor of visitor satisfaction (Beta = .269), closely followed by " Perceived historical culture" (Beta = .144). Moreover,

" Perceived tangibility" and " Perceived empathy" exhibit statistical significance at the 90% confidence level, substantiating their substantial impact on overall satisfaction. On the other hand, the independent variables " Perceived reliability" and " Perceived responsiveness" display significance at the 50% level, indicative of a moderate influence. Consequently, H1 and H5 are supported, while H2, H3, H4, and H6 are not validated (as shown in table 4.14).

Table 4.14: Hypothesis Results of Multiple Regression

Hypothesis	T value	Significant	Hypothesis support
H8:Phc→OSSQ	2.880	0.004**	Accepted
H9: Pta→OSSQ	1.837	0.067	Rejected
H10: Prel→OSSQ	1.084	0.279	Rejected
H11: Pres→OSSQ	0.866	0.387	Rejected
H12: Prea→OSSQ	4.226	0.000**	Accepted
H13: Pem→OSSQ	1.931	0.054	Rejected

Notes: 9 $p<0.05$* , $p<0.000$** levels of significance, respectively.

Therefore, the confirmation of H8 and H12 underscores their substantial impact on overall tourist satisfaction. Particularly, the significance of "Assurance" as the most influential predictor aligns with findings by Li (2023), emphasizing the critical role of service providers' politeness and knowledgeability. Establishing trust and ensuring the delivery of convenient services emerges as imperative for enhancing tourist satisfaction. This insight reinforces the practical implications for service providers, urging them to

prioritize not only the quality of services but also the assurance conveyed to tourists through courteous and informed interactions.

Moreover, the significance of 'Historical and Cultural Aspects' as a key factor influencing tourist satisfaction resonates with the findings of Peng & Chang (2023). Their assertion that cultural dimensions positively impact tourist satisfaction aligns seamlessly with our results. This reinforces the broader concept that tailoring the measurement of service quality to accommodate the unique characteristics of different tourist destinations is paramount. In line with our earlier modification of the SERVQUAL model for ancient city scenic spots, this underlines the importance of considering historical and cultural dimensions when assessing and enhancing service quality, thereby catering to the diverse expectations of tourists across various destinations.

Additionally, the results indicate that 'Tangibility' (H9) and 'Empathy' (H13) significantly influence overall tourist satisfaction at a high level. The pronounced impact of 'Tangibility' on service quality satisfaction aligns with the findings of Masrurul (2019), who identified tangibility as a primary factor contributing to customer satisfaction. This underscores the importance of tangible elements, such as physical facilities, staff appearance, and other perceptible aspects, in shaping tourists' overall satisfaction. These findings highlight the need for destination managers to prioritize and enhance tangible aspects to ensure a positive and satisfying tourist experience.

Moreover, 'Empathy' (H13) emerges as a crucial key factor significantly influencing service quality satisfaction, a result consistent with the findings of Du (2021). Du emphasizes the importance of service providers demonstrating empathy by addressing tourists' personalized needs. This underscores the human-centric nature of service quality in the

tourism context, where understanding and responding to individual preferences and concerns play a pivotal role in enhancing overall satisfaction. Destination managers should prioritize strategies that foster empathetic interactions to create a more personalized and positive experience for tourists.

Moreover, the 'Reliability' (H10) dimension is identified as having a moderate level of impact on overall tourist satisfaction. This finding corroborates the research conducted by Yu et al. (2005), highlighting the pivotal role of reliability—defined as the ability to consistently and accurately deliver promised services—in influencing the overall satisfaction of tourists. Ensuring a reliable and dependable service delivery is imperative for cultivating positive perceptions and satisfaction among tourists throughout their visit to the destination.

Additionally, 'Responsiveness' (H11) emerges as another dimension with a moderate impact on tourist satisfaction. This outcome is consistent with the findings of Lee et al. (2000), who underscore the significance of responsiveness, especially in people-centric service industries. Timely and attentive responses to the needs and inquiries of tourists contribute significantly to their overall satisfaction, emphasizing the importance of proactive and swift service delivery.

4.3 Phrase II- Examine the Tourist Service Experience in QAC

4.3.1 Description of Personas

Personas are a powerful tool in qualitative research and service design, used to represent the different user types that might use a service, product, or site in a similar way. They are not meant to cover every individual visitor but to capture the primary patterns of behavior, motivations, and needs within the user base.

Personas are designed to capture the essential characteristics of distinct visitor segments rather than the entire population. They are archetypal users created based on data gathered from real visitors. This approach allows researchers to focus on the most relevant and common behaviors, needs, and pain points.

From a database of 49,800 tourists entities, comprising 47,000 students and 2,800 teachers, a representative sample was randomly chosen. Specifically, the sample included 7 students aged between 18 and 23, as well as 5 teachers aged between 25 and 40 (refer to Table 4.15). Persona details were meticulously derived from user interviews, ensuring the inclusion of diverse perspectives.

The number 12 is chosen to ensure a diverse and comprehensive representation of the visitor population. While 49,800 visitors is a large number, the diversity within this population can often be captured effectively by identifying key segments. Each persona embodies the attributes of a significant portion of the visitor base, ensuring that the primary visitor types are well-represented. The creation of persona is based on empirical data gathered through various qualitative methods such as interviews, observations, and surveys. These methods ensure that each persona is rooted in real visitor experiences and accurately reflects the needs and behaviours of a broader segment.

This targeted approach aims to capture valuable insights from individuals who not only have first-hand experience with the ancient city scenic spot but also represent the local academic community.

Table 4.15: Randomly Selected Personas

	Name	Age	Gender	School
Persona "John"	Shanshan Wang	23	Male	WFIT
	Li Shunqian	23	Male	WFIT
	Shi Junmeng	22	Female	WNVC
	Geng Qi	21	Female	WEVC
	Wang Liqiang	22	Female	WFIT
	Wang Zhaomin	21	Female	WNVC
	Li Xishu	21	Male	WEVC

	Name	Age	Gender	School
Persona"Mark"	Zhang Su-Ling	28	Female	WFIT
	Eileen Yin	29	Female	WNVC
	Yan Chao	32	Male	WEVC
	Zhao Li Fei	33	Female	WFIT
	Li Jinghe	40	Male	WFIT

Note: WFIT = Weifang Institute of Technology; WNVC = Weifang Nursing Vocational College; WEVC = Weifang Engineering Vocational College

The study reveals distinctive traits among the student participants in the target group. They emerge as motivated and energetic individuals with a keen interest in exploring novel experiences. Their social orientation is prominent, reflecting a high level of sociability.

Notably, the primary sources of information for these students are the internet and interactions with their peers, classmates, and friends. These personal connections serve as significant influencers in shaping their preferences and decisions. Their inclination toward online platforms is evident, as they actively seek out and share new discoveries through various social networking channels.

The teacher participants in the target group exhibit a distinct set of characteristics. Their aspirations include a desire for experiential learning and knowledge acquisition. Despite their busy schedules, they express a need to set aside time for relaxation and rejuvenation.

The primary sources of information for teachers encompass insights from colleagues, friends, and online platforms. Notably, they highly value the time they allocate to various activities.

To provide a comprehensive representation of the respondents, their information was synthesized into two avatars: 'John' for the student group and 'Mark' for the teacher group. Further details about these avatars can be found in Table 4.16 and Table 4.17.

Table 4.16: Fictive Persona Description 'John'

Virtual persona "John", 21, student
Education: 2nd year, undergraduate
Personality traits: active, social, social
Influencers: parents, friends, classmates, school
Leisure activities: running, reading friends, weibo, microblogging, shake music
Hobbies: travelling, reading, historical stories, collecting cultural and tourist souvenirs
Dislikes: boring, unquiet
Description
1. Good inclusiveness, strong ability to accept new technology this kind of people can be skilled in using Internet products such as mobile phone APP, can make online airline tickets and hotel reservations, information search and sharing, etc.
2. Sometimes they like to change their living environment, get away from the distractions of everyday life, escape from heavy studies, regulate their body and mind, and relax. Travelling with friends to increase social interaction and make new friends.
3. All have a high level of cultural sophistication and self-opinion. Through travel, study and artistic creation, they develop their personal hobbies and pursue their personal ideals.
4. Enjoy visiting ancient residential sites and enjoy the peaceful atmosphere and unique culture of ancient homes. Learn about local history and culture, local customs and experience the real life of local people, and look forward to the diversity of activities. To enrich life experiences and increase the sense of achievement.

Table 4.17: Fictive Persona Description 'Mark'

Virtual persona "Mark", 30, teacher Education: university graduate with a master's degree Personality traits: positive, social, individual Influencers: friends, colleagues, classmates, internet Leisure activities: swimming, running, fitness, socialising Hobbies: travelling by car, reading and studying, historical and cultural stories, peaceful atmosphere, scientific research, creating art and design, buying cultural and creative products Dislikes: Staying at home, busy work **Description** 1. Like new things, have a strong desire to explore and pursue novel psychological feelings. Have strong learning ability, relatively high culture and consumption level, and have sufficient holidays. 2. Skilled in using the internet, mobile phones and other mobile internet devices, and able to make independent travel enquiries, bookings for tickets, accommodation and air tickets. 3 They have very high standards in terms of travel needs and service experience. They want to increase their knowledge, improve their culture, gain experience and gain respect from others. 4. Have high expectations of the ecological environment and cultural heritage of the old city tourism and expect to build emotional links in cultural themed activities. 5. Expects variety in tourism activities and the ability to actively participate and interact with people in a diverse range of tourism activities.

4.3.2 Observing the Service Experience

During the observations, the services used, the length of stay at the different attractions, the changes in their body language and reactions during the service experience, and their interactions with each other and with the service staff were recorded in detail. The observation data was recorded into a data table by using a timeline and the touchpoints passed during the tour route(Appendices 3A).

4.3.3 Results of Guided Interviews

After two steps of participatory observation and guided interviews, we synthesized the data and came up with the corresponding results (Appendix A1, A2). Based on the guided

interviews, four critical incidents were identified. (a) The significance of promotional methods and channels. (b) The pavilions within the scenic area, the richness of the historical and cultural content, and the soundness of the exhibition design and planning. (c) The attitude of the staff at the attraction. (d) Interactive participation in thematic and cultural activities within the attraction

From the dimension of functional cues, the first columns of Appendices A1 and A2 show that all dimensions of functional cues are marked with negative symbols "-", which corroborates the feedback from tourists. During the interviews, researchers heard that tourists were unsure where to find official promotional information about the scenic area. Although they were aware of various information channels such as TV advertisements and WeChat public accounts, the presence of multiple channels left them uncertain about which ones were reliable and effective. In the functional cues row, the negative experiences most frequently noted in Appendix A1 include exhibition content, exhibition design, and exhibition effects. These negative experiences appeared less frequently in Appendix A2. Conversely, negative experiences related to post-service actions were common in both appendices. Positive experiences were noted in both appendices for Ou Garden and Qingzhou Prefecture Examination Hall.

From the mechanical dimension, Appendix A1 shows ten instances of negative experiences, with eight occurring in exhibition equipment, facilities, lighting effects, and descriptions. The remaining two instances were related to post-service actions. Appendix A2 shows nine instances of negative experiences, with six related to exhibition equipment, facilities, lighting effects, and descriptions. The other two instances were related to post-service actions. Positive experiences in both appendices were noted at Ou Garden.

From the humanistic cues dimension, Appendix A1 recorded nine negative experiences, while Appendix A2 recorded ten. These negative experiences were mainly related to staff service attitude, appearance, language and norms, and service efficiency. No positive experiences were recorded in this dimension.

From the storytelling dimension, neither Appendix A1 nor A2 recorded negative experiences. Positive experiences were noted once in A1, relating to the preservation and revitalization of local traditional buildings, and in A2, relating to the revitalization of local culture and the preservation and revitalization of local traditional buildings.

From the co-creation dimension, Appendix A1 recorded eleven negative experiences, related to ceremonies, themed activities, unique cultural aspects, and interactive participation. Positive experiences were noted four times, relating to word-of-mouth expectations, and the unique cultural aspects of Ou Garden and Qingzhou Prefecture Examination Hall. Appendix A2 recorded ten negative experiences in the same aspects, with positive experiences noted four times, relating to word-of-mouth and friends' recommendations, and the themed activities and unique cultural aspects of Ou Garden.

From these findings, it is evident that the Qingzhou Ancient City Scenic Area lacks effective official promotional channels. Some exhibit halls have insufficient content, poor design, and unimpressive effects. Exhibition equipment and facilities require maintenance. Frontline staff service needs improvement. There is significant room for enhancement in the utilization of local cultural features and in engaging tourists in themed activities. The results also show that tourists have higher satisfaction and very positive experiences at Ou Garden and Qingzhou Prefecture Examination Hall. The key events identified are consistent with our analysis results.

4.3.4 Service Safari

The compilation of information for each touchpoint service explored is presented in Figure 4.1. To comprehensively explore the tourism experience of the ancient city of Qingzhou, a team of four researchers, including the author, conducted an on-site service safari following the "Boutique Historical Route." During this journey, the researchers gathered a wealth of information and results. The collected data was organized and summarized according to various service touchpoints encountered during the exploration (as shown in the Figure 4.1). An asterisk (*) indicates a mediocre experience, while both positive and negative experiences are described in detail. Overall, there were nine service touchpoints, and the feedback indicated a generally mediocre experience with numerous negative aspects. This suggests that, from the tourist experience perspective, the "Boutique Historical Route" performed poorly and has significant room for improvement in service quality.

Positive tourist experiences included: high accessibility with ample parking spaces; the ability to purchase tickets online independently; numerous unique cultural exhibits in the Memory of Ancient City Cultural Museum and the Li Cheng Memorial Hall; good order and cultural creative product shops in Ou Garden; and rich exhibition content with enthusiastic staff at Qingzhou Prefecture Examination Hall.Negative tourist experiences were primarily: long queues to enter exhibition halls; outdated facilities and some halls being inaccessible; particularly poor attitude and unhelpfulness from staff at the tourist service center, with no available promotional materials or related information; although there were many exhibits in the Memory of Ancient City Cultural Museum, they were crowded and the multimedia displays were non-functional; two halls in the Li Cheng Memorial Hall were closed for renovation, and an open hall was undergoing renovation without being cordoned off; during the visit, local residents sang unpleasant songs near the exhibition stands; in Ou Garden,

some flowers and plants had withered due to the autumn season; and at Qingzhou Prefecture Examination Hall, the smart scenic area platform provided limited and brief tour guide explanations.

From this, we can summarize the tourists' needs. First, tourists have high expectations for the attitude and performance of service staff (Zhang & Ampornstira, 2022). Second, they demand a high quantity, richness, display manner, and detailed explanations of exhibits in the memorial halls. Different material aspects of memorial design, such as vertical and horizontal axis, figurative and abstract representation, spatial immersion and separation, mobility, multisensory qualities, reflective surfaces, names, place of burial, accommodating ritual, and location and surroundings, can create engaging experiences for visitors (Wagoner, & Brescó, 2022). Third, tourists value the convenience of entering the memorial halls and the integrity and usability of tourist facilities. Improvements in facilities and informational services in protected areas can increase tourist satisfaction (Oviedo-García ,2019). Tourists value sustainable destinations mainly for the affective benefits they provide, such as positive social interactions and basic services and facilities (Stacchini & Costa, 2022). Finally, tourists have high expectations for the environmental ambiance of the scenic area, including the activities of local residents and the condition of the flora within the site. Tourists highly value the natural ecological environment, landscape, air quality, water quality, and folk customs in terraced agricultural cultural heritage tourism destinations (Huang et al., 2023).

Touchpoints	Entrance	Fucai Gate	Tourist Service Centre	Memory of ACCE	Licheng Memory Hall	Ou Yangxiu Memory Hall	Ou Yuan Garden	Qingzhou PTH	Departure
Good Experience	Highly accessible, with free parking spaces	Self-service ticketing	/	Exhibits showcasing local specialities	Exhibits showcasing people and works related to the life of Li Cheng	/	Cultural and creative products shop in the park.	Orderly entrance staff. informative exhibits	/
General Experience	/	/	/	/	/	/	/	/	/
Negative Experience	Short queues	The large drum at the entrance to the Gatehouse, and some of its facilities are in a state of disrepair. Access to the interior of the gatehouse is not possible.	Staff, negative attitude, not proactive. No questions asked, no answers given. No relevant presentation, and travel brochures.	The exhibition hall is crowded with exhibits of cultural relics, some of which are placed at random. The multimedia display equipment in the exhibition hall is in a state of power failure.	Two pavilions are not open and are in a state of renovation. Some of the pavilions had damaged spotlights and were not lit. One pavilion is not lit on the first floor and is dark.	There are fewer displays in the museum. Some of the areas that were not open were not closed. There were elderly people singing difficult songs near the next booth.	Flowers and plants fade in autumn	The intelligent scenic platform narration is short on content and short on time.	/

Figure 4.1: Service Safari

4.3.5 Visualization of Service Experience

As depicted in figure 4.2 and figure 4.3, the observations and interview outcomes from the appendix were integrated into both customer journey maps. These maps comprehensively illustrate the experiences of the two target groups during their tour of the ancient city through the "Fine History Route." The itineraries encompass all touchpoints encountered by visitors throughout the Boutique Historic Route, including those before and after the service. Sections rated with "++" indicate good and very good experiences, "+" ratings represent neutral or mixed experiences, and "--" denote negative experiences, resulting in dissatisfaction and negative reactions. In essence, the rating score reflects respondents' overall sentiment and satisfaction across the respective touchpoints. Additionally, the respondents' level of satisfaction at a particular stage is represented by lines.

From Mark's customer journey map, the points of dissatisfaction appear primarily at the tourist service center. The most satisfactory service touchpoints are at the Ou Garden attraction. The map indicates a total of 19 instances of negative experiences, which are mainly concentrated at the entrance, with service personnel, their explanations, and their final contact. There are a total of 4 instances of positive and very good experiences, primarily concentrated on viewing exhibitions and enjoying the scenery. These positive experiences are mainly reflected at the Memory of the Ancient City Memorial Hall, Li Cheng Memorial Hall, Ou Garden, and Qingzhou Prefecture Examination Hall. The most notable negative experience is with the service personnel at the tourist service center. Additionally, media displays and interactions showed negative experiences across all service touchpoints.

The character "Mark" displayed high expectations for the richness of historical and cultural content display, tour guide explanations, or intelligent scenic spot platform explanatory content. This directly impacted their overall satisfaction.

From John's customer journey map, all service touchpoints show satisfaction. Comparatively, the lowest satisfaction levels are at the tourist service center and the Ouyang Xiu Memorial Hall, while the highest satisfaction levels are at the Memory of Ancient Culture Exhibition Hall and Ou Garden. The map indicates a total of 5 instances of negative experiences, all related to media displays and interactions. There are two instances of good and very good experiences, specifically at the Memory of Ancient Culture Exhibition Hall's exhibits and the scenic views at Ou Garden.

It was observed that the character experience of "John" on this tourist route lacked richness. In comparison to spending money to enter the scenic spot, special street snacks, interactive intangible cultural heritage performances, and the picturesque street scenes for taking pictures and videos captured their attention more. Straightforward exhibitions seemed to bore them.

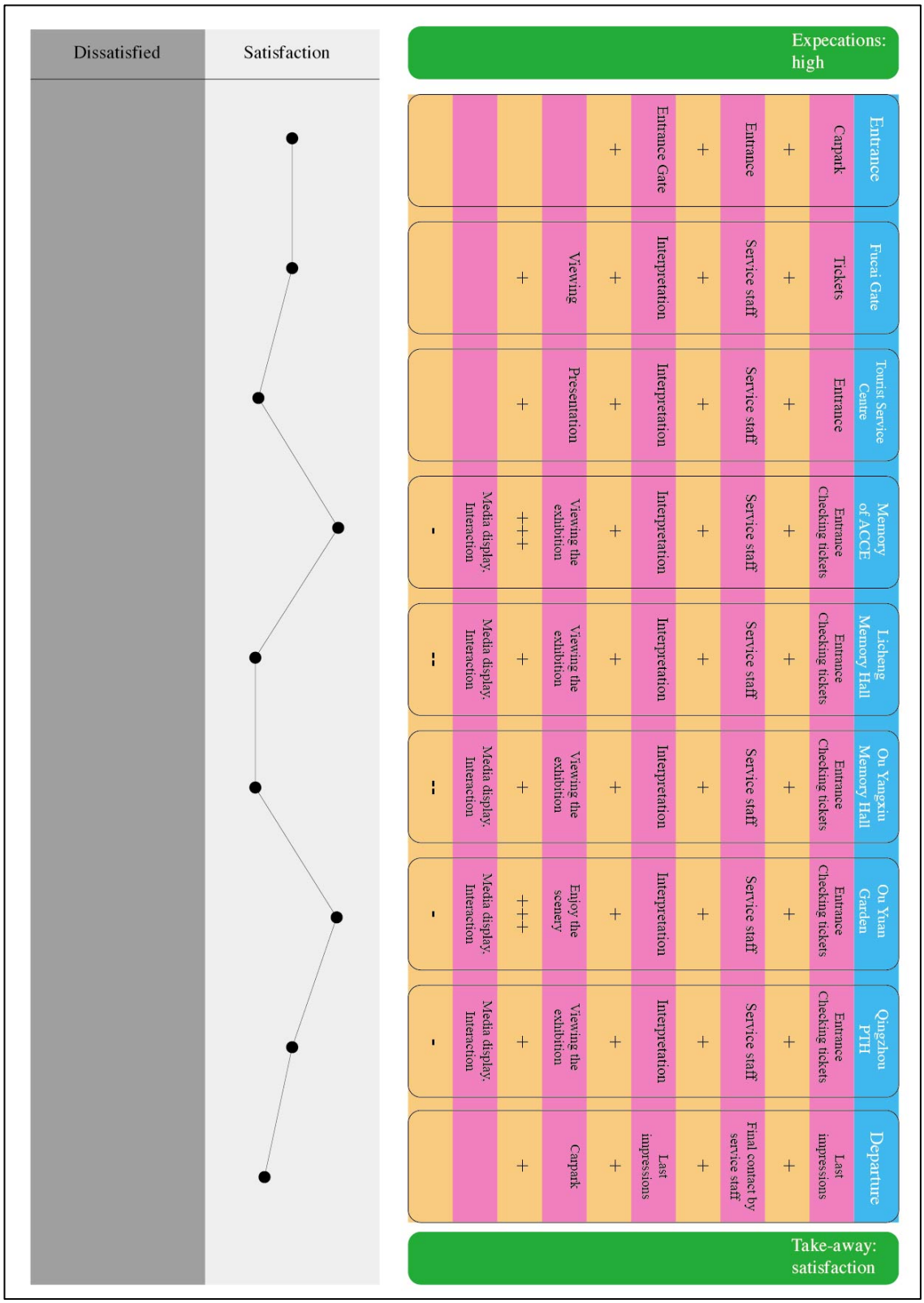


Figure 4.2: Customer Journey 'John'—How John Experienced Their Visit



Figure 4.3: Customer Journey 'Mark'—How Mark Experienced Their Visit

4.4 Phrase III- A Service Design Framework for the DTSE in QAC

In the context of the ancient city of Qingzhou, researcher illustrate the functioning of the service design framework by emphasizing the touchpoints of Customer Journey Mapping (CJM) and promoting value co-creation.

The service design process employed in this study adheres to the conceptual model of destination tourism service ecosystem design proposed by Gao et al. (2022). The entire service design process is structured into four components:

1. Core Service Concept Development: This initial phase involves proposing the core service concept for destination tourism, encompassing the destination brand and value proposition.

2. Identification of Key Touchpoints: In the second part, key touchpoints are identified, aligning with the Destination Tourism Service Ecosystem (DTSE) framework and uncovering the time blueprint that spans the pre-travel, during-travel, and post-travel stages.

3. Service Design Framework with Opportunity Points: The third component introduces a novel service design framework that integrates existing key touchpoints in Qingzhou ancient city with tourists' expectations for ancient city tourism. This framework identifies opportunity points for service enhancement.

4. Customer Journey Mapping (CJM) for Target Groups: In the final part, a Customer Journey Map (CJM) is designed for a specific target customer group. This involves selecting and sequencing key touchpoints to create a customized journey solution. The CJM also highlights peak touchpoints and proposes a brand strategy and value co-creation

opportunities tailored to the target audience. Data for this case study is derived from the first two phases of data collection, incorporating participant observation and guided interviews.

4.4.1 Concept of Tourism Service Design in Qingzhou Ancient City

The ancient city of Qingzhou, situated in Weifang City, Shandong Province, China, holds a rich historical legacy dating back over 7,000 years. Its historical and cultural significance spans more than 5,000 years, and it served as a national capital for twelve years, with various names such as Guangxian City, Guanggu City, and Nanyang. Comprising six ancient cities, including Dongyang City, Dongguan Weizi City, and Qicheng, Qingzhou boasts unique historical buildings, city wall ruins, distinctive city blocks, vibrant folk customs, and intangible cultural heritage, making it a treasure trove of ancient capital history.

Through interactions with the local government, citizens, and tourists, it was elucidated that the appreciation of the ancient city's history and culture, coupled with the experience of its rich folk customs, forms the core tourism brand of Qingzhou. Therefore, in the service design process for tourism in Qingzhou ancient city, the central service concept revolves around fostering an understanding and appreciation of the ancient city's culture, coupled with immersive experiences of its vibrant folk traditions.

The primary tourist demographic in Qingzhou Ancient City is identified as cultural youth groups. In-depth interviews with 12 such groups revealed that their main motivation for tourism is the desire to experience traditional culture and folk life. To cater to the needs and expectations of these tourists, a value proposition was formulated, which can be further delineated into nine aspects spanning four dimensions: functional, cognitive, emotional, and social.

1. Quickly Obtain Effective and Useful Information (Cognition): Providing tourists with readily accessible and valuable information about the destination.

2. Get to Your Destination Quickly (Function): Ensuring efficient and prompt transportation services to facilitate easy access to the destination.

3. Enjoy Complete and Convenient Public Services (Functions): Offering comprehensive and user-friendly public services to enhance the overall tourist experience.

4. Familiarity with the Destination and Timely Problem Resolution (Cognition): Empowering tourists with knowledge about the destination and facilitating prompt solutions to any issues that may arise.

5. Get Close to Nature, Relax, and Enjoy with Family (Emotional): Providing opportunities for tourists to connect with nature, relax, and create memorable experiences with their families.

6. Appreciate and Understand Traditional Chinese Culture (Cognition): Offering experiences that allow tourists to appreciate and gain insights into traditional Chinese culture.

7. Experience Country Life with Increased Networking Opportunities (Emotional and Social): Creating opportunities for tourists to emotionally connect with rural life while fostering social interactions and networking.

8. Gather with Family and Friends and Enjoy Local Produce (Emotional and Social): Facilitating social gatherings among tourists, their families, and friends, coupled with the enjoyment of local produce.

9. Share Experiences, Stories, and Tips (Emotional and Social): Encouraging tourists to share their experiences, stories, and tips with fellow travellers, fostering emotional and social connections.

This value proposition aims to address the diverse needs and expectations of cultural youth groups visiting Qingzhou Ancient City, aligning with functional, cognitive, emotional, and social dimensions.

4.4.2 Identify the Existing Touch Points of Tourism Services in the Ancient City of Qingzhou

Customer touchpoints encompass crucial service elements, including services, facilities, spaces, and interactions, such as those facilitated through social media marketing, encountered by tourists during their travels. The destination tourism services ecosystem framework serves as a comprehensive guide, defining dimensions where these touchpoints may emerge and supporting a thorough exploration of potential touchpoints.

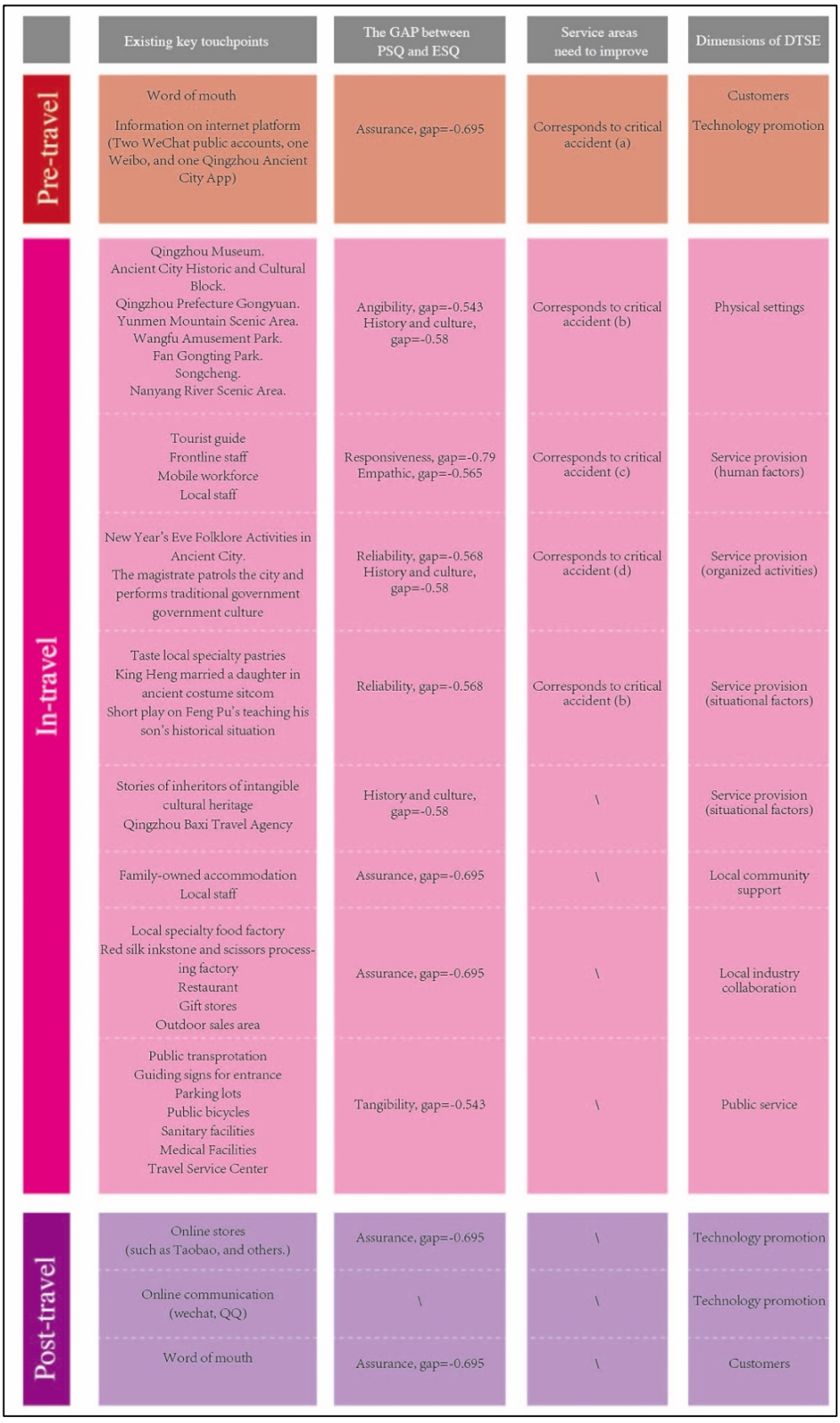
By amalgamating the tourism master plan of Qingzhou Ancient City with insights garnered from interviews with tourists and field observations conducted by researchers, the existing key touchpoints were delineated across the entire travel journey—prior to, during, and after the tour. Researcher sorted out these key touchpoints according to the dimensions specified in the destination tourism service ecosystem framework. At the same time, Researcher sorted out the research results obtained in the first and second research phases and integrated them into the existing key touchpoints. That is, the gaps in the perceived quality and expected service quality of tourism services in various dimensions and the critical accidents obtained through interviews are presented in the existing service touchpoints. This will more intuitively show the problems of the existing touchpoints and

lay the foundation for the design of the subsequent service design opportunities. The collection of all these key touchpoints forms a comprehensive customer journey map, which provides a visual presentation of the entire travel experience. This approach ensures a comprehensive understanding of customer touchpoints in the specific context of Qingzhou Ancient City, which helps to thoroughly explore and analyze the overall travel experience. The Destination Tourism Service Ecosystem (DTSE) outlines 14 key touchpoints in its core operating system and another 25 key touchpoints in its back-end support system (Figure 4.4).

By analyzing tourists' feedback on each touchpoint, it can be found that the key service touchpoints before and after the trip mainly involve the customer experience and technology dimensions of the tourism service ecosystem, mainly including tourists' word-of-mouth in the pre-tour and post-tour stages, the search and access to tourism information before the trip, and the purchase of tourist souvenirs and sharing of travel experiences after the trip. Corresponding to the dimension of tourism service quality assurance (Gap=-0.695), it corresponds to the critical accidents (a) the importance of publicity methods and channels. This shows that there is a certain gap between the service quality expectations and perceived service quality of tourists traveling in Qingzhou Ancient City. At the same time, although there are multiple tourism information display channels among the existing touchpoints, during the interview, many interviewed tourists mentioned that they did not know where to get accurate and timely tourism information. As the starting point and end point of Qingzhou ancient city tourism, it is the most impressive touchpoint. It belongs to the customer experience and technology dimensions in the tourism service ecosystem, plays a role in developing and strengthening connectivity, and should be taken seriously.

During the tour, researcher found that the key touchpoints "tour guides, front-line service employees, mobile service personnel, local employees" belong to the dimension of service provision (human factors) of the tourism service ecosystem, and the corresponding gap between the perceived quality and expected quality of tourism services is the largest among all dimensions. In addition, it also corresponds to the critical accidents (c) the service attitude of scenic spot staff. This shows that the quality of employees needs to be improved, and the etiquette and politeness of local staff need further training.

During the tour, researcher also found that the critical accidents corresponding to the service touchpoint, (b) the exhibition hall inside the scenic area, the richness of historical and cultural content, and the rationality of the exhibition design planning appeared twice, and the corresponding existing service touchpoints were also the most. The corresponding service ecosystem dimension is physical facilities and service provision (situational factors). This shows that although there are folk performances and intangible cultural heritage displays, there is no unified public visual symbol element to promote the brand. Critical accidents (d), the interactive participation of thematic and characteristic cultural activities inside the scenic spot, appeared once. However, the corresponding service ecosystem dimension service provision (situational factors) appeared twice. This shows that the main problem lies in the lack of interaction with tourists, the lack of intangible cultural heritage education courses, and whether opportunities for interactive participation with tourists are provided. Therefore, it is obvious that there is a need to strengthen destination branding and promote interactive participation in the service design process. This insight emphasizes the importance of addressing these specific aspects to enhance the overall tourist experience in the context of Qingzhou Ancient City.



	Existing key touchpoints	The GAP between PSQ and ESQ	Service areas need to improve	Dimensions of DTSE
Pre-travel	Word of mouth Information on internet platform (Two WeChat public accounts, one Weibo, and one Qingzhou Ancient City App)	Assurance, gap=-0.695	Corresponds to critical accident (a)	Customers Technology promotion
In-travel	Qingzhou Museum. Ancient City Historic and Cultural Block. Qingzhou Prefecture Gongyuan. Yunmen Mountain Scenic Area. Wangfu Amusement Park. Fan Gongting Park. Songcheng. Nanyang River Scenic Area.	Angibility, gap=-0.543 History and culture, gap=-0.58	Corresponds to critical accident (b)	Physical settings
	Tourist guide Frontline staff Mobile workforce Local staff	Responsiveness, gap=-0.79 Empathic, gap=-0.565	Corresponds to critical accident (c)	Service provision (human factors)
	New Year's Eve Folklore Activities in Ancient City. The magistrate patrols the city and performs traditional government government culture	Reliability, gap=-0.568 History and culture, gap=-0.58	Corresponds to critical accident (d)	Service provision (organized activities)
	Taste local specialty pastries King Heng married a daughter in ancient costume sitcom Short play on Feng Pu's teaching his son's historical situation	Reliability, gap=-0.568	Corresponds to critical accident (b)	Service provision (situational factors)
	Stories of inheritors of intangible cultural heritage Qingzhou Baxi Travel Agency	History and culture, gap=-0.58	\	Service provision (situational factors)
	Family-owned accommodation Local staff	Assurance, gap=-0.695	\	Local community support
	Local specialty food factory Red silk inkstone and scissors processing factory Restaurant Gift stores Outdoor sales area	Assurance, gap=-0.695	\	Local industry collaboration
	Public transprotation Guiding signs for entrance Parking lots Public bicycles Sanitary facilities Medical Facilities Travel Service Center	Tangibility, gap=-0.543	\	Public service
Post-travel	Online stores (such as Taobao, and others.)	Assurance, gap=-0.695	\	Technology promotion
	Online communication (wechat, QQ)	\	\	Technology promotion
	Word of mouth	Assurance, gap=-0.695	\	Customers

Figure 4.4: Existing KTP in Qingzhou Ancient City Tourism

4.4.3 Service Design Opportunity Points in Qingzhou Ancient City

The purpose of designing tourism experience service touchpoints is to meet the real and potential needs of tourists (Figure 4.5). According to the classification of tourists' expectations in Qingzhou Ancient City, the existing key service touchpoints are redesigned and arranged to check whether the service provision matches the needs of tourists, so as to explore opportunities for service improvement and innovation. First, the existing service touchpoints are grouped according to tourists before, during, and after the tour. Second, the groups are correspondingly divided according to tourists' expectations and service concepts. Finally, the gaps and critical accidents that have been found in the existing touchpoints are grouped and designed to find opportunities.

The existing touchpoints before the tour include "word-of-mouth marketing, Internet information platform (two WeChat public accounts, one Weibo, and one Qingzhou Ancient City App)". According to the dimension of the tourism service ecosystem, these touchpoints belong to the customer and technology promotion dimensions. Before the tour, tourists expect to quickly obtain effective and useful information about the destination (cognition). Corresponding to the assurance gap (Gap=-0.695) and critical accidents (a) in the tourism service quality dimension, that is, tourists attach great importance to or want to be able to quickly and easily understand the relevant tourism information of Qingzhou Ancient City through various channels in advance. Researcher designed corresponding opportunity points for this. Such as optimizing and improving the Qingzhou Ancient City App, establishing an official account on mainstream social media (TikTok) to share tourism information, sorting out different types of themed tourist routes, and online virtual roaming maps.

There are relatively many existing touchpoints in travel (Figure 4.5). According to the tourism service ecosystem, these touch points mainly include physical settings, service provision (human factors), service provision (organizational activities), service provision (situational factors), service provision (intermediary services), local community support, local industry cooperation, and public services. During the tourim, tourists traveling to Qingzhou Ancient City expect to reach the destination quickly (function), enjoy convenient and complete public services (function), be familiar with the destination, solve problems in time (cognition), get close to nature, relax themselves, stay with family (emotion), appreciate and understand Chinese traditional culture (cognition), experience the folk life of the ancient city, increase interpersonal communication opportunities (emotion and social), get together with family and friends, and enjoy local specialties (emotion and social). Corresponding to the gaps and critical accidents in each dimension of tourism service quality that have been measured (Figure 4.4), researcher have designed corresponding service design opportunities to meet tourists' expectations.

The existing touch points after the tourism include "online stores (such as Taobao, etc.), online communication (WeChat, QQ), word-of-mouth marketing", and the corresponding dimensions of the tourism service ecosystem are technology promotion and customers. After the tourism, tourists expect to be able to share their travel experience with others. In response to the service quality gaps and key events, researcher designed corresponding service design opportunities.

In alignment with the classification of tourist expectations in Qingzhou Ancient City, it is crucial to redesign and organize the existing key service touchpoints. This involves assessing whether the current service offerings align with the tourists' needs and exploring

opportunities for service improvement and innovation. The overarching aim is to ensure that the service design is tailored to the distinct expectations of tourists visiting the ancient city, thereby enhancing their overall experience.

The redesign of tourism experience service touchpoints aims to address the real and potential needs of tourists. Taking into account the expectations and desires of tourists, Figure 4.4 outlines potential opportunity points for service design. Recognizing the significant impact of experiencing traditional culture on the tourism brand of Qingzhou Ancient City, seven opportunities are proposed:

a) Utilize visual symbols to communicate the ancient city's rich history and culture in public spaces.

b) Host regular exhibitions of folk cultural activities.

c) Introduce displays and learning courses on intangible cultural heritage.

d) Create story documentaries featuring inheritors of intangible cultural heritage.

e) Showcase traditional production processes through displays and learning courses.

f) Highlight the culture of ancient imperial examination champions.

g) Organize Chinese traditional history and culture-themed competitions.

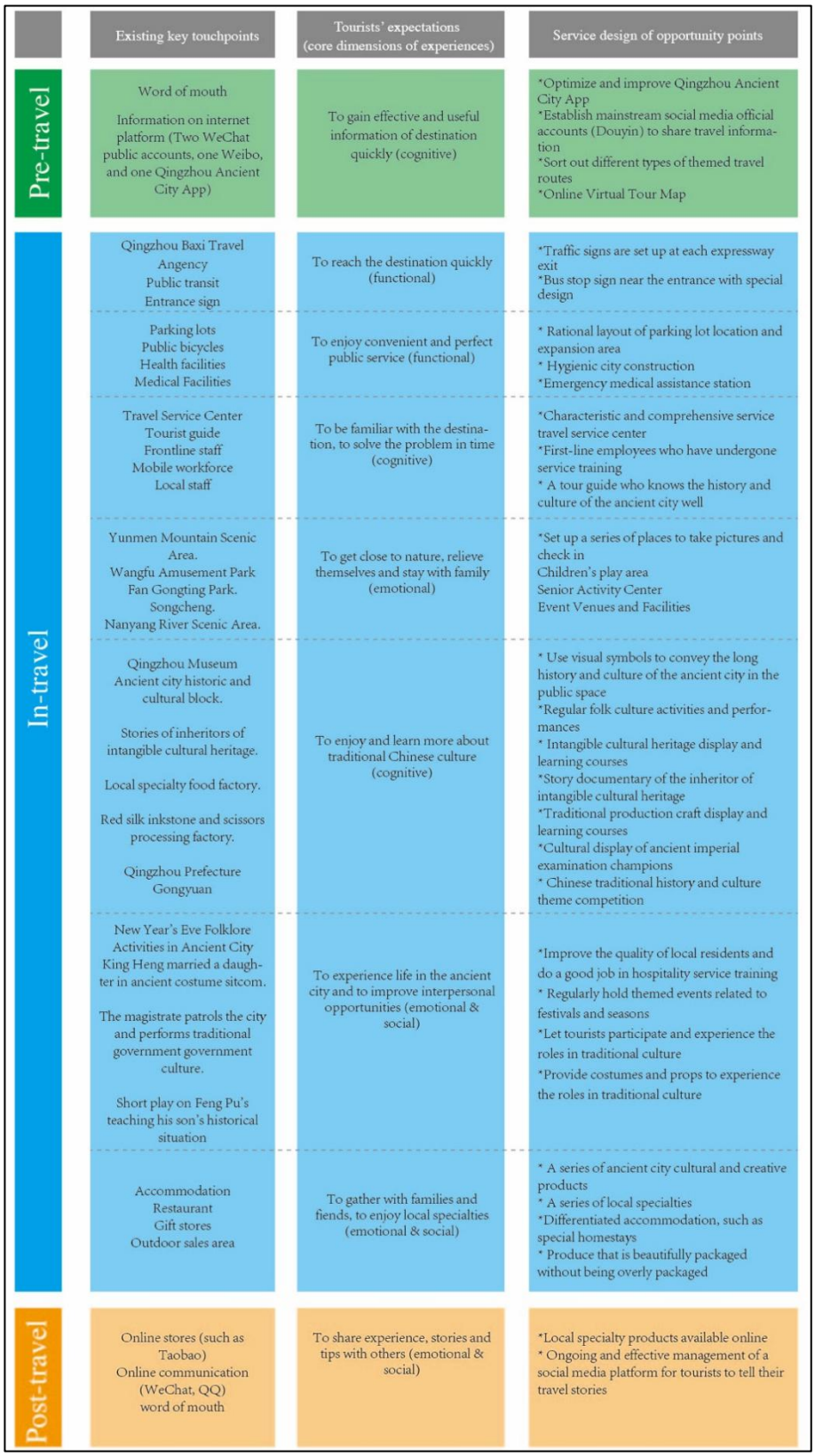
In enhancing the experience of the ancient city's folk life, fostering interaction and participation with tourists becomes paramount. Four opportunities are suggested:

a) Elevate the quality of local residents and provide comprehensive hospitality service training.

b) Conduct themed activities related to festivals and seasons, encouraging tourist participation.

c) Involve tourists in these activities, allowing them to experience roles in traditional culture.

d) Provide costumes and props for tourists to engage in roles related to traditional culture.



	Existing key touchpoints	Tourists' expectations (core dimensions of experiences)	Service design of opportunity points
Pre-travel	Word of mouth Information on internet platform (Two WeChat public accounts, one Weibo, and one Qingzhou Ancient City App)	To gain effective and useful information of destination quickly (cognitive)	*Optimize and improve Qingzhou Ancient City App *Establish mainstream social media official accounts (Douyin) to share travel information *Sort out different types of themed travel routes *Online Virtual Tour Map
In-travel	Qingzhou Baxi Travel Angency Public transit Entrance sign	To reach the destination quickly (functional)	*Traffic signs are set up at each expressway exit *Bus stop sign near the entrance with special design
	Parking lots Public bicycles Health facilities Medical Facilities	To enjoy convenient and perfect public service (functional)	* Rational layout of parking lot location and expansion area * Hygienic city construction *Emergency medical assistance station
	Travel Service Center Tourist guide Frontline staff Mobile workforce Local staff	To be familiar with the destination, to solve the problem in time (cognitive)	*Characteristic and comprehensive service travel service center *First-line employees who have undergone service training * A tour guide who knows the history and culture of the ancient city well
	Yunmen Mountain Scenic Area. Wangfu Amusement Park Fan Gongting Park. Songcheng. Nanyang River Scenic Area.	To get close to nature, relieve themselves and stay with family (emotional)	*Set up a series of places to take pictures and check in Children's play area Senior Activity Center Event Venues and Facilities
	Qingzhou Museum Ancient city historic and cultural block. Stories of inheritors of intangible cultural heritage. Local specialty food factory. Red silk inkstone and scissors processing factory. Qingzhou Prefecture Gongyuan	To enjoy and learn more about traditional Chinese culture (cognitive)	* Use visual symbols to convey the long history and culture of the ancient city in the public space *Regular folk culture activities and performances * Intangible cultural heritage display and learning courses *Story documentary of the inheritor of intangible cultural heritage *Traditional production craft display and learning courses *Cultural display of ancient imperial examination champions * Chinese traditional history and culture theme competition
	New Year's Eve Folklore Activities in Ancient City King Heng married a daughter in ancient costume sitcom. The magistrate patrols the city and performs traditional government government culture. Short play on Feng Pu's teaching his son's historical situation	To experience life in the ancient city and to improve interpersonal opportunities (emotional & social)	*Improve the quality of local residents and do a good job in hospitality service training * Regularly hold themed events related to festivals and seasons *Let tourists participate and experience the roles in traditional culture *Provide costumes and props to experience the roles in traditional culture
	Accommodation Restaurant Gift stores Outdoor sales area	To gather with families and fiends, to enjoy local specialties (emotional & social)	* A series of ancient city cultural and creative products * A series of local specialties *Differentiated accommodation, such as special homestays * Produce that is beautifully packaged without being overly packaged
Post-travel	Online stores (such as Taobao) Online communication (WeChat, QQ) word of mouth	To share experience, stories and tips with others (emotional & social)	*Local specialty products available online * Ongoing and effective management of a social media platform for tourists to tell their travel stories

Figure 4.5: Service Design Framework of Qingzhou Ancient City Tourism

4.4.4 Construction of Strategic Framework of Service Design for Destination Tourism Service Ecosystem in Qingzhou Ancient City

The coordinate system diagram (Figure 4.5) provides an illustration of the strategy framework of service design for destination tourism service ecosystem in Qingzhou Ancient City. The coordinate system diagram effectively conveys the strategic dimensions of service design, providing a chronological representation on the horizontal axis and delineating five crucial service design strategy dimensions on the vertical axis. These dimensions encompass peak touchpoints, destination brands, B2B cooperation opportunities, B2C, C2C co-creation, and local government support. By mapping out key touchpoints aligned with each strategic objective across different travel phases, this framework serves as a strategic tool for devising service innovations.

In the pre-travel phase, peak touchpoints include the use of virtual tour maps, online applications, and social media to access the latest and most authoritative information about Qingzhou Ancient City. To establish Qingzhou Ancient City as a destination brand, efforts should include producing documentaries on its history and intangible cultural heritage, as well as online brand marketing.

In the in-travel phase, peak touchpoints include visiting the Qingzhou Museum, establishing a heritage workshop and education center, and hosting experiential activities themed around the city's history and culture. To further the destination branding, it is crucial to train tour guides with extensive knowledge of the city's history, host themed exhibitions, events, and knowledge competitions, and convey cultural symbols in public spaces.

In the post-travel phase, peak touchpoints involve sharing travel stories and experiences on social media, as well as online platforms for cultural and local specialty

products. To promote the destination brand, a range of cultural and creative products should be developed, encouraging tourists to share their stories and providing free cultural souvenirs.

B2B cooperation opportunities in the pre-travel phase include developing online platforms for accommodations, specialty products, and travel agencies. In-travel, opportunities involve promoting local cuisine and craft products, developing cultural and creative products, and hosting activities related to local customs. Post-travel, opportunities include online management and sharing of cultural and specialty product stores.

B2C cooperation opportunities in the pre-travel phase involve posting reviews on virtual tour maps. In-travel, opportunities include organizing various performances during traditional festivals, setting up photo spots, offering creative learning courses on crafts and food, and training local citizens and front-line employees. Post-travel, opportunities focus on managing social media to enhance customer satisfaction.

C2C co-creation involves sharing memorable experiences and stories to attract visitors in the pre-travel phase. In-travel, it includes hosting cultural and art fairs, interactive activities for various festivals, developing entertainment areas for children and seniors, and managing online review communities.

Government support in the pre-travel phase includes policies to support tourism, promotion on official websites, endorsements by government leaders, and the release of official promotional videos. In-travel, it involves providing a safe and convenient environment, building a smart city network, and promoting holistic tourism. Post-travel support includes follow-ups on service experiences, handling complaints, supervising the environment, and enforcing tourism laws.

Figure 4.6: A Strategic Framework of Service Design for Detination Tourism Service Ecosystem in Qingzhou Ancient City

This strategic framework provides Qingzhou Ancient City's tourism destination managers with a comprehensive approach to navigate the complexity of the destination's service ecosystem, fostering stakeholder coordination and realizing shared service values through co-creation. This, in turn, enhances tourist experiences and promotes the sustainable development of Qingzhou Ancient City as a tourism destination.

4.5 Chapter Summary

This chapter is divided into three sections to present and discuss the research findings. The first research question addresses the factors influencing the quality of tourism services in Qingzhou Ancient City. By constructing and validating a measurement model, six factors were identified and analyzed for their impact. The model also verified the gap between tourists' perceived service quality and expected service quality, revealing a significant discrepancy. Using linear regression analysis, the relationship between perceived service quality dimensions and overall tourist satisfaction was examined, identifying the factors affecting overall tourist satisfaction.

For the second research question on how to evaluate and analyze tourist experiences in Qingzhou Ancient City using service design methods, a multi-step qualitative approach incorporating service design tools was employed, yielding relevant results. The analysis of personas was described and analyzed. Through participatory observation and guided interviews, critical incidents were identified and analyzed. A customer journey map was also created and analyzed, with the results aligning with the critical incidents. The service safari method provided insights from tourists, highlighting areas for improvement by service providers.

Regarding the third research question on how to construct a service design strategy model for the tourism service ecosystem of Qingzhou Ancient City, the researchers followed several steps. First, tourist needs were identified. Second, existing service touchpoints were found and presented, combining service expectations, perceived service quality gaps, and current critical incidents. Third, service design opportunity points were identified based on existing service touchpoints. Fourth, by establishing peak service touchpoints and promoting stakeholder co-creation and collaboration, a destination brand was realized, forming the service design strategy framework for the tourism service ecosystem.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

Chapter 5 of the dissertation is the last chapter and concludes the full text. It includes stating the achievement of the research objectives, presenting the research contribution of the study, addressing the limitations of the study, and giving suggestions for future research.

5.2 The Realization of the Objectives of the Research

This thesis endeavors to develop a service design strategy framework for the tourism service ecosystem in Qingzhou ancient city, integrating service design thinking and methodologies to enhance the service experience for tourists and contribute to the sustainable development of destination tourism. The research employs a mixed-method approach across three distinct stages: a questionnaire method, a multi-step qualitative research method, and the application of service design tools. Through this comprehensive methodology, the study seeks to establish a robust service design strategy framework for the tourism service ecosystem in Qingzhou Ancient City. The primary objective is to meticulously explore the gap between tourists' perceived service and their expected service quality in Qingzhou Ancient City, with a specific focus on identifying areas within the service that require improvement. In this study, the data analysis and findings chapters are organized to reflect the intended research objectives, summarized as follows:

5.2.1 To Identify the Factors that Affect the Perceived Service Quality of Tourists in Qingzhou Ancient City

5.2.1.1 To determine the factors affecting the quality of tourism service in qingzhou ancient city

The study outcomes reveal six principal dimensions influencing the quality of tourism services in the ancient city of Qingzhou: historical culture, tangibility, reliability, responsiveness, assurance, and empathy. Notably, historical culture emerges as the dimension carrying the most significant weight in influencing the tourism service quality of Qingzhou ancient city.

5.2.1.2 To determine the impact of each dimension of service quality on tourist satisfaction

In the analysis, the overall satisfaction of tourists serves as the dependent variable, with the six dimensions acting as independent variables. Utilizing multiple regression analysis, the study aimed to discern the connection between these dimensions and overall satisfaction. The results highlight two dimensions, (1) assurance and (2) historical and cultural aspects, as having the most significant impact on tourist satisfaction in the ancient city of Qingzhou. These dimensions are closely tied to the reliability of services provided by the scenic spot and the preservation and presentation of the historical and cultural elements of the site. Consequently, the reliable service offered by the ancient city scenic spot emerges as a crucial factor driving high levels of tourist satisfaction.

5.2.1.3 To identify service quality gaps

Table 4.9 presents the average scores reflecting tourists' expectations and perceptions of Qingzhou ancient city scenic spots. Tourists' expectations have an average score of 4.42, while their perceived level is 3.74. Notably, there are significant negative differences in all 23 attributes, with $p<0.05$. This indicates a considerable gap between tourists' perceived service and their expected service in Qingzhou ancient city. The gap analysis underscores that the "responsiveness" dimension of service exhibits the most substantial disparity with customer expectations, directly linked to the performance of service personnel. To bridge this gap and enhance service quality, improvements are recommended. These include

recruiting highly skilled tourism professionals, implementing specialized service training programs, fostering a customer-centric mindset, establishing communication channels such as a website message board and email, and ensuring 24-hour service availability for timely issue resolution. Additionally, involving service personnel in setting quality standards, instituting a return call system for service evaluation, and implementing a reward system based on evaluations can contribute to enhancing the performance of service personnel.

5.2.2 To Examine the Tourist Service Experience in Qingzhou Ancient City

In this phase of the study researcher used a multi-step qualitative approach as follows

Firstly, a target group analysis was conducted using personas, offering insights into the diverse perspectives of different groups. Participant observation was then utilized to gather real-time data on visitor behaviors and interactions. One-on-one guided interviews were employed to identify key events that significantly influenced the overall experience. Additionally, service discovery tours provided an immersive understanding of the service landscape. Finally, customer journey maps were utilized to visualize and capture the nuanced service experiences of different target groups. The complexity of the overall experience in the ancient city scenic spot was revealed, stemming from factors such as the subjective perceptions of tourists, interactions with service personnel, and engagements with fellow tourists. This comprehensive methodology ensures a nuanced understanding of the intricate dynamics shaping the visitor experience.

The outcomes derived from the implementation of multi-step methods are subsequently discussed. Firstly, the persona approach, offering a comprehensive portrayal of the target group, integrates detailed psychographic and behavioural data that prove highly beneficial for observing and understanding the customer service experience in subsequent

steps. Secondly, participatory observation enables researcher to intuitively observe and sense various aspects of tourists' experiences, encompassing mood, expression, language, body language, and reactions. Thirdly, guided interviews conducted post-visit serve to fill in unobservable information gaps, allowing researcher to gain a more comprehensive understanding of the target group's visit experience. Encouraging observed individuals to recount their visit experience helps clarify or prevent misunderstandings. Additionally, this method facilitates the identification of key events that significantly influence satisfaction. Fourthly, the service exploration trip permits researcher to personally immerse themselves in tourists' feelings and observe the situation at each service contact point, uncovering existing problems. Finally, the customer journey map, visualizing the visitor's experience, serves as a manageable and comprehensive tool for researcher. Both customer journey maps encompass and assess all touchpoints along the travel itinerary, offering a holistic view of the service experience.

5.2.3 To Construct A Service Design Framework for the Destination Tourism Service Ecosystem in Qingzhou Ancient City

In this research phase, researcher established the service concept for the tourism service design of Qingzhou Ancient City through comprehensive investigation. This process has resulted in a cohesive overall brand image and value proposition, significantly enhancing the overall competitiveness of the destination tourism service ecosystem. Building upon the insights gained from the initial two stages of investigation and research, researcher pinpointed the key touchpoints within the existing services in Qingzhou Ancient City, aligning them with the service quality gap and the dimensions of the tourism service ecosystem. Subsequently, this study delineates the opportunity points for Qingzhou ancient city tourism service design, meticulously corresponding to the customer's expected service

experience. This systematic approach culminates in the development of the Qingzhou ancient city tourism service design framework. This framework is adept at addressing complex behavioral, economic, and social issues, furnishing tourism destination managers with innovative and effective solutions that align with consistent goals. The service design strategy framework for the tourism service ecosystem in Qingzhou Ancient City embodies collective thinking within service design. Within this framework, each service provider can distinctly identify their positioning and potential collaborations. It also offers opportunities for all stakeholders to engage in resource integration and value co-creation. This framework facilitates the operation of tourism services and the design of service processes, ultimately delivering an unforgettable tourism service experience to visitors. The overarching goal is to elevate the competitiveness of tourist destinations in the ancient city of Qingzhou, thereby fostering sustainable development within the tourism industry.

5.3 Contributions of the Study

This study significantly contributes to the theoretical advancement of tourism destination service design, particularly within the realm of service design for tourism service ecosystems in ancient city destinations. The theoretical contribution of this study extends to both service design and tourism-related research. Notably, a model for assessing the quality of tourism services in the ancient city of Qingzhou has been developed, accompanied by the formulation of a strategic framework for the service design of tourism service ecosystems in this historical locale. This dual contribution enhances the understanding and application of service design principles within the unique context of ancient city destinations, contributing to the broader discourse on service design in tourism.

This study employs a straightforward mixed-methods approach, combining quantitative and qualitative research, and integrates a service design perspective. The inclusion of a service design approach introduces a novel method and perspective for analyzing and evaluating tourist service experiences. Notably, the utilization of the customer journey map, a visual service design method, enhances the clarity and executability of service and experience management.

This innovative approach contributes to advancing the methodology in assessing tourist service experiences and underscores the practical application of service design principles in the tourism industry. Firstly, the entire service design process is rooted in a shared service concept, significantly enhancing the overall competitiveness of tourist destinations in the ancient city of Qingzhou. Secondly, the interactions meticulously designed at key touchpoints in the Customer Journey Map (CJM) facilitate the achievement of consistent goals among various stakeholders. Adopting a collective service design approach empowers Destination Marketing Organizations (DMOs) to devise more innovative, visitor-centric, and efficient solutions for complex behavioral, economic, and social challenges. Thirdly, within the Destination Tourism Services Ecosystem (DTSE) service design strategy framework, service providers can pinpoint their positioning and identify potential partners. This clarity aids in streamlining relationships, defining the direction of collaboration with other stakeholders, and optimizing the organization of operations and service processes for effective implementation.

5.4 Limitations of the Study

Every research endeavor comes with inherent limitations, and it is essential to acknowledge and reflect on these constraints. The primary limitation in this study pertains

to the scarcity of interdisciplinary literature bridging service design and tourism. There is not only a dearth of pertinent theories for research at the intersection of tourism and service design but also a lack of crucial case studies focusing on tourism management in various destination types, including ancient city destinations. While this thesis makes a valuable contribution to the existing body of literature in the realm of service design and tourism research through its simple mixed-method approach, further exploration employing both qualitative and quantitative research methods is warranted to delve deeper into this emerging field.

It is widely recognized that larger and more diverse sample sizes enhance the robustness of research analysis. Examining the demographic data, it is evident that a majority of the interviewees hail from Shandong Province, China. The relatively fewer interviewees from other regions can be attributed to the impact of the epidemic during the data collection period. Acknowledging time and resource constraints, it is important to note that the sample size, though valuable, might not comprehensively capture the entirety of the research landscape.

An additional limitation of this research lies in its focus on the Qingzhou ancient city tourist destination. Different types of destinations may yield distinct research outcomes as diverse tourist destinations often exhibit unique expectations and service dynamics. It's crucial to recognize that the conceptual framework outlined in this study may not encapsulate every facet of DTSE's service design, necessitating further validation and refinement to ensure its applicability across various tourism contexts.

5.5 Recommendations

Building on the current research findings, several recommendations for future studies are proposed. Firstly, the service design strategy framework developed for the Qingzhou Ancient City Destination Tourism Service Ecosystem should be refined and adapted to accommodate various types of tourism destinations. Given the novelty of the DTSE service design concept, future research could benefit from additional action-oriented studies or case analyses to further develop and validate the framework. Furthermore, there is a need for more comprehensive case studies applying service design methodologies to enhance the overall tourism experience and drive innovation in tourism services across diverse destinations.

Secondly, the pervasive integration of new technologies has significantly enhanced the tourist experience and fostered service innovation (Buhalis et al., 2019). Subsequent research endeavors could delve into the ways in which emerging technologies contribute to the enhancement of tourism experiences, innovate service design methodologies, and optimize the functioning of tourism service ecosystems. Investigating the integration of destination physical infrastructure with tourism service providers through new technologies and the establishment of a dynamic and open DTSE represents a pressing concern. Researchers might explore the impact of digitization, artificial intelligence, and the Internet of Things on the travel industry and their influence on customer experiences.

Thirdly, considering a tourist destination as a social-ecological system, future research is poised to explore novel directions, offering insights that contribute to the sustainable development of destination tourism (Woodside, 2009; Yang et al., 2018). Potential research avenues include investigating how tourism development impacts the

ecosystem and understanding the evolving dynamics in the interaction between service providers and tourists. These inquiries can provide valuable contributions to the broader understanding of the intricate relationships within destination tourism ecosystems.

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APPENDICES

Appendix 1A The Characters and Roles of Tourist Scenic Spots in the Ancient City of Qingzhou-Teacher-Interview

The Characters and Roles of Tourist Scenic Spots in the Ancient City of Qingzhou-Teacher-Interview

Persona-Mark	Sources of Expectation	R	Entrance	R	Fucai Gate	R	Tourist Service Centre	R	Memory of the Ancient City Cultural Exhibition	R	Li Cheng Memorial Hall	R	Ouyang Xiu Memorial Hall	R	Ouyuan Garden	R	Qingzhou Prefecture Tribute House	R	Departure	R	Post-Service Actions	R
Functional Clue	TV ad, Brochure, Call center, WeChat Official Accounts	+	Parking area, Signage, Ticket counter	+	Scenic views, Easy and fast access to scenic areas	+	Accurate information on services	+	Exhibition content, Exhibition design, Exhibition effects	++	Exhibition content, Exhibition design, Exhibition effects	+	Exhibition content, Exhibition design, Exhibition effects	+	Space design, landscape	++	Exhibition content, Exhibition design, Exhibition effects	++	Exit gate, Parking area, Signage	+	Birthday letter, Entrance pass, Personal pictures and movie clips	−
		−		+		+				−		+		−		+		+		+		+
		+		+																		−
		+																				
Mechanic Clue	Music & pictures in ads, homepage and promotions	+	Flags, Pictures, Music, Lightning, Open atmosphere	+	Signs, safety instructions	+	Information counter	+	Display equipment, Display facilities, Lighting effects, Display	−	Display equipment, Display facilities, Lighting effects, Display	−	Display equipment, Display facilities, Lighting effects, Display	−	Flora and fauna, flowing water, rockeries, Pavilions and pavilions in the park	++	Display equipment, Display facilities, Lighting effects, Display descriptions	+	Flags, Pictures, Music	+	Pictures, Movies	−
		+		+				−		+		+		−		++		+		+		−
		−												−		++		++				
																++						
Humanic Clue			Employee at entrance	−	Employee at entrance	+	Employees service attitude, staff image, language and norms, staff service	−	Guided tours, service staff	−	Guided tours, Service staff	−	Guided tours, Service staff	−	Guided tours, Service staff	+	Guided tours, Service staff	+	Employee at exit gate	−		
						−		+		+		+		−		+		+				
						+		−						−								
Story telling	All historical and cultural story content	+	First impression gives a strong clue to the theme	+	Preservation and revitalisation of local traditional architecture	+	Provide tourist information on the old town scenic area	+	Preservation and revitalisation of local traditional architecture	+	Preservation and revitalisation of local traditional architecture	+	Preservation and revitalisation of local traditional architecture	+	Revitalisation of local culture, Preservation and revitalisation of local traditional architecture	+	Revitalisation of local culture, Preservation and revitalisation of local traditional architecture	+	Pictures, Music, Animation characters	+	All historical and cultural story content	+
																++		+				
Co-Creation	Word of mouth, Suggestions from friends	++	No queues	+	Ceremony	−	No queues	+	Themed activities, Special culture, Interactive participation	−	Themed activities, Special culture, Interactive participation	+	Themed activities, Special culture, Interactive participation	−	Themed activities, Special culture, Interactive participation	++	Themed activities, Special culture, Interactive participation	−	No queues	+	Word of mouth	+
		+								+		−		−		++		−				
										−						−						

A "++" rated section represents a good and very good experience, a "+" rating represents a neutral or mixed experience, and a "−" represents a negative experience, leading to dissatisfaction and negative reactions.

Appendix 2A The Characters and Roles of Tourist Scenic Spots in the Ancient City of Qingzhou-Students-Interview

Qingzhou Ancient City Tourist Attractions-Characters-Students-Interview Results																															
Persona-john	Sources of Expectation	R	Entrance	R	Fucai Gate	R	Tourist Service Centre	R	Memory of the Ancient City Cultural Exhibition	R	Li Cheng Memorial Hall	R	Ouyang Xiu Memorial Hall	R	Ouyuan Garden	R	Qingzhou Prefecture Tribute House	R	Departure	R	Post-Service Actions	R
Functional Clue	TV ad, Brochure, Call center, WeChat Official	+	Parking area, Signage, Ticket counter	+	Scenic views, Easy and fast access to scenic areas	+	Accurate information on services	+	Exhibition content, Exhibition design, Exhibition effects	+	Exhibition content, Exhibition design, Exhibition effects	+	Exhibition content, Exhibition design, Exhibition effects	−	Space design, landscape	++	Exhibition content, Exhibition design, Exhibition effects	++	Exit gate, Parking area, Signage	+	Birthday letter, Entrance pass, Personal	−
		−		+		+		+		+		+		+		++		+		+		+	
		+		+		+		+		+		+		+		++		+		+		−	
		++																					
Mechanic Clue	Music & pictures in ads, homepage and promotions	+	Flags, Pictures, Music, Lightning, Open atmosphere	+	Signs, safety instructions	+	Information counter	+	Display equipment, Display facilities, Lighting effects, Display descriptions	−	Display equipment, Display facilities, Lighting effects, Display descriptions	−	Display equipment, Display facilities, Lighting effects, Display descriptions	−	Flora and fauna, Flowing water, Rockeries, Pavilions and pavilions in the park	++	Display equipment, Display facilities, Lighting effects, Display descriptions	−	Flags, Pictures, Music	+	Pictures, Movies	−
		+		+		+		+		+		+		+		+		+		+		−	
		+		+		+		+		+		+		−		+		+		+		−	
																++							
Humanic Clue		−	Employee at entrance	−	Employee at entrance	−	Employees service attitude, staff image, language and norms, staff service efficiency	−	Guided tours, service staff	−	Guided tours, Service staff	−	Guided tours, Service staff	−	Guided tours, Service staff	−	Guided tours, Service staff	−	Employee at exit gate	+		
						+		+		+		+		+		+		+					
						−		−		−		−		−		−		−					
Story telling	All historical and cultural story content	+	First impression gives a strong clue to the theme	+	Preservation and revitalisation of local traditional architecture	+	Provide tourist information on the old town scenic area	+	Preservation and revitalisation of local traditional architecture	+	Preservation and revitalisation of local traditional architecture	+	Preservation and revitalisation of local traditional architecture	−	Revitalisation of local culture, Preservation and revitalisation of local traditional	++	Revitalisation of local culture, Preservation and revitalisation of local traditional	+	Pictures, Music, Animation characters	+	All historical and cultural story content	+
																++		++		+			
Co-Creation	Word of mouth, Suggestions from friends	++	No queues	+	Ceremony	−	No queues	+	Themed activities, Special culture, Interactive participation	−	Themed activities, Special culture, Interactive participation	−	Themed activities, Special culture, Interactive participation	−	Themed activities, Special culture, Interactive participation	++	Themed activities, Special culture, Interactive participation	−	No queues	−	Word of mouth	+
		++														−							
A "++" rated section represents a good and very good experience, a "+" rating represents a neutral or mixed experience, and a "−" represents a negative experience, leading to dissatisfaction and negative reactions.																							

Appendix 3A The Participant Observation Record of "Fine History Route"

The Participant Observation Record of "Fine History Route"

Touchpoint / Observation Record	Entrance	Fucai Gate	Tourist Service Centre	Memory of the Ancient City Cultural Exhibition	Li Cheng Memorial Hall	Ouyang Xiu Memorial Hall	Ouyuan Garden	Qingzhou Prefecture Tribute House	Departure
Photos									
Service Used	Information online\ Carpark\Public transit	Accessibility of the passage	Information and Maps	Entry Ticket Purchase (online) \ Exhibit Viewing\ Electronic content display	Entry Ticket Purchase (online) \ Exhibit Viewing\ Electronic content display\ Historical Insights	Entry Ticket Purchase (online) \ Exhibit Viewing\ Electronic content display\ Memorial Viewing	Entry Ticket Purchase (online) \ Tourist souvenir shop\ Scenic Viewing	Cultural Exhibit Viewing\ Cultural Exhibit Viewing	Carpark\ Public transit
Length of Stay	1 min	1 min	15 min	33 min	35 min	30 min	35 min	20 min	15 min
Body Language and Reactions (Target group 1)	Excited, chatting energetically	Excited, chatting energetically, taking selfies,	Interested, exploring brochures, discussing plans	Wait in line, engaged, reading descriptions	Curious, quietly	Reflective, reading plaques, taking notes	Relaxed, taking many photos, admiring scenery, buy souvenirs	Engaged, watching displays, curious	Satisfied, sharing experiences, planning next visit
Body Language and Reactions (Target group 2)	Relaxed, smiling, eager, organized	Relaxed, smiling, eager, taking photos,	Focused, efficiently collecting information. Planning route	Thoughtful, nodding at information	Reflective, absorbing information	Engaged, reading, taking photos	Relaxed, admiring scenery, taking photos, buy souvenirs	Interested, analyzing displays	Satisfied, discussing experience
Interactions with staff and others (Target group 1)	Asking basic questions, sharing excitement with peers	Asking basic questions, sharing excitement with peers	Asking about attractions, planning route with group	Taking photos, discussing exhibits with peers	Asking occasional questions, discussing with peers	Discussing significance with peers, asking questions	Commenting on the beauty, pointing out interesting features	Asking staff about cultural significance, discussing with group	Excitedly planning next visit
Interactions with staff and others (Target group 2)	Asking detailed questions, coordinating group	Discussing plans with group	Asking for recommendations, planning route systematically	Asking staff for details about exhibits, talking to each other	Minimal interaction with staff, discussing exhibit content with group	Brief questions to staff, sharing thoughts within group	Commenting on the beauty, discussing with group	Asking detailed questions to staff, discussing with group	Planning next visit

Appendix 4A Service Quality Questionnaire of Qingzhou Ancient City Tourism

To participate in this questionnaire survey, you need to have visited the Qingzhou Ancient City Scenic Spot.

Dear Madam/Sir:

Hello! I am a Ph.D. graduate student, and I am doing a research on the tourism service quality of Qingzhou Ancient City Scenic Area. The purpose of the questionnaire is to understand your views and opinions on the quality of tourism services in Qingzhou Ancient City Scenic Area. You are hereby invited to participate in the survey, which is anonymous. Your answer does not matter right or wrong, as long as it is your true situation and opinion.

Part I Basic Personal Information of the Respondents

Please fill in the questionnaire as required. Your answers are only for academic research. Researcher guarantee that the information you provide will be kept absolutely confidential.

1. Your gender: [Single-choice question] *

○Male ○Female

2. Your age group: [Single-choice question] *

○Below 18 years old ○18~25 ○26~30 ○31~40

○41~50 ○51~60 ○Over 60

3. Your occupation [multiple choice] *

○Current students

○Government/organ cadres/civil servants

○Enterprise managers (including grassroots and middle and senior managers)

○Ordinary staff (office/office building staff)

○Professionals (such as doctors/lawyers/stylists/journalists/teachers, and others.)

○Ordinary workers (such as factory workers/manual workers, and others.)

○Commercial service workers (such as salespersons/store clerks/waiters, and others.)

○Self-employed persons/contractors

○Freelancer

○Agriculture, forestry, animal husbandry and fishery workers

○ retired

○Housewife/full-time wife

○No job yet

4. Your education level [single-choice question] *

○Elementary school and below

○Junior high school

○High school/technical secondary school/technical school

○College

○Undergraduate

○Master's degree and above

5. Your personal monthly income [single-choice question] *

○Below 2000 yuan

○2001 − 4000 yuan

○4001 − 6000 yuan

○ More than 6000 yuan

6. Your place of residence: [Single-choice question] *

○Qingzhou City

○Weifang City

○Shandong Province

○ outside the province

7. How many times have you visited the ancient city scenic spot: [Single-choice question] *

○1 time

○2-3 times

○ More than 3 times

8. How many people do you usually accompany when you go to the ancient city scenic spot? [Single-choice question] *

○ Alone

○family

○ friend

○colleagues

9. The way you travel to the ancient city is: [Single-choice question] *

○ Self-driving tour

○Tour group chartered car

○Unit organization

○ FIT

○Other

The second part: the service level expected by the respondents on the service quality of excellent ancient city scenic spots

If you think the characteristics listed in the table below are completely unnecessary for the excellent scenic spot service you expect, please score 1 point, and if you think it is important, please score 5 points. 1-5 correspond to "very unimportant, unimportant, generally, important, very important"

10. The folk cultural activities in the scenic area are rich and colorful [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

11. The tourist products in the scenic area are rich in local cultural characteristics [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

12. The historical and cultural buildings in the scenic area are well preserved [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

13. The local residents in the scenic area live in the original ecology and the folk customs are simple [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

14. Catering in the scenic area is full of regional cultural characteristics [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

15. The ancient city scenic area has complete infrastructure (such as toilets, trash cans, sightseeing cars, and others.) [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

16. Tourist facilities such as catering, accommodation, and others. are complete and comfortable [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

17. The service facilities of the scenic spots in the ancient city have the characteristics of the ancient city [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

18. The appearance and appearance of the staff in the ancient city scenic spot are neat and clean [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

19. The internal road design of the scenic spot is reasonable [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

20. All kinds of signs and signs in the ancient city scenic area are eye-catching, and the instructions are clear [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

21. The public security conditions in the scenic spots of the ancient city are good [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

22. The tour order of the ancient city scenic spot is good [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

23. There are obvious warning signs for tourists in the scenic area of the ancient city [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant

Importance	○	○	○	○	○

24. The various facilities and surrounding environment of the ancient city scenic spot make you feel safe [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

25. The employees of the ancient city scenic spot can respond to the needs of tourists in a timely manner [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

26. The service staff of the ancient city scenic spot can quickly and accurately handle your complaints [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

27. The employees of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

28. The service staff of the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

29. Timely and accurate fulfillment of services promised to tourists by ancient city scenic spots [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

30. Convenient internal transportation in the ancient city scenic spot [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

31. The shopping environment in the scenic spot of the ancient city is good, and it can operate with integrity [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

32. The staff of the ancient city scenic spot have strong communication skills and an accurate understanding of tourists' needs [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

33. The external publicity is consistent with the actual feelings of tourists [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

34. The service personnel in the ancient city scenic spot always put the interests of tourists first [matrix scale question] *

	Very unimportant	Unimportant	Generally	Important	Very inportant

Importance	○	○	○	○	○

35. The service staff of the ancient city scenic spot can actively understand your needs and preferences [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

36. The staff of the ancient city scenic spot provide personalized services for tourists [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

37. The service staff in the ancient city scenic spots are enthusiastic and willing to help tourists [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

38. Ancient city scenic spots can provide emotional care for disabled tourists [matrix scale questions] *

	Very unimportant	Unimportant	Generally	Important	Very inportant
Importance	○	○	○	○	○

Part III Respondents' Perceived Service Level of Scenic Spot Service Quality

Your true feelings about the quality of tourism services after visiting the ancient city of Qingzhou. To what extent does the tourism service in the scenic spot you feel in the ancient city of Qingzhou conform to the characteristics described below, please give a score in the table box after the question. 1-5 represent " Strongly Disagree, Disagree, Moderately, Conform, Very Consistent"

39. The folk cultural activities in the scenic area are rich and colorful [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

40. The tourist products in the scenic area are rich in local cultural characteristics [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent

Degree of compliance	○	○	○	○	○

41. The historical and cultural buildings in the scenic area are well preserved [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

42. The local residents in the scenic area live in the original ecology and the folk customs are simple [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

43. Catering in the scenic area is full of regional cultural characteristics [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

44. The ancient city scenic area has complete infrastructure (such as toilets, trash cans, sightseeing cars, and others.) [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

45. Tourist facilities such as catering, accommodation, and others. are complete and comfortable [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

46. The service facilities of the scenic spots in the ancient city have the characteristics of the ancient city [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

47. The appearance and appearance of the staff in the ancient city scenic spot are neat and clean [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

48. The internal road design of the scenic spot is reasonable [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

49. All kinds of signs and signs in the scenic area of the ancient city are eye-catching, and the instructions are clear [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

50. The public security conditions in the scenic spots of the ancient city are good [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

51. The tour order of the ancient city scenic spots is good [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

52. There are obvious warning signs for tourists in the scenic area of the ancient city [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

53. The various facilities and surrounding environment of the ancient city scenic spot make you feel safe [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent

Degree of compliance	○	○	○	○	○

54. The employees of the ancient city scenic spot can respond to the needs of tourists in a timely manner [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

55. The service staff of the ancient city scenic spot can quickly and accurately handle your complaints [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

56. The employees of the ancient city scenic spot can handle tourists' complaints in a timely and proper manner [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

57. The service staff of the ancient city scenic spot can take the initiative to care and provide help when tourists encounter difficulties [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

58. Timely and accurate completion of the service promised to tourists by the ancient city scenic spot [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

59. The internal transportation of the ancient city scenic area is convenient [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

60. The shopping environment in the scenic spot of the ancient city is good, and it can operate with integrity [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

61. The staff of the ancient city scenic spot have strong communication skills and have an accurate understanding of tourists' needs [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

62. The external publicity is consistent with the actual feelings of tourists [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

63. The service staff of the ancient city scenic spot can always put the interests of tourists first [matrix scale question] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

64. The service personnel of the ancient city scenic spot can actively understand your needs and preferences [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

65. The staff of the ancient city scenic spot provide personalized services for tourists [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

66. The service staff in the ancient city scenic spots are enthusiastic and willing to help tourists [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent

Degree of compliance	○	○	○	○	○

67. Ancient city scenic spots can provide emotional care for disabled tourists [matrix scale questions] *

	Strongly Disagree	Disagree	Moderately	Conform	Very Consistent
Degree of compliance	○	○	○	○	○

Part Four: Respondents' Satisfaction with Scenic Spot Service Quality

This part is used to test your overall impression of the tourism service quality of Qingzhou Ancient City Scenic Area

68. Your overall satisfaction with this scenic spot [matrix scale question] *

	Very dissatisfied	Dissatisfied	Generally	Satisfied	Very Satisfied
Satisfaction	○	○	○	○	○

69. Your evaluation of the service quality of this scenic spot [matrix scale question] *

Very dissatisfied Dissatisfied Fairly satisfied Very satisfied

	Very dissatisfied	Dissatisfied	Generally	Satisfied	Very Satisfied

Satisfaction	○	○	○	○	○

Part V Scale of Respondents' Loyalty to Scenic Spots

This part is used to test your loyalty to Qingzhou Ancient City Scenic Tourism

70. What is your willingness to visit this scenic spot next time [matrix scale question] *

	Very unwilling	Not willing	Moderately	Willing	Very willing
Loyalty	○	○	○	○	○

71. Your willingness to recommend this scenic spot to relatives and friends is [matrix scale question] *

	Very unwilling	Not willing	Moderately	Willing	Very willing
Loyalty	○	○	○	○	○