

THE INFLUENCE OF RATER-BASED SERVICE QUALITY ON TOURISTS' PURCHASE INTENTION TOWARD PALACE MUSEUM CULTURAL AND CREATIVE PRODUCTS: THE MEDIATING EFFECTS OF TOURIST SATISFACTION AND BRAND SATISFACTION

Chenyu Li

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
Program in Management
Rattanakosin International College of Creative Entrepreneurship
Rajamangala University of Technology Rattanakosin
Academic Year 2026
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Chenyu Li

2026



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Title of Thesis The Influence of RATER-Based Service Quality on Tourists' Purchase Intention toward Palace Museum Cultural and Creative Products: The Mediating Effects of Tourist Satisfaction and Brand Satisfaction

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ABSTRACT

The objectives of this study were (1) to explore the relationships among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products, and (2) to investigate whether tourist satisfaction and brand satisfaction mediate the relationships among reliability, assurance, tangibles, empathy, responsiveness, and purchase intention.

This study adopted a quantitative research approach and conducted a survey using a structured questionnaire administered to offline tourists who had visited the Palace Museum in Beijing and had experience with Palace Museum cultural and creative product stores. A total of 513 valid questionnaires were used for the analysis. Data were analyzed using Structural Equation Modeling.

Major findings: (1) On the issue of regarding the factors influencing purchase intention, reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, and brand satisfaction were identified as significant predictors; and (2) On the issue of regarding the mediating mechanisms, tourist satisfaction and brand satisfaction played significant mediating roles in the relationships between RATER-based service quality dimensions and purchase intention.

Keywords: Tangibles, Empathy, Responsiveness, Tourist satisfaction, Brand satisfaction, Purchase intention, Palace Museum

Advisor's Signature .....

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List of Abbreviation and Glossary

Abbreviation / Glossary	Explanation
ASS	Assurance
AVE	Average Variance Extracted
BSN	Brand Satisfaction
CFA	Confirmatory Factor Analysis
CR	Composite Reliability
EFA	Exploratory Factor Analysis
EMP	Empathy
KMO	Kaiser–Meyer–Olkin Measure of Sampling Adequacy
PIN	Purchase Intention
RATER	Reliability, Assurance, Tangibles, Empathy, and Responsiveness
REL	Reliability
RES	Responsiveness
SEM	Structural Equation Modeling
TAN	Tangibles
TSN	Tourist Satisfaction

CHAPTER 1
INTRODUCTION

In recent years, museum cultural and creative products have become an important form of cultural consumption and heritage communication. Museums are no longer limited to collection, exhibition, and education; they have increasingly become cultural spaces where tourists experience history, aesthetics, identity, and consumption at the same time. As the most influential museum in China, the Palace Museum has successfully transformed rich historical and cultural resources into cultural and creative products with strong symbolic, aesthetic, and commercial value. These products not only extend the cultural influence of the Palace Museum but also provide tourists with a meaningful way to connect cultural heritage with everyday life. However, although the Palace Museum has achieved remarkable success in cultural and creative product development, its rapid commercialization has also brought new managerial challenges. Tourists may have higher expectations regarding product explanation, service efficiency, shopping environment, cultural storytelling, and brand consistency. If the service experience cannot match the cultural and brand value of the products, tourists' satisfaction and purchase intention may be weakened. Therefore, it is necessary to examine how service quality affects tourists' purchase intention toward Palace Museum cultural and creative products. Against this background, tourists' purchase intention toward Palace Museum cultural and creative products has become an important issue in museum management, cultural tourism, and brand marketing. Tourists' willingness to purchase is not only influenced by product design, cultural meaning, and perceived value, but also by the service quality they experience during the purchasing process. Reliability, assurance, tangibles, empathy, and responsiveness may all shape tourists' satisfaction and further influence their purchase decisions. More importantly, since Palace Museum cultural and creative products are closely associated with the Palace Museum brand, brand satisfaction may also play a key role in explaining purchase intention. Therefore, this chapter introduces the background, research problem, significance, methodology, definitions of key terms, delimitation, thesis

outline, and conclusion of the study. It provides the foundation for understanding why RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention are examined together in this research.

1.1 Background of the Study

1.1.1 Realistic Background

In recent years, museums have increasingly moved beyond their traditional roles as institutions for collection, preservation, exhibition, and education, and have become important cultural consumption spaces within the experience economy. As tourists no longer visit museums only for passive viewing, but also for cultural participation, emotional identification, leisure experience, and symbolic consumption, museum-based cultural and creative products have become a significant medium through which cultural heritage is transformed into everyday consumer value. In this context, cultural and creative products are not merely souvenirs; rather, they function as carriers of cultural memory, aesthetic taste, brand identity, and emotional attachment. Recent studies on museum cultural and creative products have shown that cultural symbols, product experience, perceived value, and customer satisfaction can significantly shape consumers' purchase intention (Liu & Zhao, 2024; Lu et al., 2026). Therefore, understanding how tourists form purchase intention toward museum cultural and creative products has become an important issue in cultural tourism management and museum brand management.

The Palace Museum, as one of China's most representative cultural heritage institutions, has become a leading case in the development of museum cultural and creative products. Its cultural and creative products are rooted in imperial collections, traditional aesthetics, historical narratives, and contemporary design language. Through the transformation of cultural heritage into accessible consumer products, the Palace Museum has successfully extended its brand influence from physical museum visitation to daily cultural consumption. Previous research on the Palace Museum's cultural and creative products found that perceived value, including quality value, social value, price value, innovation value, educational value, and experiential value, has a significant effect on consumers' purchase intention (Li et al., 2021). This indicates that tourists' purchase decisions are not only influenced by product functionality or price, but also by the symbolic, experiential, educational, and emotional meanings embedded in the products.

With the rapid development of museum cultural and creative consumption, competition among cultural institutions, tourism destinations, and cultural retail brands has become increasingly intense. Tourists now compare not only the uniqueness of products, but also the overall service experience surrounding product browsing, consultation, display, payment, delivery, after-sales support, and brand interaction. In museum retail spaces, especially in highly visited cultural destinations such as the Palace Museum, service quality directly affects tourists perceived convenience, emotional comfort, trust, and satisfaction. A well-designed cultural product may attract initial attention, but whether tourists finally develop purchase intention often depends on whether the service process is reliable, professional, tangible, empathetic, and responsive (Lou and Wang, 2025). Therefore, service quality should be regarded as a crucial managerial factor influencing tourists' purchase intention toward Palace Museum cultural and creative products.

The RATER model provides a useful framework for evaluating service quality from five dimensions: reliability, assurance, tangibles, empathy, and responsiveness. In the context of museum cultural and creative product consumption, reliability refers to whether service providers can deliver accurate, consistent, and dependable services, such as correct product information, stable product availability, and trustworthy transaction processes. Assurance reflects the professionalism, courtesy, and credibility of staff, which may reduce tourists' uncertainty when purchasing culturally symbolic products. Tangibles refer to the visible elements of the service environment, including store layout, product display, packaging, signage, digital interfaces, and the overall aesthetic atmosphere. Empathy emphasizes individualized attention and emotional care, especially when tourists need cultural explanations, gift recommendations, or assistance in choosing products. Responsiveness refers to the willingness and speed of service staff or platforms in addressing tourists' inquiries, complaints, and purchase-related needs. Existing tourism service studies have confirmed that perceived service quality can significantly affect tourist satisfaction and behavioral intention, and that tourist satisfaction often plays a mediating role between service quality and subsequent behavioral outcomes (Abdou et al., 2022; Hussain et al., 2023).

For museum cultural and creative products, tourist satisfaction is particularly important because the purchase process is embedded in the broader museum visitation

experience. Tourists may evaluate cultural and creative products not only as commodities, but also as extensions of their museum experience. When tourists perceive that the service process is smooth, trustworthy, aesthetically pleasing, and emotionally considerate, they are more likely to experience satisfaction with the visit-related consumption process. This satisfaction may then strengthen their willingness to purchase, recommend, or repurchase museum cultural and creative products. Recent research on cultural and creative products also shows that customer satisfaction can mediate the relationship between perceived product value and purchase intention, indicating that satisfaction is a key psychological mechanism linking perceived benefits to consumer behavioral decisions (Lu et al., 2026).

In addition to tourist satisfaction, brand satisfaction is another important mechanism in the context of the Palace Museum. Unlike ordinary retail products, Palace Museum cultural and creative products are strongly associated with the institutional brand of the Palace Museum. Tourists' satisfaction with the Palace Museum brand may be formed through repeated exposure to its cultural authority, design creativity, historical authenticity, media communication, and service experience. When tourists feel satisfied with the Palace Museum as a cultural brand, they may be more willing to trust its cultural and creative products, accept its pricing, perceive its products as meaningful, and develop stronger purchase intention. In tourism branding research, satisfaction has been widely regarded as an important mediator connecting brand-related perceptions with behavioral intention (Shi et al., 2022). Therefore, in the Palace Museum context, brand satisfaction may serve as a bridge between service quality and purchase intention by transforming tourists' service experience into brand-level approval and consumption willingness.

Despite the growing body of research on cultural and creative products, existing studies have focused more on product design, perceived value, cultural symbols, cultural identity, and consumer experience, while relatively less attention has been paid to the role of RATER-based service quality in shaping tourists' purchase intention toward museum cultural and creative products. For example, Liu and Zhao (2024) emphasized the role of traditional cultural symbol metaphor design, customer experience, cultural identity, and perceived value in cultural and creative product purchase intention. Lu et al. (2026) further demonstrated that several perceived value dimensions can influence customer satisfaction and purchase intention in the museum cultural and creative product context. However, these studies mainly explain purchase intention from the perspective of product value and

cultural meaning, while the managerial role of service quality during the tourist consumption process remains underexplored.

Table 1.1 Summary of Realistic Background

No.	Key Point	Summary	Supporting Literature
1	Museum transformation	Museums are changing from exhibition spaces into cultural consumption and experience spaces.	Liu & Zhao, 2024; Lu et al., 2026
2	Cultural and creative products	Museum cultural and creative products carry cultural, emotional, aesthetic, and brand value.	Li et al., 2021; Liu & Zhao, 2024
3	Palace Museum context	The Palace Museum is a representative case of cultural and creative product development in China.	Li et al., 2021
4	Tourist consumption behavior	Tourists' purchase intention is influenced by both product value and service experience.	Abdou et al., 2022; Lu et al., 2026
5	Service quality	RATER-based service quality includes reliability, assurance, tangibles, empathy, and responsiveness.	Abdou et al., 2022; Hussain et al., 2023
6	Tourist satisfaction	Good service quality can improve tourist satisfaction and further influence behavioral intention.	Abdou et al., 2022; Hussain et al., 2023
7	Brand satisfaction	Satisfaction with the museum brand may strengthen tourists' purchase intention.	Shi et al., 2022
8	Practical value	Improving service quality can help museums enhance tourist experience and promote cultural product consumption.	Hussain et al., 2023; Lu et al., 2026

1.1.2 Academic Background

From an academic perspective, this study is situated at the intersection of service quality theory, tourist behavior, museum cultural and creative product consumption, and brand management. Existing studies have widely confirmed that service quality is an important antecedent of customer satisfaction and purchase intention. In service consumption contexts, perceived service quality can reduce consumers' uncertainty, improve their evaluation of the consumption process, and strengthen their intention to purchase or repurchase. It was found by Liao et al. (2022) that purchase intention is positively influenced by perceived service quality and that the relationship between service quality and purchase intention is mediated by customer satisfaction. It is indicated by this finding that direct behavioral outcomes are not only generated by service quality, but that consumers' psychological evaluations of the service experience are also influenced by it.

In tourism and museum consumption contexts, this relationship becomes more complex because tourists do not evaluate products separately from the overall experience. Museum cultural and creative products are usually purchased during or after a visit, which means that tourists' purchase intention may be influenced by both the product itself and the service environment surrounding the product. For example, product display, staff explanation, payment convenience, product packaging, after-sales service, and the cultural atmosphere of the museum retail space may all affect tourists' satisfaction (Su, 2024). Therefore, the RATER-based service quality dimensions, including reliability, assurance, tangibles, empathy, and responsiveness, provide a useful framework for explaining how tourists evaluate the service process before forming purchase intention.

In previous research on museum cultural and creative products, attention has mainly been directed toward perceived value, cultural symbols, product innovation, design aesthetics, and cultural identity. In a study of the Palace Museum's cultural and creative products conducted by Li et al. (2021), consumers' purchase intention was found to be significantly influenced by innovation value and experience value. It is suggested by this finding that the Palace Museum's cultural and creative products are evaluated not only as commodities, but also as experiential and symbolic products connected with cultural heritage. Similarly, it was emphasized by Liu and Zhao (2024) that consumers' purchase intention can be influenced by metaphor design based on traditional cultural symbols through customer experience, cultural identity, and perceived value. An important

foundation for understanding the consumption of museum cultural and creative products has been provided by these studies, but relatively limited attention has been paid to the role of service quality in the formation of tourists' purchase intention.

It has further been demonstrated by more recent studies that satisfaction serves as a key mechanism in the consumption of museum cultural and creative products. It was found by Gu (2025) that purchase intention toward museum digital cultural and creative products is mainly influenced by consumer satisfaction and perceived cost, while satisfaction is strongly affected by perceived cultural value. It is indicated by this finding that satisfaction should not simply be regarded as a general emotional response but should instead be understood as a crucial psychological bridge through which perceived value is connected to purchase decisions in museum-related consumption. In the context of the Palace Museum, tourist satisfaction can therefore be understood as an overall evaluation made by tourists regarding their cultural and creative product consumption experience, in which the service process, product accessibility, communication, and emotional experience are included.

However, the present study argues that tourist satisfaction alone is not sufficient to explain tourists' purchase intention toward Palace Museum cultural and creative products. This is because the Palace Museum is not only a tourist attraction or a cultural institution, but also a powerful cultural brand. Its cultural and creative products are closely connected with the symbolic authority, historical legitimacy, aesthetic identity, and public reputation of the Palace Museum. When tourists purchase Palace Museum cultural and creative products, they are not merely buying a functional product; they are also consuming a brand meaning associated with Chinese cultural heritage, imperial aesthetics, national memory, and museum credibility (Qiu, 2023). Therefore, brand satisfaction should be introduced as a second mediating variable to explain how tourists' service experience is transformed into brand-level approval and purchase intention.

The inclusion of brand satisfaction is a major academic innovation of this study. In general consumer behavior research, brand satisfaction has been regarded as an important outcome of brand identity, brand experience, and brand-lifestyle congruence. Acar et al. (2024) found that brand identity significantly affects brand satisfaction, and brand satisfaction significantly affects repurchase intention. This suggests that consumers' satisfaction with a brand can directly shape their future purchasing behavior. Applied to

the Palace Museum context, this means that tourists' satisfaction with the Palace Museum brand may strengthen their willingness to purchase its cultural and creative products, because the products are perceived as extensions of the museum brand rather than isolated retail goods.

Therefore, this study distinguishes between tourist satisfaction and brand satisfaction. Tourist satisfaction refers to tourists' evaluation of the specific service and consumption experience related to Palace Museum cultural and creative products (Gao and Wang, 2021). It is more experience-based, process-oriented, and visit-related. By contrast, brand satisfaction refers to tourists' overall satisfaction with the Palace Museum as a cultural brand. It is more symbolic, identity-based, and brand-oriented. This distinction is theoretically important because tourists may be satisfied with the service experience but may not necessarily develop strong satisfaction with the Palace Museum brand. Conversely, tourists who hold strong satisfaction with the Palace Museum brand may show stronger purchase intention even when product prices are high or product choices are limited. The dual mediating mechanism proposed in this study can therefore provide a deeper explanation of how RATER-based service quality affects purchase intention. First, high service quality may improve tourist satisfaction by creating a reliable, comfortable, responsive, and emotionally supportive consumption experience. Second, high service quality may also strengthen brand satisfaction by reinforcing tourists' positive perception of the Palace Museum as a trustworthy, professional, culturally meaningful, and consumer-oriented brand. Third, tourist satisfaction and brand satisfaction may jointly transmit the effect of service quality to purchase intention. This dual-pathway explanation extends previous studies that mainly used single mediators such as perceived value, customer satisfaction, or cultural identity.

Academically, this study also responds to the need to integrate service management and brand management in museum cultural and creative product research. Existing research on cultural and creative products has often emphasized what consumers buy, such as design, cultural meaning, and perceived value. However, relatively fewer studies have examined how tourists are served during the purchase process and how this service experience influences their perception of the museum brand (Zhao, 2025). By treating Palace Museum cultural and creative products as brand extensions of the Palace Museum, this study shifts the research focus from product-centered consumption to brand-centered

cultural consumption. This perspective is particularly important because successful museum cultural and creative product development depends not only on creative design, but also on whether tourists develop satisfaction with both the consumption experience and the cultural brand behind the products .

In summary, the academic background of this study is built on three main research gaps. First, previous studies on museum cultural and creative products have mainly focused on perceived value, product design, innovation, and cultural symbols, while the role of RATER-based service quality remains insufficiently explored. Second, many studies have examined customer satisfaction as a mediator, but relatively few have distinguished between tourist satisfaction and brand satisfaction in the museum cultural product context. Third, the Palace Museum's cultural and creative products have not been sufficiently examined as extensions of a cultural heritage brand. Therefore, by introducing tourist satisfaction and brand satisfaction as dual mediating variables, this study provides a more comprehensive theoretical framework for explaining tourists' purchase intention toward Palace Museum cultural and creative products.

Table 1.2 Summary of Academic Background

No.	Key Point	Summary	Supporting Literature
1	Academic positioning	This study is located at the intersection of service quality, tourist behavior, museum cultural and creative product consumption, and brand management.	Liao et al., 2022; Li et al., 2021
2	Service quality and purchase intention	Service quality can influence consumers' purchase intention directly and indirectly through satisfaction.	Liao et al., 2022
3	Museum consumption context	Tourists evaluate museum cultural and creative products together with the overall museum service and consumption experience.	Li et al., 2021; Gu, 2025
4	Existing research focus	Previous studies mainly focused on perceived value, cultural symbols, product innovation, design aesthetics, and cultural identity.	Li et al., 2021; Liu & Zhao, 2024

Table 1.2 (continued)

No.	Key Point	Summary	Supporting Literature
5	Role of tourist satisfaction	Tourist satisfaction works as an important psychological bridge between service experience and purchase intention.	Liao et al., 2022; Gu, 2025
6	Limitation of single mediator	Tourist satisfaction alone may not fully explain purchase intention toward Palace Museum cultural and creative products.	Gu, 2025
7	Importance of brand satisfaction	Palace Museum cultural and creative products should be understood as extensions of the Palace Museum brand, so brand satisfaction is an important mediator.	Acar et al., 2024; Li et al., 2021
8	Difference between two mediators	Tourist satisfaction is experience-based and process-oriented, while brand satisfaction is symbolic, identity-based, and brand-oriented.	Acar et al., 2024
9	Dual mediating innovation	This study introduces tourist satisfaction and brand satisfaction as dual mediators to explain how service quality affects purchase intention.	Liao et al., 2022; Acar et al., 2024
10	Academic contribution	This study integrates service management and brand management in the context of Palace Museum cultural and creative products.	Li et al., 2021; Liu & Zhao, 2024; Gu, 2025

1.1.3 Problems Statement (Research Gap)

Although museum cultural and creative products have become an important topic in cultural tourism, consumer behavior, and museum management research, there are still several important gaps that require further academic attention. In particular, the current literature has not fully explained how service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through both tourist satisfaction and brand satisfaction. Existing studies have provided valuable insights into

perceived value, cultural symbols, product innovation, and customer experience, but the service-based and brand-based mechanisms behind tourists' purchase intention remain insufficiently explored. Therefore, this study identifies the following research gaps.

First, previous studies on museum cultural and creative products have mainly emphasized product-related factors, while the role of service quality has received relatively limited attention. For example, Li et al. (2021) examined the effects of consumer perceived value on purchase intention toward the Palace Museum's cultural and creative products, highlighting the importance of innovation value, quality value, price value, social value, educational value, and experience value. Liu and Zhao (2024) further explored how metaphor design based on traditional cultural symbols affects consumers' purchase intention through customer experience, perceived value, and cultural identity. These studies are important because they show that museum cultural and creative products are not merely functional products, but cultural, emotional, and symbolic products. However, their main focus remains on product value, product design, and cultural meaning, rather than the quality of service that tourists experience during the purchase process.

This creates a practical and theoretical problem. In the real consumption context of the Palace Museum, tourists' purchase intention is not formed only by seeing an attractive product. It may also be shaped by whether the product information is accurate, whether the staff are professional, whether the store environment is attractive, whether tourists receive personalized assistance, and whether their questions or problems are handled quickly. These service-related factors correspond closely to the RATER dimensions of reliability, assurance, tangibles, empathy, and responsiveness. However, in the existing research on Palace Museum cultural and creative products, these dimensions have not been sufficiently examined as antecedents of purchase intention. Therefore, there is a need to introduce RATER-based service quality into the study of museum cultural and creative product consumption.

Second, existing studies have often discussed satisfaction as a general psychological outcome, but they have not clearly distinguished between tourist satisfaction and brand satisfaction. In tourism research, tourist satisfaction is usually regarded as an important mediator between service quality, destination experience, brand equity, and behavioral intention. For instance, Shi et al. (2022) found that tourist satisfaction mediates the relationships among destination brand equity, brand authenticity, and revisit intention.

Similarly, service quality studies have shown that customer satisfaction can mediate the relationship between perceived service quality and purchase intention (Liao et al., 2022). These findings suggest that satisfaction is an important mechanism through which perceived service quality is transformed into behavioral intention.

However, in the context of Palace Museum cultural and creative products, satisfaction should not be treated as a single and general concept. Tourists may experience satisfaction at different levels. On one hand, they may feel satisfied with the specific service experience, such as product display, staff explanation, payment convenience, store environment, and after-sales support. This type of satisfaction is more closely related to tourist satisfaction because it is based on the immediate museum-related consumption experience. On the other hand, tourists may also feel satisfied with the Palace Museum as a cultural brand. This type of satisfaction is not limited to one service encounter; rather, it is connected with the Palace Museum's cultural authority, historical reputation, aesthetic identity, brand creativity, and symbolic value. Therefore, tourist satisfaction and brand satisfaction should be conceptually separated in order to provide a more accurate explanation of tourists' purchase intention.

Third, the role of brand satisfaction remains underdeveloped in museum cultural and creative product research. Brand satisfaction has been widely discussed in general brand management and consumer behavior studies. Acar et al. (2024) found that brand identity and brand-lifestyle congruence are associated with brand satisfaction and repurchase intention, indicating that satisfaction with a brand can influence consumers' future behavioral intention. This finding is particularly relevant to the Palace Museum because its cultural and creative products are not ordinary retail products. They are brand extensions of the Palace Museum. When tourists buy Palace Museum cultural and creative products, they are also buying cultural meanings associated with the museum brand, including Chinese heritage, imperial aesthetics, historical memory, cultural authenticity, and institutional credibility.

Nevertheless, previous studies on museum cultural and creative products have not sufficiently treated the museum itself as a brand. Many studies examine cultural products from the perspectives of product attributes, design creativity, cultural value, or perceived value, but they give less attention to how satisfaction with the museum brand influences purchase intention. This is a major research gap because the Palace Museum has already

developed strong brand recognition in China's cultural consumption market. Its cultural and creative products depend not only on product-level attractiveness, but also on tourists' trust in and satisfaction with the Palace Museum brand. Therefore, ignoring brand satisfaction may lead to an incomplete understanding of why tourists are willing to purchase Palace Museum cultural and creative products.

Fourth, previous studies have not sufficiently examined the dual mediating mechanism between service quality and purchase intention. Most existing studies tend to use a single mediating variable, such as customer satisfaction, perceived value, cultural identity, or customer experience. For example, Liu and Zhao (2024) examined the mediating effects of customer experience, perceived value, and cultural identity in the relationship between metaphor design and purchase intention. Gu (2025) also found that satisfaction is an important factor influencing purchase intention toward museum digital cultural and creative products. These studies have improved the understanding of psychological mechanisms in cultural and creative product consumption. However, they do not fully explain how service quality may influence purchase intention through both experience-based satisfaction and brand-based satisfaction.

In the Palace Museum context, this dual mediating mechanism is particularly important. RATER-based service quality may first influence tourist satisfaction by improving tourists' immediate purchase experience. For example, reliable product information, professional service, attractive physical environment, empathetic communication, and timely response may make tourists feel satisfied with their cultural and creative product consumption experience. At the same time, these service quality dimensions may also strengthen brand satisfaction by reinforcing tourists' perception that the Palace Museum is professional, trustworthy, culturally meaningful, and consumer oriented. Therefore, service quality may influence purchase intention through two different but related psychological paths: the tourist satisfaction path and the brand satisfaction path.

Fifth, the existing literature has not sufficiently connected service management with museum brand management. In many museum cultural and creative product studies, service experience is treated as a background condition rather than a central explanatory factor. However, from a management perspective, service quality is not only an operational issue; it is also a brand-building issue. For the Palace Museum, every service encounter in the cultural and creative product consumption process may influence tourists'

perception of the museum brand. A positive service experience can strengthen tourists' belief that the Palace Museum is not only culturally authoritative, but also modern, professional, accessible, and customer oriented. By contrast, poor service quality may weaken tourists' satisfaction even when the products themselves are culturally attractive.

This gap is important because cultural and creative products have become a key tool for museums to extend their public influence, improve visitor engagement, and develop sustainable cultural consumption. Recent research has shown that cultural and creative product consumption is influenced by multiple perceived values, including aesthetic, cultural, emotional, and social values (Jin, 2025; Lu et al., 2026). However, value perception alone cannot fully explain tourists' purchase intention if the service process fails to support the consumer experience. Therefore, a more comprehensive framework is needed to integrate RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention.

Sixth, although the Palace Museum has been studied as a representative case of museum cultural and creative product development, there is still room to examine it from the perspective of service quality and brand satisfaction. Li et al. (2021) provided an important empirical foundation by examining the perceived value of the Palace Museum's cultural and creative products. However, the Palace Museum's cultural and creative product system has continued to expand, and tourists' expectations have also become more complex. Tourists now expect cultural products to be not only meaningful and creative but also supported by high-quality service and a trustworthy brand experience. Therefore, further research is needed to understand how tourists evaluate Palace Museum cultural and creative products in a more complete service-brand-consumption framework.

Based on the above gaps, the main research problem of this study can be stated as follows: existing research has not adequately explained how RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through the dual mediating effects of tourist satisfaction and brand satisfaction. Specifically, it remains unclear whether reliability, assurance, tangibles, empathy, and responsiveness significantly affect tourist satisfaction, brand satisfaction, and purchase intention; whether tourist satisfaction and brand satisfaction function as mediating mechanisms; and whether brand satisfaction provides an additional explanatory path beyond tourist satisfaction. Therefore, this study attempts to address these research gaps

by constructing a research model that integrates RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention. The study emphasizes that Palace Museum cultural and creative products should be understood not only as cultural products, but also as brand-based cultural consumption objects. By introducing brand satisfaction as a key mediating variable, this study provides a more refined explanation of how tourists' service experience can be transformed into brand-level satisfaction and then into purchase intention. This approach contributes to both service quality research and museum brand management research, while also offering practical implications for improving the marketing and management of Palace Museum cultural and creative products.

Table 1.3 Summary of Problems Statement

No.	Research Gap	Summary	Supporting Literature
1	Product-centered research	Previous studies on museum cultural and creative products mainly focus on product value, cultural symbols, innovation, and design.	Li et al., 2021; Liu & Zhao, 2024
2	Limited attention to service quality	The role of RATER-based service quality in tourists' purchase intention toward museum cultural and creative products remains insufficiently explored.	Liao et al., 2022; Abdou et al., 2022
3	Insufficient Palace Museum service perspective	Existing research on Palace Museum cultural and creative products focuses more on perceived value, but less on tourists' service experience during purchase.	Li et al., 2021
4	General use of satisfaction	Many studies treat satisfaction as a general concept, without clearly distinguishing tourist satisfaction from brand satisfaction.	Liao et al., 2022; Shi et al., 2022
5	Underdeveloped brand satisfaction	Brand satisfaction has not been sufficiently examined in museum cultural and creative product research.	Acar et al., 2024

Table 1.3 (continued)

No.	Research Gap	Summary	Supporting Literature
6	Palace Museum as a brand	Palace Museum cultural and creative products should be understood as extensions of the Palace Museum brand, not only as ordinary cultural products.	Li et al., 2021; Acar et al., 2024
7	Lack of dual mediation mechanism	Previous studies mainly use single mediators such as customer satisfaction, perceived value, customer experience, or cultural identity.	Liu & Zhao, 2024; Gu, 2025
8	Need for service–brand integration	Existing studies have not sufficiently integrated service management and brand management in the museum cultural product context.	Liao et al., 2022; Shi et al., 2022
9	Incomplete explanation of purchase intention	Product value alone cannot fully explain tourists' purchase intention if the service experience and brand satisfaction are ignored.	Li et al., 2021; Jin, 2025
10	Core research problem	It remains unclear how reliability, assurance, tangibles, empathy, and responsiveness influence purchase intention through tourist satisfaction and brand satisfaction.	Liao et al., 2022; Acar et al., 2024; Gu, 2025

1.2 Significance of the Study

This study is significant because it examines tourists' purchase intention toward Palace Museum cultural and creative products from the perspective of RATER-based service quality and dual mediating mechanisms. While previous studies have mainly focused on product value, cultural symbols, design innovation, and cultural identity, this study highlights the importance of service quality in shaping tourists' satisfaction and

purchase decisions. More importantly, it introduces both tourist satisfaction and brand satisfaction as mediating variables, thereby providing a more comprehensive explanation of how tourists' service experiences are transformed into purchase intention toward Palace Museum cultural and creative products.

1.2.1 Theoretical Significance

Theoretically, this study contributes to the literature in three main ways. First, it extends the application of the RATER service quality model to the context of museum cultural and creative product consumption. By examining reliability, assurance, tangibles, empathy, and responsiveness as antecedents of purchase intention, this study enriches the understanding of how service quality operates in cultural tourism and museum retail settings.

Second, this study deepens the theoretical explanation of tourists' purchase intention by introducing tourist satisfaction and brand satisfaction as dual mediating variables. Existing research often treats satisfaction as a general concept, but this study distinguishes between tourist satisfaction, which is related to the immediate service and consumption experience, and brand satisfaction, which is related to tourists' overall evaluation of the Palace Museum as a cultural brand. This distinction provides a more refined theoretical framework for understanding the psychological mechanism between service quality and purchase intention.

Third, this study contributes to museum brand management research by conceptualizing Palace Museum cultural and creative products as brand extensions of the Palace Museum. In this sense, tourists' purchase intention is not only influenced by product attributes or service encounters, but also by their satisfaction with the Palace Museum brand. Therefore, this study integrates service quality theory, tourist satisfaction theory, brand satisfaction theory, and purchase intention theory into one research framework, offering a more comprehensive model for mu

1.2.2 Practical Significance

Practically, this study provides useful implications for multiple stakeholders, including the Palace Museum, tourists, cultural and creative product managers, government departments, and the wider cultural tourism industry.

First, for the Palace Museum, this study can help museum managers better understand how RATER-based service quality influences tourists' purchase intention

toward cultural and creative products. The findings may suggest that tourists' willingness to purchase is not only determined by product design, cultural meaning, or price, but also by the quality of service they experience during the purchasing process. Therefore, improving reliability, assurance, tangibles, empathy, and responsiveness can help the Palace Museum enhance tourist satisfaction, strengthen brand satisfaction, and increase the market performance of its cultural and creative products.

Second, for tourists, this study is meaningful because it emphasizes the importance of a better consumption experience in museum cultural and creative product purchasing. When service quality is improved, tourists can receive more accurate product information, more professional explanations, more comfortable shopping environments, and more timely service support. This can reduce tourists' uncertainty during purchase, improve their satisfaction, and help them make more confident and meaningful consumption decisions.

Third, for cultural and creative product managers and marketers, this study provides practical guidance for improving product sales through service management and brand management. Instead of focusing only on product development, packaging, and promotion, managers should also pay attention to the service process surrounding the products. By improving staff training, product display, communication methods, after-sales service, and brand storytelling, cultural and creative product managers can better transform cultural resources into consumer value and increase tourists' purchase intention.

Fourth, for government departments and cultural tourism policymakers, this study has practical value for promoting the high-quality development of cultural tourism and cultural consumption. Museum cultural and creative products are an important way to activate cultural heritage, expand cultural influence, and promote cultural industry development. The findings of this study may provide policy references for improving public cultural services, supporting museum brand development, encouraging cultural innovation, and promoting the integration of culture and tourism.

Fifth, for other museums and cultural heritage institutions, this study offers a practical reference for developing cultural and creative products in a more sustainable way. The Palace Museum is a representative case in China's museum cultural and creative product market. Therefore, the findings of this study may help other museums understand that successful cultural and creative product development should not only depend on

cultural resources and creative design, but also on high-quality service experience and strong brand satisfaction.

Finally, for the broader cultural and creative industry, this study can help improve the understanding of how cultural brands create consumer value. By showing how service quality influences purchase intention through tourist satisfaction and brand satisfaction, this study provides practical insights for cultural brands, tourism destinations, and creative enterprises that seek to strengthen customer experience, brand value, and market competitiveness.

1.3 Statement of Research Questions

1) How do the relationships among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention toward cultural and creative products at the Palace Museum?

2) How do tourist satisfaction and brand satisfaction mediate the relationships among reliability, assurance, tangibles, empathy, responsiveness, and purchase intention toward cultural and creative products at the Palace Museum?

1.4 Statement of Research Objectives

1) To examine the relationships among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention toward cultural and creative products at the Palace Museum.

2) To investigate tourist satisfaction and brand satisfaction mediate the relationships among reliability, assurance, tangibles, empathy, responsiveness, and purchase intention toward cultural and creative products at the Palace Museum.

1.5 Methodology

This study adopts a quantitative research approach to examine the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products, with tourist satisfaction and brand satisfaction as mediating variables. The research focuses on tourists who have visited the Palace Museum and have experience with, or awareness of, its cultural and creative products. Data were collected through structured questionnaires, which were designed based on mature measurement

scales and adjusted according to the specific context of Palace Museum cultural and creative product consumption.

The formal survey distributed a total of 620 questionnaires. Among them, 544 questionnaires were returned. After excluding incomplete responses and questionnaires with obvious careless or invalid answering patterns, 513 valid questionnaires were retained for subsequent analysis. The valid response rate was 82.74%, which provides an adequate empirical basis for statistical testing and model analysis. Before the formal data collection, respondents were informed of the purpose and academic nature of the study. They were also assured that all information would be used only for research purposes, and that their responses would remain anonymous and confidential. This process helped ensure the ethical standard, reliability, and validity of the data collection procedure.

The collected data were systematically screened, coded, and prepared for empirical analysis. First, descriptive statistical analysis was conducted to summarize the demographic characteristics and consumption-related characteristics of the respondents, such as gender, age, education level, visit experience, and purchase experience of Palace Museum cultural and creative products. Second, reliability analysis was performed to examine the internal consistency of each measurement scale, including reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. Third, validity analysis was conducted to evaluate whether the measurement items could accurately represent their corresponding latent variables.

After confirming the reliability and validity of the measurement model, Confirmatory Factor Analysis (CFA) was used to test the overall measurement structure and assess the convergent validity and discriminant validity of the constructs. Subsequently, Structural Equation Modeling (SEM) was employed to examine the proposed relationships among the study variables. Specifically, the analysis tested the direct effects of the five RATER-based service quality dimensions, namely reliability, assurance, tangibles, empathy, and responsiveness, on tourist satisfaction, brand satisfaction, and purchase intention. In addition, SEM was used to examine the effects of tourist satisfaction and brand satisfaction on purchase intention.

Furthermore, the Bootstrap method was applied to test the mediating effects of tourist satisfaction and brand satisfaction. This procedure allowed the study to identify whether RATER-based service quality influences tourists' purchase intention directly,

indirectly through tourist satisfaction, indirectly through brand satisfaction, or through a dual mediating mechanism. Through this methodological design, the study provides empirical evidence for understanding how service quality affects tourists' purchase intention toward Palace Museum cultural and creative products. It also explains how tourists' service experience can be transformed into satisfaction with the consumption experience and satisfaction with the Palace Museum brand, thereby strengthening their purchase intention.

1.6 Definitions of Terms

1.6.1 Reliability

Reliability refers to the ability of a service provider to deliver promised services accurately, dependably, and consistently. In service quality research, reliability is generally regarded as the extent to which customers believe that the organization can provide correct information, fulfill service promises, and reduce service errors (Setiono & Hidayat, 2022; Ayvaz-Çavdaroğlu et al., 2024). In this study, reliability refers to tourists' perception that the Palace Museum can provide accurate product information, stable product quality, trustworthy purchase processes, and dependable service related to cultural and creative products.

1.6.2 Assurance

Assurance refers to the knowledge, courtesy, professionalism, and credibility demonstrated by service staff, which can increase customers' confidence and trust during the service process (Setiono & Hidayat, 2022; Abdou et al., 2022). In this study, assurance refers to tourists' perception that staff or service channels related to Palace Museum cultural and creative products are professional, polite, trustworthy, and capable of providing clear explanations about product meaning, cultural background, purchase procedures, and after-sales support.

1.6.3 Tangibles

Tangibles refer to the physical and visible aspects of service quality, including facilities, store environment, product display, service equipment, staff appearance, signage, packaging, and other material elements that customers can directly observe (Setiono & Hidayat, 2022; Ayvaz-Çavdaroğlu et al., 2024). In this study, tangibles refer to tourists' evaluation of the visible service environment of Palace Museum cultural and

creative products, such as store layout, display design, product packaging, visual aesthetics, cultural atmosphere, and digital or physical service facilities.

1.6.4 Empathy

Empathy refers to the individualized attention, care, and understanding provided by service providers to customers. It reflects whether the service provider can understand customers' specific needs and offer considerate support during the service process (Setiono & Hidayat, 2022; Abdou et al., 2022). In this study, empathy refers to tourists' perception that the Palace Museum's cultural and creative product service can understand their personal needs, provide patient explanations, offer suitable product recommendations, and create a warm and respectful consumption experience.

1.6.5 Responsiveness

Responsiveness refers to the willingness and ability of service providers to help customers promptly and respond to their needs, questions, requests, or complaints in a timely manner (Setiono & Hidayat, 2022; Ayvaz-Çavdaroğlu et al., 2024). In this study, responsiveness refers to tourists' perception that the Palace Museum can respond quickly to inquiries about cultural and creative products, provide timely assistance during purchase, solve service problems efficiently, and offer effective after-sales communication.

1.6.6 Tourist Satisfaction

Tourist satisfaction refers to tourists' overall evaluation of whether their tourism-related experience meets or exceeds their expectations. In tourism service research, tourist satisfaction is often regarded as an important psychological outcome of perceived service quality and a key mediator between service quality and behavioral intention (Abdou et al., 2022; Shi et al., 2022). In this study, tourist satisfaction refers to tourists' overall satisfaction with the service and consumption experience related to Palace Museum cultural and creative products, including product access, service interaction, purchase convenience, store environment, and emotional experience.

1.6.7 Brand Satisfaction

Brand satisfaction refers to consumers' overall satisfaction with a brand based on their accumulated perceptions, experiences, expectations, and evaluations of the brand. Recent brand management research shows that brand satisfaction is closely related to

brand identity, brand-lifestyle congruence, and repurchase intention (Acar et al., 2024). In this study, brand satisfaction refers to tourists' satisfaction with the Palace Museum as a cultural brand. It reflects tourists' positive evaluation of the Palace Museum's cultural authority, historical reputation, creative capability, brand image, and cultural credibility as expressed through its cultural and creative products.

1.6.8 Purchase Intention

Purchase intention refers to consumers' willingness or likelihood to purchase a product or service in the future. It is commonly used as an important indicator of consumer behavioral tendency and can be influenced by perceived service quality, customer satisfaction, perceived value, brand experience, and product attractiveness (Liao et al., 2022; Li et al., 2021; Liu & Zhao, 2024). In this study, purchase intention refers to tourists' willingness to buy Palace Museum cultural and creative products, recommend them to others, or consider purchasing them again in the future.

1.7 Delimitation of the Thesis

Although this study has made meaningful progress in theorizing and empirically examining the mechanism through which RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products, and has offered practical implications for museum management, cultural product marketing, and heritage brand development, several delimitations and limitations remain that warrant further investigation in future research.

First, this study focuses on tourists who have visited the Palace Museum and have experience with, or awareness of, Palace Museum cultural and creative products. While this tourist group demonstrates a relatively high degree of representativeness and typicality in terms of museum visitation, cultural tourism consumption, and interest in cultural and creative products, caution should be exercised when generalizing the findings beyond this specific context. Tourists in different museums, heritage sites, and cultural tourism destinations may vary substantially in cultural background, travel motivation, consumption ability, service expectations, brand familiarity, and emotional connection with cultural institutions. In particular, differences in museum popularity, cultural resources, regional tourism development, visitor flow, retail environment, and brand recognition may influence tourists' perceptions and behaviors in distinct ways. Therefore,

the conclusions of this study are primarily applicable to the Palace Museum cultural and creative product context. The extent to which these findings can be extended to other museums, cultural heritage institutions, or cultural tourism destinations in China and abroad requires further validation through comparative and multi-site studies.

Second, with respect to theoretical model construction, although this study systematically examines the effects of reliability, assurance, tangibles, empathy, and responsiveness on tourists' purchase intention based on the RATER service quality framework and incorporates tourist satisfaction and brand satisfaction as mediating variables, the possibility of omitted variables cannot be entirely ruled out. Factors such as tourists' cultural identity, perceived authenticity, perceived value, product design preference, cultural involvement, previous museum experience, media exposure, price sensitivity, and personal motivation may also play important roles in shaping tourists' purchase intention toward museum cultural and creative products. These factors were not explicitly included in the current theoretical framework and thus represent potential avenues for further model refinement and theoretical expansion.

Third, although the present study provides empirical evidence supporting the proposed service quality–satisfaction–purchase intention mechanism, there remains room for further exploration in terms of variable selection and model specification. This study focuses on two mediating mechanisms: tourist satisfaction as an experience-based evaluative response and brand satisfaction as a brand-level evaluative response. However, other mediators or moderators, such as perceived cultural value, perceived product innovation, tourist involvement, brand trust, brand attachment, cultural identity, perceived authenticity, perceived price fairness, or museum brand loyalty, may offer additional explanatory power and enrich understanding of how purchase intention is formed in museum cultural and creative product consumption. Future studies may further examine whether these variables strengthen, weaken, or reshape the relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention.

Finally, this study adopts a cross-sectional survey design, which limits the ability to capture dynamic causal relationships among the variables. Constructs such as tourist satisfaction, brand satisfaction, and purchase intention may change over time as tourists accumulate more museum experiences, encounter new cultural and creative products, receive updated brand communication, or participate in repeated cultural consumption.

Their development and transformation cannot be fully observed through a single-wave data collection. Future research may employ longitudinal research designs, panel data, experimental approaches, or mixed method designs to better examine the temporal dynamics and causal mechanisms underlying service quality, tourist satisfaction, brand satisfaction, and purchase intention.

In summary, this study sheds light on the key mechanisms through which RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products and provides empirical support for museum service management and cultural brand development. Nevertheless, opportunities remain to enhance the scope, depth, and methodological rigor of this line of inquiry. Future studies may extend this study by employing broader and more diverse samples, integrating more comprehensive theoretical frameworks, and adopting more robust research designs, thereby enriching the literature on museum cultural and creative product consumption and offering more comprehensive guidance for cultural tourism management, museum branding, and cultural and creative industry practice.

1.8 Outline of the Thesis

This study is organized into five chapters, each of which addresses a specific theme and collectively contributes to a coherent and systematic investigation of the research problem. The structure of the study is outlined as follows.

Chapter One introduces the realistic and academic background of the study, clarifying its theoretical significance and practical value. This chapter presents the research problem, research objectives, research questions, and methodology adopted in the study. In addition, key terms such as reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention are clearly defined. The delimitation and structural arrangement of the thesis are also explained, thereby providing readers with a comprehensive research framework and a logical roadmap for the entire study.

Chapter Two presents a systematic review of the literature relevant to the study. This chapter focuses on the research context of Palace Museum cultural and creative products, the RATER-based service quality model, tourist satisfaction, brand satisfaction, and purchase intention. It also examines the theoretical foundations related to service

quality, customer satisfaction, brand satisfaction, and consumer behavior. By reviewing and synthesizing existing scholarly literature, this chapter establishes the theoretical foundation for the study and provides support for the development of the conceptual framework and research hypotheses.

Chapter Three describes the research methodology adopted in this study and provides a justification for its appropriateness. Specifically, this chapter explains the research design, population and sample, questionnaire development, measurement scales, data collection procedures, data screening, and ethical considerations. It also presents the statistical techniques used for data analysis, including descriptive statistics, reliability analysis, validity analysis, confirmatory factor analysis, structural equation modeling, and mediation effect testing. Through this discussion, the chapter provides a transparent account of the research design and analytical procedures, ensuring the scientific rigor, reliability, and ethical integrity of the study.

Chapter Four reports the results of the pre-test and the main empirical analysis. It presents the findings of descriptive statistical analysis, reliability and validity testing, confirmatory factor analysis, and model fit evaluation within the structural equation modeling framework. This chapter further examines the direct effects among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. It also tests the mediating effects of tourist satisfaction and brand satisfaction. Through these analyses, this chapter provides empirical support for the proposed research hypotheses and verifies the validity of the theoretical model.

Chapter Five provides an in-depth discussion of the research findings, highlighting the theoretical contributions and practical implications of the study. This chapter explains how RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through tourist satisfaction and brand satisfaction. It also identifies the limitations of the research and proposes recommendations for future studies. Through critical reflection and synthesis, this final chapter offers valuable insights for advancing academic inquiry and provides practical guidance for museum service management, cultural and creative product marketing, and cultural brand development.

1.9 Conclusion

This chapter has provided the overall foundation for the study by introducing the research background, research problem, significance, methodology, key definitions, delimitation, and thesis structure. The study focuses on the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products, with tourist satisfaction and brand satisfaction as mediating variables. In the context of the rapid development of museum cultural and creative products, tourists' purchase intention is no longer shaped only by product design, cultural meaning, or price, but also by the quality-of-service experience and satisfaction with the museum brand. The chapter has clarified that reliability, assurance, tangibles, empathy, and responsiveness are important dimensions for understanding how tourists evaluate the service process related to Palace Museum cultural and creative products. It also emphasizes that tourist satisfaction and brand satisfaction represent two different but connected psychological mechanisms. Tourist satisfaction reflects tourists' evaluation of the immediate service and consumption experience, while brand satisfaction reflects tourists' broader evaluation of the Palace Museum as a cultural brand. Therefore, the inclusion of these two mediating variables helps explain the formation of purchase intention more comprehensively. Overall, this chapter establishes the logical starting point of the thesis and justifies the necessity of the study. By integrating service quality, tourist satisfaction, brand satisfaction, and purchase intention into one framework, this research aims to contribute to museum service management, cultural tourism marketing, and cultural brand development. The following chapters will further review relevant literature, develop the theoretical framework and hypotheses, explain the research methodology, present empirical findings, and discuss the theoretical and practical implications of the study.

CHAPTER 2
LITERATURE REVIEW

This chapter presents the theoretical and conceptual foundation of the study. Based on the research topic, this chapter reviews the major theories, relevant concepts, and empirical literature that support the development of the research model. Since the study focuses on tourists' offline purchasing experience in the Palace Museum context, the literature review mainly discusses service quality, satisfaction, brand satisfaction, and purchase intention in tourism, museum, and cultural and creative product consumption settings. The chapter first introduces context of the study, and the parent disciplines of the study, including service quality theory and the RATER model, satisfaction theory, and consumer behavior and purchase intention theory. These theories provide the basic academic foundation for understanding how tourists evaluate service encounters and make consumption decisions. Then, the chapter explains the immediate disciplines, including reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. These constructs form the key variables of the present study. Furthermore, this chapter develops the conceptual model and research hypotheses. The RATER dimensions are treated as independent variables, tourist satisfaction and brand satisfaction are introduced as mediating variables, and purchase intention is regarded as the dependent variable. Through this structure, the study aims to explain how service quality in the Palace Museum's offline cultural and creative product consumption context influences tourists' purchase intention. Therefore, this chapter provides the theoretical basis for the research methodology and empirical analysis in the following chapters.

2.1 Contexts of the Study

2.1.1 Global Development of Museum Cultural and Creative Products

In the global museum sector, cultural and creative products have gradually developed from simple souvenirs into important carriers of cultural communication, audience engagement, institutional branding, and cultural consumption. Traditionally,

museum shops were often regarded as supplementary commercial spaces where visitors purchased postcards, guidebooks, replicas, or small souvenirs to remember their visit. However, with the rise of the experience economy, cultural tourism, digital media, and creative industries, museum cultural and creative products have gained broader cultural, emotional, aesthetic, and commercial meanings. They are no longer limited to commemorative objects but increasingly function as cultural interfaces that connect museum collections, visitor experience, daily life, and brand identity (Wang, 2024; Jin & Hu, 2025).

A key global trend is that museum cultural and creative products are increasingly understood as “beyond souvenirs.” Jin and Hu (2025) argued that visitors do not perceive museum cultural and creative products merely as travel souvenirs, but as diversified products connected with cultural value, creative value, aesthetic value, functional value, emotional value, and social value. This means that such products are not only purchased to remember a museum visit, but also used in everyday life, given as gifts, and employed as symbolic expressions of taste and identity. Compared with traditional souvenirs, museum cultural and creative products usually integrate cultural elements from collections, exhibitions, architecture, and institutional narratives with modern design and consumer-oriented functions. Therefore, they represent a transformation from “museum memory” to “daily cultural consumption” (Jin & Hu, 2025).

The global development of museum cultural and creative products is closely related to the broader transformation of museums from collection-centered institutions to visitor-centered cultural platforms. Contemporary museums are expected not only to preserve and interpret heritage, but also to communicate with diverse audiences, improve visitor experience, strengthen cultural participation, and create social value. In this process, cultural and creative products become an important extension of museum education and interpretation. Through product design, cultural symbols can be translated into more accessible and practical forms, allowing visitors to encounter heritage outside the exhibition hall. Wang (2024) emphasized that museum merchandising and branding based on cultural heritage creative design can increase museum visibility, strengthen audience communication, and transform cultural heritage into consumer promotion and cultural expression.

Another important development is the increasing integration between museum cultural and creative products and museum branding. In the international context, museums are no longer understood only as public cultural institutions; they are also cultural brands with distinctive images, values, histories, and audience relationships. Cultural and creative products help museums materialize their brand identity and extend their cultural influence beyond physical museum spaces. Billore et al. (2025), in their study of brand museums, showed that museums can commodify and transfer cultural heritage through themed environments, storytelling, interactive exhibits, and co-creation opportunities. Although their study focuses on a brand museum, it provides useful insight for understanding how museum-related products and experiences can convert heritage resources into brand value, cultural memory, and stakeholder engagement.

Digital transformation has further accelerated the global development of museum cultural and creative products. Digital technologies have changed how museums design, display, promote, and sell cultural products. Li et al. (2024) showed that digital transformation technologies, such as artificial intelligence, immersive technologies, additive manufacturing, the Internet of Things, and cloud computing, are reshaping museum exhibitions by improving accessibility, educational potential, visitor experience, and data collection. These technologies also influence museum cultural and creative product development because product inspiration, customization, online retail, virtual exhibitions, digital collectibles, and interactive storytelling are increasingly connected. In this sense, cultural and creative products are no longer confined to physical stores; they are becoming part of a broader digital museum ecosystem.

The development of online museum experiences has also changed consumer behavior toward museum-related cultural products. Deng et al. (2023) noted that museums increasingly use digital resources to provide online services, and the rise of “digital museuming” has made online museum visiting an important issue in cultural consumption. Bonel et al. (2023) similarly found that the pandemic stimulated online cultural consumption and increased attention to digital museum products, especially among younger audiences. These findings suggest that global museum cultural and creative product development is increasingly shaped by both offline and online consumption channels. Visitors may encounter museum products through physical visits, museum websites, social media, e-commerce platforms, online exhibitions, and digital cultural

experiences. Therefore, the boundary between museum visitation and cultural product consumption has become more fluid.

In addition to digitalization, experience quality has become a central issue in museum cultural and creative product development. Museums are increasingly required to provide not only attractive products, but also high-quality experiences around browsing, interpretation, interaction, purchase, and after-sales service. Gao and Yu (2024) found that visitor feedback on museums often involves exhibit content, service attitude, and interactive programs, indicating that museum experience is evaluated through multiple service-related dimensions. This is important for cultural and creative product development because a product's cultural and aesthetic value may not be fully realized if the surrounding service experience is weak. Therefore, the global development of museum cultural and creative products should be understood not only as product innovation, but also as service experience innovation.

From the consumer behavior perspective, recent studies have shown that museum cultural and creative products are strongly influenced by perceived value and product attributes. Shang et al. (2025) found that cultural, social, emotional, and functional attributes influence consumers' perceived value and behavioral attitudes, which then affect purchase intention toward museum cultural and creative products. Similarly, Han et al. (2025) examined small and medium-sized museums and found that brand value, collection value, and location value positively affect consumers' purchase intention. These studies indicate that museum cultural and creative products are evaluated through multiple layers of value, including cultural meaning, emotional connection, social expression, brand recognition, and practical use. As a result, museum product consumption has become a complex cultural and psychological process rather than a simple transactional behavior.

At the same time, new challenges have also been created by the global expansion of museum cultural and creative products. Product homogenization has been identified as one major issue. It was pointed out by Cheng (2025) that, although the promotion of cultural heritage through design is intended to be achieved by museum cultural and creative products, many products are confronted with creative homogenization, as similar designs and concepts are repeatedly adopted and the uniqueness of museum culture is not adequately expressed. Particular importance is attached to this challenge in a competitive cultural consumption market, where distinctiveness, cultural meaning, aesthetic appeal,

and emotional engagement are increasingly expected by visitors. If excessive reliance is placed on superficial cultural symbols or repetitive product formats, the ability of cultural and creative products to communicate authentic heritage value and strengthen brand differentiation may be weakened.

Another challenge is associated with the balance between cultural mission and commercial development. Economic value must be generated by museum cultural and creative products, but cultural heritage should not be reduced to purely commercial symbols. The core value of museum products is reflected in the manner in which heritage can be translated into contemporary life while cultural authenticity, educational meaning, and institutional credibility are maintained. It was suggested by Wang (2024) that museum merchandising should be understood as both a form of cultural expression and a means of brand communication, rather than merely as commercial promotion. Similarly, it was demonstrated by Billore et al. (2025) that cultural transfer and intergenerational memory can be produced through heritage commodification in museum contexts when meaningful storytelling and value creation are provided. Therefore, a balance between market responsiveness and cultural responsibility is required for the successful development of museum cultural and creative products.

Overall, the global development of museum cultural and creative products reflects the transformation of museums in the contemporary cultural economy. These products have evolved from simple souvenirs into multidimensional cultural goods that combine heritage interpretation, creative design, brand communication, visitor experience, digital interaction, and everyday consumption. International research shows that museum cultural and creative products are closely connected with consumption values, branding, digitalization, service experience, and purchase intention. However, this field still requires further investigation, particularly regarding how service quality influences tourists' satisfaction and purchase intention. For the present study, the global development of museum cultural and creative products provides an important background for examining the Palace Museum. As a representative cultural heritage brand, the Palace Museum's cultural and creative products should be understood within this wider international trend of museum branding, cultural consumption, and experience-oriented service management.

2.1.2 Museum Retail and Cultural Consumption in the International Experience Economy

Museum retail has become an increasingly important component of cultural consumption in the international experience economy. In traditional museum management, retail spaces were often treated as auxiliary facilities that provided visitors with souvenirs, guidebooks, postcards, exhibition catalogues, and educational materials. However, in the contemporary museum economy, museum retail is no longer a peripheral commercial function. It has become an integrated part of the visitor journey, cultural interpretation, brand experience, and institutional sustainability. Recent research suggests that museum shops can support cultural sustainability by extending museum narratives, connecting collections with contemporary audiences, and contributing to the long-term relevance of museums in society (Larkin et al., 2024).

From the perspective of the experience economy, museum retail should be understood as part of the total museum experience rather than as a separate point of sale. Visitors do not simply purchase objects after completing a museum visit; they often continue their cultural experience through browsing, touching, comparing, interpreting, and selecting products in the museum shop. In this sense, museum retail provides a bridge between exhibition experience and everyday life. The product purchased in the museum shop may function as a memory object, a cultural symbol, a gift, a lifestyle object, or a personal identity marker. Therefore, museum retail transforms cultural appreciation into cultural possession and enables visitors to bring part of the museum experience into their daily routines.

In the international experience economy, consumption is increasingly shaped by symbolic value, emotional engagement, and experiential participation. Museum retail responds to this transformation by offering products that are not only functional, but also meaningful. Cultural products sold in museum retail spaces often contain references to artworks, historical objects, architectural elements, exhibition themes, local heritage, or institutional identity. Through these products, visitors can continue to engage with museum content after leaving the museum. Yang et al. (2023) argued that museum spaces are important sites of cultural consumption and experience value co-creation, and that visitor motivation, participation, and interaction are closely related to the creation of museum experience value. This indicates that visitors are not passive recipients of museum

services; rather, they actively participate in the construction of cultural value through experience and consumption (Yang et al., 2023).

Museum retail also plays a role in strengthening visitor engagement. In the experience economy, engagement is formed through interaction, participation, emotional involvement, and memory creation. Museum products can support this process by providing tangible reminders of intangible experiences. When visitors purchase museum products, they may extend their engagement with the museum beyond the time and space of the visit. This is particularly important because contemporary cultural consumption is often continuous, multi-channel, and socially shared. Visitors may post museum products on social media, use them in daily life, give them to friends, or collect them as cultural objects. In this way, museum retail contributes not only to immediate sales revenue, but also to long-term audience relationships and cultural communication.

The development of museum retail is also closely connected with the transformation of museums into audience-centered institutions. Contemporary museums increasingly emphasize visitor experience, accessibility, participation, and service quality. Online reviews and visitor feedback show that museum visitors evaluate not only exhibitions, but also facilities, services, interpretation, staff attitudes, and the overall quality of the visit. Huo et al. (2024) noted that visiting museums is a form of cultural consumer behavior that aims to provide visitors with memorable experiences. This implies that museum retail should not be isolated from the broader museum service system. Instead, it should be understood as part of the visitor's overall evaluation of museum experience quality (Huo et al., 2024).

In this context, the design of museum retail spaces becomes increasingly important. A museum shop is not simply a commercial outlet; it is also an interpretive and experiential space. The layout, product display, lighting, signage, staff communication, packaging, and payment process all influence visitors' perceptions. A well-designed museum retail environment can reinforce exhibition themes, improve product attractiveness, enhance emotional immersion, and increase purchase intention. Conversely, poor retail design or weak service quality may interrupt the visitor experience and reduce satisfaction. Therefore, museum retail is directly related to service management, experience design, and brand communication.

Another important feature of museum retail in the international experience economy is its contribution to institutional sustainability. Many museums face financial pressure due to rising operating costs, limited public funding, unstable visitor flows, and increasing expectations for public service. Museum retail can provide an additional source of income, but its value is not limited to economic revenue. Larkin et al. (2024) emphasized that museum shops can support sustainable futures by connecting museum missions with cultural, social, and environmental responsibilities. This suggests that museum retail should be developed in a way that aligns with museum values, rather than simply maximizing commercial profit.

The rise of digital consumption has further expanded the meaning of museum retail. In the international museum sector, cultural products are increasingly sold through online platforms, museum websites, digital stores, social media channels, and cross-border e-commerce. This development allows museum retail to reach audiences who may not physically visit the museum. At the same time, digital retail also changes visitors' expectations. Consumers now expect more convenient purchase channels, richer product information, stronger visual presentation, personalized recommendations, and responsive after-sales service. Therefore, museum retail in the experience economy must integrate offline experience with online accessibility.

Digital and virtual museum experiences also influence cultural consumption patterns. In virtual museum settings, visitor engagement depends on the fit between technology, content, interaction, and user experience. Research on virtual museums shows that digital environments can influence visitor engagement by shaping how audiences interact with cultural content and experience museum spaces (Park et al., 2025). Although virtual museums differ from physical museum retail, they demonstrate how cultural consumption is increasingly mediated by digital experience. This trend is relevant to museum retail because digital platforms can extend museum product consumption before, during, and after the visit.

Museum retail also reflects changes in the relationship between culture and commerce. In the past, commercial activity in museums was sometimes viewed as separate from educational and cultural missions. However, in the experience economy, culture and commerce are increasingly intertwined. When properly managed, museum retail can help translate cultural knowledge into accessible consumer experiences. It can also support

cultural learning, memory formation, and emotional connection. The key issue is not whether museums should engage in retail, but how they can ensure that retail activities remain culturally meaningful, ethically responsible, and aligned with institutional identity (Song, 2023).

In addition, museum retail contributes to destination competitiveness and cultural tourism development. Museums are often located within broader tourism systems, where visitors make decisions about what to see, what to buy, and what to remember. Museum retail can enhance the attractiveness of cultural destinations by offering distinctive products that reflect local culture, heritage, and institutional uniqueness. In cultural tourism, products purchased in museum shops may become symbols of place attachment and cultural memory (Wu, 2024). Therefore, museum retail can support both museum-level branding and destination-level cultural consumption.

Recent research on cultural communication in museums also suggests that audience-centered museum strategies are becoming increasingly important. Li et al. (2024) argued that as museums shift toward audience-centered responsibilities and functions, visitor experience has become a key perspective for understanding museum cultural communication strategies. This argument is highly relevant to museum retail because cultural and creative products are one of the most direct ways through which museums communicate with visitors beyond exhibitions. Retail products can make museum culture visible, portable, shareable, and repeatable in everyday life (Li et al., 2024).

However, museum retail in the international experience economy also faces several challenges. First, museum shops must balance cultural value and commercial value. If products are overly commercialized, they may weaken the cultural authority and educational mission of the museum. Second, museums must avoid product homogenization, as similar product formats may reduce distinctiveness and brand recognition. Third, museums need to improve service quality in retail spaces because visitors' purchase intention may be influenced by staff professionalism, product explanation, convenience, and responsiveness. Fourth, museums must manage the relationship between offline and online retail experiences to ensure consistency in product quality, cultural storytelling, and brand image.

For the present study, the international development of museum retail and cultural consumption provides an important foundation for examining Palace Museum cultural and

creative products. The Palace Museum is not only a heritage institution, but also a powerful cultural brand with a large cultural product system. Its cultural and creative products are consumed within a broader experience economy in which tourists value not only the products themselves, but also the service quality, shopping environment, cultural interpretation, and brand experience surrounding the products. Therefore, understanding museum retail as part of cultural consumption helps explain why RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention should be examined together in this study.

In summary, museum retail in the international experience economy has evolved from a simple commercial function into a multidimensional cultural consumption system. It integrates product design, visitor experience, cultural interpretation, service quality, institutional sustainability, digital communication, and brand management. This development indicates that museum cultural and creative product consumption cannot be fully explained only by product attributes. It must also be understood through the service process and the broader museum brand experience. This provides a strong contextual basis for the present study, which investigates how service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through tourist satisfaction and brand satisfaction.

2.1.3 Development of Museum Cultural and Creative Products in China

The development of museum cultural and creative products in China has been closely connected with the broader transformation of museums from collection-centered institutions into public-oriented cultural platforms. In the past, Chinese museums mainly emphasized preservation, exhibition, historical education, and academic research. However, with the rapid growth of cultural tourism, cultural consumption, and creative industries, museums have increasingly attempted to transform cultural relics, historical symbols, and exhibition narratives into products that can be used, purchased, shared, and remembered by the public. This transformation indicates that museum cultural and creative products in China are no longer simple souvenirs, but have become an important medium for cultural dissemination, public education, brand communication, and cultural consumption (Li et al., 2022; Zhang, 2022).

In the Chinese context, museum cultural and creative products have developed rapidly because they meet the growing public demand for culturally meaningful and

aesthetically attractive consumption. As traditional culture has become increasingly popular among younger consumers, cultural and creative products have moved from niche cultural goods to mainstream lifestyle products. Research on Chinese tourists' cultural product consumption shows that traditional cultural products have become more popular in the Chinese tourism market, and social factors such as family cultural capital and group involvement may influence purchase intention (Pang et al., 2025). This suggests that the consumption of museum cultural and creative products in China is not only an individual buying behavior, but also a socially embedded cultural practice.

The Palace Museum has played a leading role in shaping the development path of museum cultural and creative products in China. Its cultural and creative products have demonstrated how traditional cultural resources can be transformed into products with contemporary aesthetics, practical functions, and market appeal. Hu (2026) notes that the Palace Museum's cultural and creative products have developed from earlier limited forms into a comprehensive cultural consumption ecosystem, covering daily necessities, stationery, luggage, cosmetics collaborations, themed exhibitions, and online–offline channels. This case has provided an important reference for other Chinese museums seeking to transform collections into cultural brands and marketable creative products (Hu, 2026).

One important feature of China's museum cultural and creative product development is the integration of cultural symbols with modern design aesthetics. Chinese museum products often draw inspiration from historical artifacts, traditional patterns, architecture, calligraphy, painting, mythology, and regional heritage. However, successful products do not simply copy cultural relics; they reinterpret cultural elements through contemporary design language. Li et al. (2022) found that design aesthetics significantly influence consumers' purchase intention toward Palace Museum cultural and creative products, indicating that aesthetic expression is a key factor in transforming traditional culture into desirable consumer products. This shows that product design is central to the development of museum cultural and creative products in China.



Figure 2.1 The Palace Museum in Beijing (The Forbidden City)
Source: Official Website of the Palace Museum

At the same time, creativity has become a major criterion for evaluating museum cultural and creative products in China. Cheng (2024) constructed and validated a museum product creativity measurement model for souvenir products in Chinese urban historical museums, showing that creativity in museum products can be assessed through multiple dimensions and indicators. This reflects a shift in Chinese museum product development from basic cultural reproduction to more systematic creativity evaluation. In other words, Chinese museums are increasingly expected to produce cultural products that are not only culturally accurate, but also novel, useful, emotionally attractive, and compatible with contemporary consumer lifestyles (Cheng, 2024).

The digital transformation of Chinese museums has also accelerated the development of cultural and creative products. Many museums now use e-commerce platforms, social media, livestreaming, short videos, digital exhibitions, and online stores to promote and sell cultural products. The Palace Museum, for example, has developed online virtual stores and diversified communication channels, enabling consumers to purchase cultural and creative products beyond the physical museum space (Hu, 2026). This digital expansion allows museum products to reach wider consumer groups, especially younger audiences who are highly active on online platforms. As a result,

museum cultural and creative products in China increasingly operate through an integrated online–offline consumption model.

Another important trend is the rise of co-branding and cross-industry collaboration. Chinese museums have increasingly cooperated with cosmetics, fashion, food, stationery, technology, and lifestyle brands to extend cultural symbols into broader consumption scenarios. Hu (2026) notes that the Palace Museum's collaborations, such as those with beauty brands, have enabled museum culture to move beyond exhibition halls and enter everyday consumer spaces. This indicates that Chinese museum cultural and creative products are no longer limited to museum shops; rather, they have become cultural IP products that can circulate across industries, platforms, and consumer groups.

Consumer research in China also shows that purchase intention toward museum cultural and creative products is influenced by multiple psychological and cultural factors. Cheng (2023) argued that consumers' purchase of museum cultural and creative products is often a thoughtful and planned behavior rather than a purely impulsive act. This means that Chinese consumers may evaluate cultural value, product design, emotional meaning, practical utility, price, identity expression, and social recognition before making purchase decisions. Therefore, the development of museum cultural and creative products in China needs to consider not only product creativity, but also consumer perception and decision-making mechanisms (Cheng, 2023).

In recent years, artificial intelligence and digital design have also entered the field of Chinese museum cultural and creative products. Li et al. (2024) examined consumer satisfaction with AI-generated cultural and creative products using products inspired by the Dunhuang Museum, showing that emerging technologies can influence consumer evaluation and satisfaction in museum product contexts. This suggests that the future development of museum cultural and creative products in China may increasingly involve AI-assisted design, digital creativity, personalized products, and technology-enhanced cultural interpretation. However, technological innovation still needs to be connected with cultural authenticity and consumer experience in order to create sustainable value (Li et al., 2024).

Despite rapid development, Chinese museum cultural and creative products still face several challenges. First, some products remain overly dependent on surface-level cultural symbols, resulting in weak originality and product homogenization. Second, some

museums lack clear brand positioning and long-term product strategies. Third, the service experience surrounding museum products, including product explanation, shopping convenience, staff professionalism, and after-sales support, is not always fully developed. Hu (2026) points out that some cultural and creative products in Chinese cultural institutions still face problems such as insufficient innovation capability, weak promotion skills, and outdated operational concepts. These challenges show that the future development of museum cultural and creative products in China requires not only better product design, but also stronger brand management and service management.

For this study, the development of museum cultural and creative products in China provides an important contextual foundation. China's museum cultural and creative product market has entered a stage in which consumers care not only about cultural meaning and product aesthetics, but also about service quality, brand satisfaction, and purchase experience. The Palace Museum is a representative case because it combines cultural heritage, national memory, brand influence, digital communication, and large-scale cultural product development. Therefore, examining tourists' purchase intention toward Palace Museum cultural and creative products through RATER-based service quality, tourist satisfaction, and brand satisfaction is consistent with the current development needs of China's museum cultural and creative industry (Li et al., 2022; Cheng, 2024; Hu, 2026).

2.1.4 Cultural Tourism, Heritage Branding, and Museum Consumption in China

Cultural tourism has become an important field in China's tourism development because it connects historical resources, cultural heritage, visitor experience, and regional economic transformation. In China, cultural heritage sites, museums, ancient towns, archaeological parks, and intangible cultural heritage spaces are increasingly used to create meaningful tourism experiences and strengthen cultural confidence. Cultural attractions, including heritage sites and museums, provide important motivation for travel because they allow visitors to understand history, identity, and place through direct experience (Chen, 2024). Therefore, cultural tourism in China should not be viewed only as sightseeing activity, but also as a process of cultural learning, emotional participation, and value co-creation.

Heritage tourism in China is also closely related to cultural identity. As China has rich historical resources and diverse regional cultures, heritage tourism offers tourists opportunities to connect with national history, local traditions, and collective memory. Fu et al. (2023) developed and verified a cultural identity measurement model for cultural heritage tourists and found that cultural identity is closely connected with travel experience, place attachment, satisfaction, and revisit intention. This indicates that tourists' cultural experiences at heritage destinations can influence not only their immediate satisfaction, but also their emotional connection and future behavioral intention (Fu et al., 2023).

In the Chinese cultural tourism context, heritage branding has become increasingly important. Heritage branding refers to the process through which cultural resources, historical narratives, local identity, and symbolic meanings are transformed into recognizable and competitive cultural brands. This process is not limited to destination promotion; it also involves the construction of cultural meaning, visitor experience, service quality, and brand trust. Research on heritage tourism and cultural identity in China suggests that local communities and cultural destinations increasingly use heritage resources to strengthen tourism development, cultural recognition, and local economic transformation (Chen & Rahman, 2023). Thus, heritage branding has become an important strategy for transforming historical culture into sustainable tourism value.

Museum consumption is one of the most important forms of cultural tourism consumption in China. Compared with general tourism consumption, museum consumption is closely related to learning, cultural interpretation, aesthetic appreciation, emotional resonance, and symbolic purchase. Museums provide tourists with both tangible and intangible cultural experiences. Through exhibitions, guided interpretation, interactive programs, cultural activities, and cultural and creative products, museums can transform historical collections into visitor-oriented cultural value. Chen (2024) found that museum tourism can promote cultural transmission, especially when visitors are motivated to communicate museum cultural content after their visits. This suggests that museum consumption may continue beyond the museum space through memory, sharing, recommendation, and product purchase.

The relationship between cultural tourism and museum consumption has become more significant as Chinese tourists increasingly seek meaningful and memorable

experiences. In cultural heritage tourism, tourists are not satisfied with passive observation; they often expect immersive interpretation, authentic cultural atmosphere, emotional engagement, and service support. Yang et al. (2022) found that aesthetics, tourist involvement, mental experience, and cultural identity play important roles in shaping tourists' experiences in Chinese cultural heritage contexts. This finding suggests that cultural tourism consumption in China is becoming more experienced-based and identity-oriented, rather than only attraction-based or product-based.

Authenticity is another central issue in Chinese cultural tourism and museum consumption. Tourists often expect cultural heritage destinations and museums to provide experiences that are historically meaningful, culturally credible, and emotionally persuasive. Jin et al. (2020) examined experiential authenticity in heritage museums and argued that museums are important heritage attractions that provide authentic cultural experiences for visitors. This is particularly relevant to museum cultural and creative products because tourists may evaluate such products not only according to price or function, but also according to whether the products authentically represent museum culture and heritage meaning (Jin et al., 2020).

In recent years, digital cultural heritage has also become an important part of China's cultural tourism and museum consumption. Digital exhibitions, immersive media, virtual interpretation, and interactive storytelling have changed how tourists encounter and understand heritage. Li et al. (2025) examined visitor experiences with digital cultural heritage exhibitions in Yimeng, China, and found that exhibition design, storytelling elements, and interactive digital features shape tourists' emotional, cognitive, and sensory engagement with cultural narratives. This indicates that heritage consumption in China is increasingly supported by digital technologies, which can extend museum experience and enrich cultural interpretation.

Cultural heritage branding in China is also closely connected with destination image and revisit intention. In the competitive tourism market, heritage destinations need to build strong images, memorable experiences, and emotional connections in order to encourage tourists' loyalty and repeat visitation. Zhifu (2025) emphasized that fostering tourist loyalty and revisit intention has become a priority for destination managers and policymakers in China's heritage tourism market. Although revisit intention differs from purchase intention, both reflect tourists' positive behavioral responses after cultural

experience. Therefore, research on heritage destination loyalty provides useful insight into how cultural experience, satisfaction, and brand perception may influence tourists' future consumption behavior.

At the same time, cultural tourism in China increasingly emphasizes the integration of cultural protection and tourism consumption. Cultural and historical preservation can support tourism development by improving cultural attractiveness, strengthening heritage value, and increasing visitors' willingness to participate in cultural experiences. Li et al. (2025) found that cultural and historical preservation is related to foreign tourism consumption and development in China, suggesting that heritage protection and tourism consumption can form a mutually reinforcing relationship. This is important because museum cultural and creative products should not be understood as isolated commercial goods; rather, they are part of a broader system of heritage protection, cultural communication, and cultural tourism development.

Museum consumption in China is also shaped by public engagement and cultural communication. Contemporary museums are expected to communicate with visitors through exhibitions, social media, educational activities, digital platforms, and cultural products. Jinsha (2025) examined cultural heritage interpretation and public engagement in the Mogao Caves and showed that heritage managers use systematic strategies on social media to communicate heritage meaning and engage the public. This indicates that heritage branding and museum consumption are no longer limited to physical visits; they are increasingly extended through digital communication and audience interaction.

However, the rapid development of cultural tourism and museum consumption in China has also created new management challenges. On one hand, cultural tourism can activate heritage resources and promote cultural dissemination. On the other hand, excessive commercialization may weaken authenticity, reduce cultural depth, and create superficial consumption. Lin (2024) found that tourists' perceptions of sacredness and authenticity in cultural and religious tourism contexts can be influenced by commercial activities and tourist volume. Although the study focuses on religious tourism destinations in Northeast China, it highlights a broader issue in heritage tourism: cultural experience must be carefully managed so that commercialization does not damage cultural meaning and visitor satisfaction.

For museum cultural and creative products, this challenge is especially important. Cultural products need to be marketable, but they also need to maintain cultural credibility and brand consistency. If museum products become too commercialized or disconnected from heritage meaning, tourists may perceive them as ordinary consumer goods rather than meaningful cultural products. Conversely, when cultural products are supported by authentic storytelling, high-quality service, and strong brand identity, they can become effective tools for heritage branding and cultural consumption. Therefore, the success of museum cultural and creative products depends not only on product design, but also on the broader cultural tourism experience and museum brand management.

In relation to the present study, the Chinese context of cultural tourism, heritage branding, and museum consumption provides a strong foundation for examining Palace Museum cultural and creative products. The Palace Museum represents a highly recognizable cultural heritage brand in China, and its cultural and creative products are closely connected with national history, museum authority, aesthetic identity, and cultural memory. Tourists' purchase intention toward these products may therefore be influenced by both their immediate service experience and their satisfaction with the Palace Museum as a cultural brand. This supports the need to examine RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention within one integrated framework.

In summary, cultural tourism, heritage branding, and museum consumption in China are deeply interconnected. Cultural tourism provides the experiential setting, heritage branding provides symbolic and institutional value, and museum consumption transforms cultural experience into tangible and repeatable consumer behavior. Existing studies show that cultural identity, authenticity, experience quality, public engagement, and heritage preservation all influence tourists' perceptions and behaviors in Chinese cultural tourism contexts. For this study, these developments explain why Palace Museum cultural and creative products should be understood not only as products, but also as cultural brand extensions embedded in China's cultural tourism and museum consumption system.

2.1.5 Palace Museum Cultural and Creative Products as a Representative Case of Museum Branding in China

The Palace Museum's cultural and creative products represent one of the most influential cases of museum branding in China. As a national-level cultural institution with strong historical authority, collection resources, architectural symbolism, and public recognition, the Palace Museum has successfully transformed museum collections and imperial culture into marketable cultural products. Its cultural and creative products are not merely souvenirs purchased after a museum visit; they are cultural brand extensions that connect heritage resources, aesthetic design, institutional image, and consumer lifestyles. Therefore, the Palace Museum provides a valuable case for understanding how museums in China can transform cultural heritage into brand-based cultural consumption (Li & He, 2020; Hu, 2026).

One reason why Palace Museum cultural and creative products are representative is their strong ability to convert historical and cultural symbols into contemporary consumer products. The Palace Museum has rich cultural resources, including imperial artifacts, palace architecture, traditional colors, court patterns, calligraphy, paintings, and historical narratives. These resources provide a deep cultural foundation for product development. Rather than presenting cultural relics only as exhibition objects, the Palace Museum reinterprets them through product design, packaging, visual communication, and functional innovation. In this way, cultural heritage becomes more visible, usable, and emotionally accessible in daily life (Li et al., 2022; Feng et al., 2024).

From a branding perspective, the Palace Museum has developed beyond the image of a traditional museum and has become a recognizable cultural IP brand. Its cultural and creative products help extend the Palace Museum's brand meaning from physical visitation to everyday cultural consumption. Through stationery, household items, cosmetics collaborations, accessories, food-related products, digital products, and festival-themed products, the Palace Museum brand enters multiple consumer scenarios. This brand extension allows tourists and consumers to maintain a symbolic connection with the museum after their visit, thereby strengthening the museum's cultural visibility and brand influence (Qi, 2023; Zhu, 2024).



Figure 2.2 Cultural and Creative Products of the Palace Museum
Source: Official Website of the Palace Museum

The success of Palace Museum cultural and creative products is also related to integrated marketing communication in the new media environment. Li and He (2020) argued that the Palace Museum's cultural and creative products have benefited from integrated marketing strategies under the new media age. Through social media, e-commerce platforms, online stores, short videos, digital communication, and cross-platform promotion, the Palace Museum has been able to communicate with younger consumers in more vivid and interactive ways. This demonstrates that museum branding in China increasingly depends not only on the cultural value of collections, but also on the ability to communicate brand meaning through contemporary media channels (Li & He, 2020).

The Palace Museum's case also shows that design aesthetics is central to museum brand development. Li et al. (2022) found that design aesthetics positively influences consumers' purchase intention toward Palace Museum cultural and creative products, and that perceived value plays a mediating role in this relationship. This finding is important

because it suggests that consumers do not purchase Palace Museum products only because they are culturally famous; they also evaluate whether the products are aesthetically attractive, meaningful, and valuable. Therefore, Palace Museum branding is built through the combination of cultural authority and modern design appeal (Li et al., 2022).

In addition to design aesthetics, innovation is another important feature of Palace Museum cultural and creative products. Feng et al. (2024) examined the Forbidden City's cultural and creative products from the perspective of craft representation networks and innovative heritage. Their study suggests that the innovation of Forbidden City cultural products involves the recombination of function, material, and technique. This means that cultural product development is not simply the reproduction of traditional symbols, but a process of reorganizing heritage elements into new product forms. In this sense, Palace Museum cultural and creative products demonstrate how museums can achieve heritage innovation while maintaining cultural recognizability (Feng et al., 2024).

The Palace Museum's museum-branding model is also reflected in its marketing strategy. Qi (2023) analyzed the marketing strategies of Beijing's Palace Museum cultural and creative products and noted that the Palace Museum has attracted consumers through commercialization strategies based on cultural resources and market communication. Similarly, Hu (2026) examined Palace Museum cultural and creative products through the 4Ps marketing framework and identified them as a representative success among Chinese cultural institutions. These studies indicate that the Palace Museum has developed a relatively systematic product, price, place, and promotion strategy, which supports its transformation from a cultural institution into a cultural consumption brand (Qi, 2023; Hu, 2026).

However, the success of Palace Museum cultural and creative products also creates new challenges for museum branding. As the market expands, tourists and consumers may have higher expectations regarding product quality, cultural interpretation, service experience, shopping convenience, and brand consistency. If product development emphasizes commercial expansion but neglects service quality, the brand experience may become fragmented. For example, consumers may appreciate the cultural meaning of the products, but their purchase intention may still be weakened if they experience poor product explanation, crowded retail spaces, weak responsiveness, or insufficient after-sales service. Therefore, the future development of Palace Museum cultural and creative

products requires not only creative design and marketing, but also systematic service quality management (Li & He, 2020; Zhu, 2024).

This point is particularly relevant to the present study because Palace Museum cultural and creative products should be examined not only as product objects, but also as service-based and brand-based consumption experiences. In museum retail, tourists' purchase intention may be influenced by reliability, assurance, tangibles, empathy, and responsiveness. Accurate product information, professional staff, attractive display, considerate service, and timely response can all affect tourists' satisfaction. More importantly, these service experiences may also influence tourists' satisfaction with the Palace Museum brand. Thus, RATER-based service quality may contribute to purchase intention through both tourist satisfaction and brand satisfaction (Li et al., 2022; Hu, 2026).

The inclusion of brand satisfaction is especially important in the Palace Museum context. Palace Museum cultural and creative products are closely tied to the museum's cultural authority, public reputation, historical legitimacy, and symbolic identity. When tourists purchase these products, they are not only buying practical objects; they are also consuming the meaning of the Palace Museum brand. Therefore, brand satisfaction may serve as a key psychological mechanism that links service quality and purchase intention. A positive service experience can strengthen tourists' perception that the Palace Museum is professional, trustworthy, culturally meaningful, and worthy of continued support. This provides a strong theoretical basis for treating brand satisfaction as a central mediator in this study (Feng et al., 2024; Qi, 2023).

In summary, Palace Museum cultural and creative products provide a representative case for understanding museum branding in China. Their development reflects the integration of cultural heritage, product design, brand extension, digital communication, marketing strategy, and consumer experience. Existing studies have shown that the Palace Museum has achieved strong market influence through design aesthetics, cultural symbolism, innovation, and integrated marketing. Nevertheless, further research is still needed to explain how service quality contributes to tourists' purchase intention in this specific brand context. Therefore, this study focuses on Palace Museum cultural and creative products and examines how RATER-based service quality influences purchase intention through tourist satisfaction and brand satisfaction, thereby extending

the discussion of museum branding from product-centered innovation to service-brand-consumption mechanisms (Li & He, 2020; Li et al., 2022; Hu, 2026).

2.2 Parent Disciplines

2.2.1 Service Quality Theory and the RATER Model

Service quality theory is one of the major theoretical foundations of this study because it explains how consumers evaluate the performance of service providers and how such evaluations influence satisfaction and behavioral intention. In service management research, service quality is generally understood as customers' perception of how well a service meets or exceeds their expectations. It is not limited to the final outcome of a transaction but also includes the process through which the service is delivered, such as communication, staff behavior, physical environment, reliability, and responsiveness. Recent studies continue to confirm that service quality is a key antecedent of customer satisfaction, loyalty, revisit intention, and purchase intention in different service industries (Halim, 2025; Salamah et al., 2022).

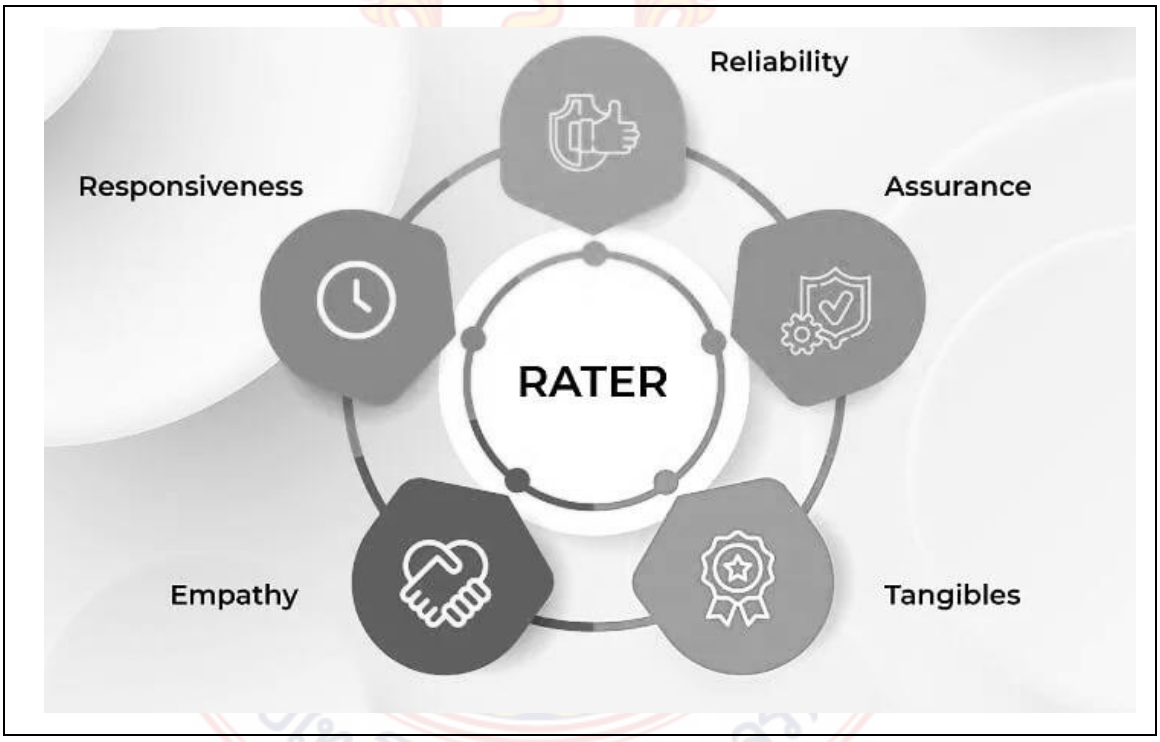


Figure 2.3 RATER Model

Source: Parasuraman et. al (1988)

The RATER model is a widely used service quality framework derived from the SERVQUAL tradition. It evaluates service quality through five dimensions: reliability, assurance, tangibles, empathy, and responsiveness. Reliability refers to the ability to provide promised services accurately and dependably; assurance refers to employees' knowledge, courtesy, and ability to inspire trust; tangibles refer to visible service elements such as facilities, equipment, product display, and physical environment; empathy refers to individualized care and attention; and responsiveness refers to the willingness to provide prompt help and timely service. These five dimensions provide a systematic structure for examining how consumers judge service quality in both commercial and cultural service settings (Bahadur et al., 2023; Daskalaki et al., 2020).

In the tourism and cultural consumption context, service quality is especially important because tourists' evaluations are shaped by both tangible and intangible experiences. Unlike ordinary product consumption, tourism-related consumption involves emotional expectations, cultural interpretation, environmental atmosphere, interpersonal interaction, and memory formation. Therefore, service quality can directly influence tourists' satisfaction and future behavioral intentions. For example, Han et al. (2021) found that tourism public health service quality significantly affects tourists' satisfaction, trust, and loyalty, showing that service quality can shape tourists' psychological responses and behavioral outcomes in tourism settings. Similarly, Eviana et al. (2025) confirmed that service quality influences revisit intention through tourist satisfaction, further supporting the mediating role of satisfaction in tourism consumption.

In museum contexts, service quality has also become a crucial issue because museums are no longer only collection-centered institutions; they are also visitor-centered cultural service organizations. Visitors evaluate museums not only by the value of collections and exhibitions, but also by accessibility, interpretation, facilities, staff service, retail environment, and overall experience. Daskalaki et al. (2020) examined service quality, visitor satisfaction, and future behavior in the museum sector and showed that service quality dimensions can be used to explain visitor satisfaction and future behavioral intention. Chae (2026) further examined service quality at the National Palace Museum of Korea and found that service quality influences visitors' revisit and recommendation intentions, indicating that museum service quality has important implications for visitor experience and museum management.

The RATER model is particularly relevant to the present study because Palace Museum cultural and creative products are consumed within a service environment. Tourists do not evaluate these products only through their design, cultural meaning, or price. They also evaluate whether the product information is accurate, whether staff members are professional and trustworthy, whether product displays and packaging are attractive, whether individual needs are considered, and whether service problems are handled quickly. These aspects correspond directly to the five RATER dimensions. Therefore, the RATER model provides a suitable theoretical framework for examining how service quality influences tourists' purchase intention toward Palace Museum cultural and creative products.

Specifically, reliability is important in this study because tourists need dependable product information, stable product quality, clear pricing, accurate payment processes, and trustworthy after-sales support. If tourists perceive the Palace Museum's cultural and creative product services as reliable, they may feel more confident in purchasing products. In museum cultural product consumption, reliability is not only a technical service issue; it also reflects the credibility of the museum brand. When the service process is accurate and dependable, tourists are more likely to believe that the cultural and creative products are authentic, valuable, and worthy of purchase. Recent service quality research has shown that reliable service performance is an important predictor of customer satisfaction and behavioral intention (Salamah et al., 2022; Halim, 2025).

Assurance is also central to the Palace Museum cultural and creative product context. Since these products are closely related to historical culture, traditional symbols, and museum collections, tourists may expect staff members or service channels to provide professional explanations and trustworthy information. Assurance can reduce tourists' uncertainty, especially when they are choosing products as cultural gifts, souvenirs, or symbolic items. If the service staff can explain product meanings clearly and behave politely and professionally, tourists may develop stronger confidence in both the product and the Palace Museum brand. In tourism service research, assurance-related service quality has been associated with customer confidence, satisfaction, and favorable behavioral outcomes (Bahadur et al., 2023; Han et al., 2021).

Tangibles are highly visible in museum cultural and creative product consumption. The store environment, product display, lighting, spatial layout, signage, packaging, staff

appearance, and digital service interfaces all influence tourists' perception of service quality. For the Palace Museum, tangibles are especially important because the physical and visual environment should be consistent with the cultural and aesthetic value of the museum brand. A well-designed retail environment can strengthen tourists' sense of cultural immersion and increase the attractiveness of cultural and creative products. Museum studies have shown that physical service elements and museum environments can influence visitor satisfaction and future behavioral responses (Daskalaki et al., 2020; Jung, 2026).

Empathy refers to whether tourists feel that their individual needs are understood and respected. In the context of Palace Museum cultural and creative products, tourists may have different purchase motivations. Some may buy products as souvenirs, some as gifts, some for collection, and others for cultural learning or daily use. Therefore, empathetic service requires staff or service platforms to provide patient communication, suitable recommendations, and personalized support. Empathy is particularly important in cultural consumption because tourists may seek emotional connection, cultural understanding, and symbolic meaning. Previous research in service and tourism contexts has emphasized that empathetic service can enhance satisfaction by making consumers feel valued and understood (Bahadur et al., 2023; Eviana et al., 2025).

Responsiveness is another important dimension because tourists often expect quick assistance during product selection, payment, product inquiries, delivery, and after-sales communication. In high-traffic museum environments, delayed service, unclear guidance, or slow responses may reduce tourists' satisfaction and weaken purchase intention. Responsiveness is also important in online and digital channels because many museum cultural and creative products are promoted and purchased through websites, e-commerce platforms, and social media. Prompt and effective responses can improve tourists' consumption experience and strengthen their trust in the museum's cultural product system. Recent studies have confirmed that responsive service contributes to customer satisfaction and behavioral intention in service contexts (Halim, 2025; Chae, 2026).

The theoretical relevance of the RATER model to this study lies in its ability to connect service quality with both satisfaction and purchase intention. Service quality theory suggests that consumers' behavioral intentions are not formed only by product characteristics, but also by their evaluation of the service process. This is consistent with

the present study's argument that tourists' purchase intention toward Palace Museum cultural and creative products is influenced by the service experience surrounding the products. In this sense, RATER-based service quality functions as the key antecedent variable in the proposed research model.

Moreover, the RATER model supports the dual-mediation logic of this study. High service quality may first improve tourist satisfaction by creating a smooth, trustworthy, comfortable, and emotionally supportive consumption experience. At the same time, service quality may also strengthen brand satisfaction because tourists may interpret high-quality service as evidence of the Palace Museum's professionalism, cultural credibility, and brand responsibility. Therefore, the RATER model does not only explain operational service performance; it also helps explain how service encounters contribute to brand-level evaluation. This is particularly important because Palace Museum cultural and creative products are not ordinary retail products, but cultural brand extensions of the Palace Museum.

In summary, service quality theory and the RATER model provide a strong parent-discipline foundation for this study. The five dimensions of reliability, assurance, tangibles, empathy, and responsiveness offer a clear and systematic way to measure tourists' evaluation of service quality in the Palace Museum cultural and creative product context. By integrating the RATER model with tourist satisfaction, brand satisfaction, and purchase intention, this study extends service quality theory into the field of museum cultural and creative product consumption and provides a theoretical basis for understanding how service experience can influence both satisfaction and purchase behavior.

2.2.2 Satisfaction Theory

Satisfaction theory provides an important theoretical foundation for this study because it explains how consumers evaluate their experiences after comparing expectations with actual performance. In marketing and service research, satisfaction is generally understood as a post-consumption evaluative response that reflects whether the perceived service, product, or experience meets, exceeds, or fails to meet customer expectations. From this perspective, satisfaction is not only an emotional reaction, but also a cognitive judgment formed after consumers assess the quality and value of their experience. Recent studies continue to show that satisfaction is a central psychological

mechanism linking service quality, perceived value, experience quality, and behavioral intention (Yi, 2024; Halim, 2025).

Satisfaction theory is closely related to expectation-confirmation logic. According to this perspective, consumers form expectations before consumption and then compare those expectations with actual experience. When the actual experience is consistent with or better than expectations, satisfaction is likely to occur; when the experience is worse than expected, dissatisfaction may arise. This theoretical logic is particularly relevant to service and tourism consumption because tourists often enter a service encounter with expectations about product quality, staff professionalism, physical environment, convenience, and emotional experience. Therefore, satisfaction can be regarded as a psychological response to the match or mismatch between tourists' expectations and their actual service experience (Yi, 2024; Almutairi, 2026).

In service management research, satisfaction has been widely examined as an outcome of service quality. Service quality represents consumers' evaluation of service performance, while satisfaction reflects their overall response to that performance. When customers perceive that a service provider is reliable, professional, responsive, empathetic, and supported by attractive tangible elements, they are more likely to develop satisfaction. Halim (2025) found that service quality is an important driver of customer satisfaction and purchase intention, suggesting that satisfaction plays a key role in converting service evaluations into behavioral outcomes. This supports the present study's assumption that RATER-based service quality can influence tourists' satisfaction in the Palace Museum cultural and creative product context (Halim, 2025).

In tourism research, tourist satisfaction is generally regarded as tourists' overall evaluation of their tourism experience. It may be formed through multiple elements, including destination environment, service quality, cultural interpretation, accessibility, product experience, emotional response, and perceived value. Abdou et al. (2022) showed that perceived service quality significantly affects tourist satisfaction and behavioral intentions, and that tourist satisfaction mediates the relationship between service quality and behavioral intentions. This indicates that tourist satisfaction is not only an outcome variable, but also an important mediating mechanism in tourism behavior research (Abdou et al., 2022).

The mediating role of tourist satisfaction has also been supported in recent tourism studies. Eviana et al. (2025) found that tourist satisfaction mediates the relationship between service quality, memorable tourism experience, and revisit intention. This finding suggests that even when tourists perceive high service quality, their future behavioral intention is more likely to be strengthened when they also feel satisfied with the experience. In other words, service quality may create the conditions for positive behavioral intention, but satisfaction explains how tourists psychologically transform service experience into future behavioral willingness (Eviana et al., 2025).

In the present study, tourist satisfaction refers to tourists' overall satisfaction with the service and consumption experience related to Palace Museum cultural and creative products. This includes satisfaction with product information, service attitude, store environment, cultural explanation, shopping convenience, payment process, and after-sales service. Since Palace Museum cultural and creative products are usually consumed within a tourism and museum experience, tourists' satisfaction may be influenced by both the specific retail service and the broader cultural atmosphere of the Palace Museum. Therefore, tourist satisfaction is a suitable mediating variable between RATER-based service quality and purchase intention.

However, this study does not treat satisfaction as a single general concept. Instead, it distinguishes tourist satisfaction from brand satisfaction. Tourist satisfaction is more closely related to tourists' immediate experience during the purchase or consumption process. It is experience-based, service-oriented, and context-specific. Brand satisfaction, by contrast, reflects tourists' overall satisfaction with the Palace Museum as a cultural brand. This distinction is theoretically important because tourists may feel satisfied with a service encounter, but their deeper brand-level evaluation may depend on whether the Palace Museum brand is perceived as trustworthy, culturally meaningful, creative, and consistent.

Brand satisfaction theory emphasizes consumers' evaluative response to a brand based on accumulated brand experience, brand identity, brand image, and brand performance. In brand management research, brand satisfaction is closely related to repurchase intention because satisfied consumers are more likely to maintain positive attitudes toward a brand and continue purchasing its products. Acar et al. (2024) found that brand identity and brand-lifestyle congruence influence brand satisfaction and

repurchase intention, showing that brand satisfaction can function as a key psychological mechanism between brand-related perceptions and future purchase behavior. This provides theoretical support for examining brand satisfaction in the Palace Museum cultural and creative product context (Acar et al., 2024).

Brand satisfaction is particularly relevant to this study because Palace Museum cultural and creative products are not ordinary retail goods. They are closely connected with the Palace Museum's cultural authority, historical reputation, aesthetic identity, and institutional credibility. When tourists purchase these products, they are also engaging with the Palace Museum brand. If tourists are satisfied with the Palace Museum brand, they may perceive its cultural and creative products as more meaningful, reliable, and worthy of purchase. Therefore, brand satisfaction may provide an additional explanatory pathway beyond tourist satisfaction.

The difference between tourist satisfaction and brand satisfaction can be further understood through the distinction between experience-level evaluation and brand-level evaluation. Tourist satisfaction answers the question of whether tourists are satisfied with the service and consumption experience. Brand satisfaction answers the question of whether tourists are satisfied with the Palace Museum as a cultural brand. In the case of Palace Museum cultural and creative products, both forms of satisfaction may influence purchase intention. Tourists may purchase because the service experience is smooth and pleasant, and they may also purchase because they are satisfied with the Palace Museum's cultural reputation and brand meaning.

The use of tourist satisfaction and brand satisfaction as dual mediators therefore extends satisfaction theory in the context of museum cultural and creative product consumption. Previous studies often use satisfaction as a single mediating variable between service quality and behavioral intention. However, the Palace Museum context requires a more refined explanation because cultural and creative products involve both service experience and brand meaning. By distinguishing tourist satisfaction from brand satisfaction, this study can better explain how RATER-based service quality affects tourists' purchase intention through two different but related psychological paths.

In summary, satisfaction theory provides the theoretical basis for understanding the mediating mechanisms in this study. RATER-based service quality may first influence tourist satisfaction by improving tourists' immediate consumption experience. At the same

time, it may also influence brand satisfaction by strengthening tourists' positive evaluation of the Palace Museum as a cultural brand. These two forms of satisfaction may then contribute to purchase intention toward Palace Museum cultural and creative products. Therefore, satisfaction theory supports the dual-mediation structure of this study and helps explain how service quality is transformed into tourists' behavioral intention.

2.2.3 Consumer Behavior and Purchase Intention Theory

Consumer behavior theory provides an important parent-discipline foundation for this study because it explains how consumers perceive, evaluate, decide, and act in the process of purchasing products or services. In general, consumer behavior involves a series of psychological and behavioral processes, including need recognition, information search, alternative evaluation, purchase decision, and post-purchase evaluation. In contemporary marketing research, consumer behavior is not only understood as a rational decision-making process, but also as a process influenced by perception, emotion, trust, satisfaction, social norms, cultural meaning, brand image, and service experience (Peña-García et al., 2020; Wang et al., 2023).

Purchase intention is one of the most commonly used outcome variables in consumer behavior research. It refers to consumers' willingness, tendency, or likelihood to purchase a product or service in the future. Although purchase intention does not always directly equal actual purchase behavior, it is widely regarded as an important predictor of consumer behavior. Peña-García et al. (2020) emphasized that purchase intention is closely related to consumers' attitudes, perceived behavioral control, trust, and decision-making processes. This indicates that purchase intention can be used to understand consumers' future behavioral tendency before actual purchase occurs.

In the context of tourism and cultural consumption, purchase intention is shaped by both rational and experiential factors. Tourists may evaluate product quality, price, convenience, service process, cultural value, and emotional meaning before forming purchase intention. Wang et al. (2022) found that tourism purchase intention tends to be a relatively rational process influenced by external factors such as information and quality, as well as internal factors such as trust and avoidance of cognitive dissonance. This finding is important for the present study because tourists' purchase intention toward Palace Museum cultural and creative products may be formed through their evaluation of service quality, product meaning, and brand satisfaction.

Consumer behavior theory also suggests that perception plays a central role in shaping purchase intention. Consumers do not respond only to objective product characteristics; rather, they respond to how they perceive and interpret those characteristics. Wang et al. (2023) found that consumer perception, trust, and attitude play important roles in influencing purchase intention in online consumption contexts. Although their study focuses on cross-border e-commerce, the logic is also relevant to museum cultural and creative product consumption. Tourists' purchase intention toward Palace Museum cultural and creative products may depend on how they perceive the reliability of service, the professionalism of staff, the attractiveness of the retail environment, the empathy of communication, and the responsiveness of service support.

From the perspective of service consumption, purchase intention is closely related to service quality and satisfaction. Liao et al. (2022) found that perceived service quality has a positive effect on purchase intention, and that customer satisfaction can mediate the relationship between service quality and purchase intention. This supports the theoretical logic of the present study: RATER-based service quality may influence tourists' purchase intention not only directly, but also indirectly through satisfaction. When tourists perceive high service quality during the process of browsing, consulting, selecting, and purchasing Palace Museum cultural and creative products, they are more likely to form positive purchase intention.

Satisfaction is a key psychological mechanism in consumer behavior because it reflects consumers' post-evaluation of their experience. In many consumer behavior models, satisfaction functions as an important bridge between perceived quality or perceived value and future behavioral intention. Soeharso et al. (2024) confirmed that customer satisfaction mediates the relationship between service quality and repurchase intention, indicating that consumers are more likely to repurchase when they are satisfied with the service experience. This is highly relevant to the present study because tourists' satisfaction with the cultural and creative product purchase experience may strengthen their willingness to buy Palace Museum products or recommend them to others.

Purchase intention toward cultural and creative products is also influenced by perceived cultural value and symbolic meaning. Unlike ordinary products, cultural and creative products often carry historical, aesthetic, emotional, and identity-related meanings. Lu et al. (2026) found that perceived value dimensions of cultural and creative

products, including functional, emotional, social, cultural, and epistemic values, can influence consumers' purchase intention through satisfaction. This suggests that consumers' purchase decisions regarding cultural and creative products are not only based on utility, but also on the cultural and experiential meanings attached to the products.

In the context of cultural heritage products, purchase intention can also be explained through attitude-based consumer behavior theories. Yingqing and Xinzhu (2024) investigated purchase intention for intangible cultural heritage creative products in e-commerce live streaming and used the ABC attitude theory to explain how consumer cognition, affection, and behavior are connected. Their findings highlight the role of consumer satisfaction in linking perceived product and platform factors with purchase intention. This provides useful theoretical support for the present study because Palace Museum cultural and creative products also involve cognitive evaluation, emotional response, cultural perception, and behavioral willingness.

Tourism-related purchase intention is also influenced by consumer involvement and experience. Gil-Cordero et al. (2023) found that tourist consumers' purchase intention can be affected by consumption motivations, experience expectations, and brand-related factors in tourism settings. Although their research focuses on luxury tourism, it shows that tourist purchase intention is not simply an economic decision. It is often formed through a combination of experience, identity, emotion, and brand perception. This is particularly relevant to Palace Museum cultural and creative products because tourists may purchase them as souvenirs, gifts, cultural symbols, or expressions of personal taste.

In the present study, purchase intention refers to tourists' willingness to purchase Palace Museum cultural and creative products, recommend them to others, or consider purchasing them again in the future. This intention is assumed to be influenced by RATER-based service quality, including reliability, assurance, tangibles, empathy, and responsiveness. If tourists perceive that the service process is reliable, professional, visually attractive, considerate, and responsive, they are more likely to develop satisfaction and purchase intention. Therefore, consumer behavior theory provides the general logic for understanding how external service stimuli influence internal psychological responses and behavioral intention.

The present study also emphasizes that purchase intention toward Palace Museum cultural and creative products should be understood as both product-level and brand-level

consumer behavior. At the product level, tourists may consider whether the products are attractive, useful, meaningful, and worth buying. At the brand level, tourists may consider whether the Palace Museum brand is trustworthy, culturally valuable, prestigious, and satisfying. Therefore, brand satisfaction is introduced as a mediator because it can explain how tourists' evaluation of the Palace Museum as a cultural brand influences their purchase intention toward its cultural and creative products.

This product–brand distinction is important because the Palace Museum's cultural and creative products are not ordinary retail goods. They are connected with a powerful cultural institution and a highly recognizable museum brand. Thus, tourists' purchase intention may be influenced not only by the immediate service experience, but also by their broader satisfaction with the Palace Museum brand. In this sense, purchase intention in this study reflects a more complex consumer behavior process that integrates service perception, tourist satisfaction, brand satisfaction, and cultural product evaluation.

In summary, consumer behavior and purchase intention theory provide a strong theoretical foundation for the dependent variable of this study. Consumer behavior theory explains how tourists perceive service quality, evaluate satisfaction, interpret brand meaning, and form purchase intention. Purchase intention theory further supports the use of purchase intention as a key behavioral outcome in the study of Palace Museum cultural and creative products. By integrating RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention, this study extends consumer behavior theory into the context of museum cultural and creative product consumption and provides a more comprehensive explanation of tourists' purchase decision-making process.

2.3 Immediate Disciplines

The immediate disciplines of this study refer to the specific research variables directly used in the conceptual framework. Based on RATER-based service quality theory, this study examines five independent variables: reliability, assurance, tangibles, empathy, and responsiveness. These five dimensions explain how tourists evaluate the service quality surrounding Palace Museum cultural and creative products. In addition, tourist satisfaction and brand satisfaction are adopted as mediating variables to explain the psychological process through which service quality influences purchase intention. Purchase intention is used as the dependent variable, reflecting tourists' willingness to buy,

recommend, or repurchase Palace Museum cultural and creative products. Therefore, the immediate disciplines provide the direct theoretical and empirical foundation for the proposed research model. They connect service quality, satisfaction, brand evaluation, and consumer behavior in the specific context of museum cultural and creative product consumption. Recent studies have shown that service quality, satisfaction, brand-related evaluation, and perceived value can significantly influence consumers' purchase or repurchase intention in service, tourism, and cultural product contexts (Liao et al., 2022; Acar et al., 2024; Gu & Zhao, 2025).

2.3.1 Reliability

Reliability refers to the ability of a service provider to deliver promised services accurately, consistently, and dependably. In service quality research, reliability is often regarded as one of the most fundamental dimensions because customers expect organizations to provide correct information, stable service performance, clear procedures, and trustworthy outcomes. In the context of service consumption, reliability can reduce uncertainty and strengthen consumers' confidence in the service provider. Liao et al. (2022) emphasized that perceived service quality can significantly influence purchase intention, and reliability is an important part of consumers' overall service evaluation. Therefore, reliability is closely connected with both satisfaction and behavioral intention in service-related consumption contexts (Liao et al., 2022).

In this study, reliability refers to tourists' perception that the Palace Museum provides dependable services related to cultural and creative products. This includes accurate product information, clear product descriptions, correct pricing, stable product quality, trustworthy payment processes, and reliable after-sales support. Since Palace Museum cultural and creative products are closely associated with cultural heritage and museum authority, tourists may expect a high level of accuracy and dependability. If tourists receive incorrect product information, experience unclear service procedures, or encounter unreliable purchase processes, their satisfaction and purchase intention may be weakened.

Reliability is particularly important for museum cultural and creative products because these products are not ordinary retail items. They often carry cultural, symbolic, and educational meanings. Tourists may purchase them as souvenirs, gifts, or cultural objects representing the Palace Museum. Therefore, reliable service can strengthen

tourists' perception that the products are authentic, trustworthy, and worth buying. Gu and Zhao (2025) noted that museum digital cultural and creative products are linked with consumers' value adoption and purchase decisions, which implies that credible information and dependable product-related services are important for forming purchase intention.

Therefore, in the present study, reliability is expected to influence tourist satisfaction, brand satisfaction, and purchase intention. When tourists perceive that the Palace Museum's cultural and creative product services are reliable, they are more likely to feel satisfied with the consumption experience and develop a positive evaluation of the Palace Museum brand. This may further increase their intention to purchase Palace Museum cultural and creative products.

2.3.2 Assurance

Assurance refers to the knowledge, courtesy, professionalism, and credibility of service providers. It reflects whether customers feel confident and secure during the service process. In service quality research, assurance is especially important when consumers need professional information, expert guidance, or trustworthy communication. For cultural and tourism-related products, assurance can reduce perceived risk because tourists may not fully understand the cultural meanings, product background, or symbolic value of the items they intend to purchase. Studies on service quality and purchase intention have shown that professional and credible service can strengthen consumer confidence and improve behavioral intention (Liao et al., 2022).

In this study, assurance refers to tourists' perception that the Palace Museum's staff, service channels, or cultural and creative product platforms are professional, polite, knowledgeable, and trustworthy. Tourists may expect staff members to explain the cultural meaning, historical background, design inspiration, material quality, and suitable usage of Palace Museum cultural and creative products. When service providers can answer questions clearly and professionally, tourists may feel more confident in their purchase decisions.

Assurance is also closely related to the brand characteristics of the Palace Museum. As a national-level cultural institution, the Palace Museum has strong cultural authority and public reputation. Tourists may expect its cultural and creative product services to match this institutional image. If the service process is professional and credible, tourists

may believe that the Palace Museum brand is trustworthy and culturally meaningful. Acar et al. (2024) found that brand identity and brand satisfaction are closely related to repurchase intention, suggesting that consumers' confidence in and satisfaction with a brand can influence future purchase behavior.

Therefore, assurance may affect purchase intention through both tourist satisfaction and brand satisfaction. At the tourist satisfaction level, professional service can improve tourists' immediate purchase experience. At the brand satisfaction level, assurance can strengthen tourists' belief that Palace Museum cultural and creative products are supported by a reliable and authoritative cultural brand. In this sense, assurance is not only a service dimension, but also a mechanism through which museum professionalism is transformed into brand satisfaction and purchase intention.

2.3.3 Tangibles

Tangibles refer to the visible and physical elements of service quality, including facilities, equipment, product display, store layout, visual design, packaging, signage, staff appearance, and digital interfaces. In service quality research, tangibles are important because they provide customers with immediate visual evidence of service quality. Before consumers fully evaluate the functional quality of a product or service, they often rely on tangible cues to form initial impressions. In museum and cultural consumption contexts, tangibles are especially significant because visual aesthetics, atmosphere, and spatial design are closely connected with cultural experience and emotional response.

In this study, tangibles refer to tourists' evaluation of the visible service environment surrounding Palace Museum cultural and creative products. This may include the design of retail spaces, product arrangement, cultural atmosphere, packaging quality, product labels, lighting, store cleanliness, and the convenience of digital or offline purchase channels. Since Palace Museum cultural and creative products are strongly associated with traditional Chinese aesthetics and historical culture, tourists may expect the tangible environment to reflect cultural refinement, visual beauty, and brand consistency.

Tangibles are also connected with product attractiveness and perceived value. For museum cultural and creative products, visual presentation can help tourists understand the cultural meaning of products and increase their desire to purchase. Gu and Zhao (2025) emphasized that museum digital cultural and creative products are important because they

rejuvenate ancient treasures and promote the development of cultural and creative industries. This suggests that the visual and experiential presentation of museum products can influence consumers' value perception and purchase decisions.

In the Palace Museum context, tangibles may influence tourist satisfaction by creating a comfortable, attractive, and culturally immersive shopping experience. At the same time, tangibles may also influence brand satisfaction because the physical environment and product presentation reflect the Palace Museum's brand image. If the retail space, product packaging, and visual communication are consistent with the Palace Museum's cultural identity, tourists may develop stronger satisfaction with the brand. Therefore, tangibles are expected to affect purchase intention directly and indirectly through tourist satisfaction and brand satisfaction.

2.3.4 Empathy

Empathy refers to the individualized care, attention, and understanding provided by service providers to customers. It reflects whether customers feel that their needs, preferences, and concerns are understood and respected. In service quality research, empathy is important because service consumption often involves interpersonal interaction and emotional evaluation. Customers are more likely to feel satisfied when they believe that service providers care about their personal needs rather than treating them as ordinary transactions.

In this study, empathy refers to tourists' perception that the Palace Museum provides considerate and personalized services related to cultural and creative products. Tourists may have different purchase purposes. Some may buy Palace Museum cultural and creative products as souvenirs, some as gifts, some for collection, and others for cultural learning or daily use. Therefore, empathetic service may include patient explanation, personalized product recommendation, attention to tourists' questions, respect for different preferences, and support for special purchase needs.

Empathy is particularly important in museum cultural and creative product consumption because cultural products often carry emotional and symbolic meanings. Tourists may not only seek a product, but also a meaningful connection with the museum experience. When service providers understand tourists' motivations and provide suitable recommendations, tourists may feel that their cultural and emotional needs are being recognized. Research on museum creative product purchase intention has shown that

consumer involvement and perceived value can influence purchase intention, suggesting that consumers' psychological engagement is important in museum product consumption (Gao & Ma, 2024).

In the present study, empathy may influence purchase intention through tourist satisfaction and brand satisfaction. At the experience level, empathetic service can make tourists feel respected, cared for, and emotionally connected, thereby increasing tourist satisfaction. At the brand level, empathy can help tourists perceive the Palace Museum brand as warm, accessible, and people oriented. This is important because the Palace Museum is not only a cultural authority, but also a public-facing cultural brand. Therefore, empathy can transform service interaction into positive emotional evaluation and purchase intention.

2.3.5 Responsiveness

Responsiveness refers to the willingness and ability of service providers to help customers promptly and respond to their needs, inquiries, requests, or complaints in a timely manner. In service quality research, responsiveness reflects service efficiency, problem-solving ability, and communication speed. It is especially important in consumption situations where customers need immediate information, quick assistance, or timely after-sales support. A slow or unclear response may reduce satisfaction even when the product itself is attractive.

In this study, responsiveness refers to tourists' perception that the Palace Museum responds quickly and effectively to their needs during the cultural and creative product purchase process. This includes timely answers to product questions, quick assistance during product selection, efficient payment guidance, clear return or exchange information, and effective online or offline customer service. Since the Palace Museum attracts large numbers of tourists, responsiveness is particularly important in managing crowded retail environments and high consumer expectations.

Responsiveness is also increasingly important because museum cultural and creative products are sold through both physical and digital channels. Tourists may interact with the Palace Museum through offline stores, official websites, social media, e-commerce platforms, and digital service channels. In this multi-channel environment, consumers expect timely communication and consistent service. Gu and Zhao (2025) argued that museum digital cultural and creative products have become an important field

of cultural and creative industry development, which implies that digital responsiveness and service support may influence purchase decisions.

In the present study, responsiveness may improve tourist satisfaction by reducing waiting time, solving problems quickly, and making the purchase process more convenient. It may also enhance brand satisfaction because timely and efficient service reflects the Palace Museum's professionalism and customer orientation. If tourists feel that their needs are quickly addressed, they may develop a stronger positive evaluation of both the service experience and the Palace Museum brand. Therefore, responsiveness is expected to be an important predictor of purchase intention through the mediating roles of tourist satisfaction and brand satisfaction.

2.3.6 Tourist Satisfaction

Tourist satisfaction refers to tourists' overall evaluation of their tourism-related experience after comparing their expectations with actual experience. In tourism and service research, satisfaction is usually understood as a post-consumption psychological response that includes both cognitive judgment and emotional feeling. It reflects whether tourists believe that the service, product, environment, and experience meet or exceed their expectations. Tourist satisfaction is widely regarded as an important outcome of service quality and a key predictor of behavioral intention.

In this study, tourist satisfaction refers to tourists' satisfaction with the service and consumption experience related to Palace Museum cultural and creative products. This includes satisfaction with product information, staff service, retail environment, cultural explanation, shopping convenience, payment process, and after-sales service. Since these products are usually purchased during or after a museum visit, tourist satisfaction is closely connected with the broader Palace Museum experience. Tourists may evaluate not only the product itself, but also the experience of discovering, understanding, selecting, and purchasing the product.

Tourist satisfaction is important because it explains how service quality is transformed into behavioral intention. Liao et al. (2022) found that perceived service quality can influence purchase intention through customer satisfaction, indicating that satisfaction functions as a mediating mechanism between service evaluation and purchase decision. In the museum cultural and creative product context, this suggests that even if

service quality is high, purchase intention may depend on whether tourists feel satisfied with the overall consumption experience.

Furthermore, tourist satisfaction can strengthen tourists' willingness to purchase, recommend, or repurchase Palace Museum cultural and creative products. When tourists feel satisfied, they may perceive the products as more meaningful and trustworthy. They may also be more willing to share their positive experiences with others. Therefore, tourist satisfaction is adopted as one of the two mediating variables in this study. It represents the experience-based pathway through which RATER-based service quality influences purchase intention.

2.3.7 Brand Satisfaction

Brand satisfaction refers to consumers' overall satisfaction with a brand based on their accumulated experiences, perceptions, expectations, and evaluations. Unlike general customer satisfaction, which may focus on one specific transaction or service encounter, brand satisfaction reflects a broader evaluation of the brand itself. It is related to brand identity, brand image, brand experience, brand trust, and perceived brand value. Acar et al. (2024) found that brand identity and brand-lifestyle congruence influence brand satisfaction and repurchase intention, indicating that brand satisfaction is an important psychological mechanism in consumer behavior (Acar et al., 2024).

In this study, brand satisfaction refers to tourists' satisfaction with the Palace Museum as a cultural brand. Palace Museum cultural and creative products are not ordinary retail goods. They are closely connected with the museum's cultural authority, historical reputation, aesthetic identity, and institutional credibility. When tourists purchase these products, they are also engaging with the Palace Museum brand. Therefore, brand satisfaction reflects tourists' evaluation of whether the Palace Museum brand is culturally meaningful, trustworthy, creative, prestigious, and worthy of support.

Brand satisfaction is especially important in this study because it represents the key innovation of the dual-mediation model. Previous research on museum cultural and creative products has often focused on perceived value, cultural symbols, and product design. However, the Palace Museum's products should also be understood as brand extensions. Tourists may purchase them not only because the product is attractive, but also because they are satisfied with the Palace Museum brand. In this sense, brand satisfaction can provide explanatory power beyond tourist satisfaction.

In the proposed model, RATER-based service quality may influence brand satisfaction because service encounters shape tourists' perceptions of the Palace Museum brand. Reliable information, professional explanation, attractive product display, considerate communication, and timely response may all strengthen tourists' satisfaction with the Palace Museum as a cultural brand. Brand satisfaction may then increase purchase intention by making tourists more willing to buy products associated with the Palace Museum's cultural authority and symbolic value. Therefore, brand satisfaction functions as a brand-level mediating mechanism in this study.

2.3.8 Purchase Intention

Purchase intention refers to consumers' willingness, tendency, or likelihood to purchase a product or service in the future. It is widely used in consumer behavior research as an important indicator of future buying behavior. Although purchase intention does not always guarantee actual purchase, it reflects consumers' positive behavioral tendency after evaluating product value, service quality, brand image, satisfaction, and personal needs. Peña-García et al. (2020) noted that purchase intention is closely associated with consumer attitude, trust, and decision-making processes, making it a useful outcome variable in marketing research.

In this study, purchase intention refers to tourists' willingness to purchase Palace Museum cultural and creative products, recommend them to others, or consider buying them again in the future. Since Palace Museum cultural and creative products combine cultural meaning, product design, museum identity, and brand value, tourists' purchase intention may be shaped by both rational and emotional factors. Tourists may evaluate product usefulness, price, cultural meaning, service quality, and brand satisfaction before forming purchase intention.

Research on museum and cultural creative products shows that purchase intention can be influenced by perceived value, involvement, satisfaction, and cultural meaning. Gu and Zhao (2025) examined purchase intention toward museum digital cultural and creative products and found that satisfaction and perceived value are important in explaining consumers' purchase decisions. Gao and Ma (2024) also showed that museum creative product involvement can influence purchase intention through perceived value. These findings support the view that purchase intention toward museum cultural and creative products is formed through a combination of value evaluation and psychological response.

For the present study, purchase intention is the final dependent variable. The model assumes that reliability, assurance, tangibles, empathy, and responsiveness may directly influence tourists' purchase intention, and may also influence it indirectly through tourist satisfaction and brand satisfaction. This means that tourists are more likely to purchase Palace Museum cultural and creative products when they perceive high service quality, feel satisfied with the consumption experience, and are satisfied with the Palace Museum brand. Therefore, purchase intention provides the key behavioral outcome for evaluating the effectiveness of RATER-based service quality in the Palace Museum cultural and creative product context.

2.4 Conceptual Model and Research Hypothesis

Based on the literature review of service quality theory, satisfaction theory, and consumer behavior theory, this study constructs a conceptual model to examine the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products. The model includes five independent variables, namely reliability, assurance, tangibles, empathy, and responsiveness. These five dimensions represent tourists perceived service quality during the process of browsing, understanding, selecting, and purchasing Palace Museum cultural and creative products.

In addition, this study introduces tourist satisfaction and brand satisfaction as two mediating variables. Tourist satisfaction reflects tourists' evaluation of the immediate service and consumption experience, while brand satisfaction reflects tourists' overall satisfaction with the Palace Museum as a cultural brand. Purchase intention is regarded as the dependent variable, representing tourists' willingness to buy, recommend, or repurchase Palace Museum cultural and creative products. Therefore, the conceptual model explains both the direct effects of RATER-based service quality on purchase intention and the indirect effects through tourist satisfaction and brand satisfaction.

2.4.1 Conceptual Model

The conceptual model of this study is developed to explain how RATER-based service quality affects tourists' purchase intention toward Palace Museum cultural and creative products. The model assumes that tourists' purchase intention is not only influenced by the attractiveness of cultural and creative products themselves, but also by the service quality they experience during the purchasing process. Therefore, the five

RATER dimensions—reliability, assurance, tangibles, empathy, and responsiveness—are positioned as the independent variables in the model.

Reliability refers to tourists' perception of accurate information, dependable service, and trustworthy purchase procedures. Assurance reflects the professionalism, politeness, and credibility of service staff or service channels. Tangibles refer to visible service elements such as product display, store environment, packaging, and cultural atmosphere. Empathy reflects individualized attention and considerate support, while responsiveness refers to timely assistance and effective problem-solving. These five dimensions are expected to influence tourists' purchase intention directly.

Meanwhile, the model also proposes that tourist satisfaction and brand satisfaction mediate the relationship between RATER-based service quality and purchase intention. Tourist satisfaction represents tourists' satisfaction with the service and consumption experience related to Palace Museum cultural and creative products. Brand satisfaction represents tourists' satisfaction with the Palace Museum as a cultural brand. Since Palace Museum cultural and creative products are brand extensions of the Palace Museum, brand satisfaction is expected to provide an additional explanatory mechanism beyond tourist satisfaction.

Accordingly, the conceptual model includes three major paths: first, the direct effects of reliability, assurance, tangibles, empathy, and responsiveness on purchase intention; second, the indirect effects through tourist satisfaction; and third, the indirect effects through brand satisfaction. Through this model, the study aims to clarify how service quality can be transformed into tourists' satisfaction and further into purchase intention.

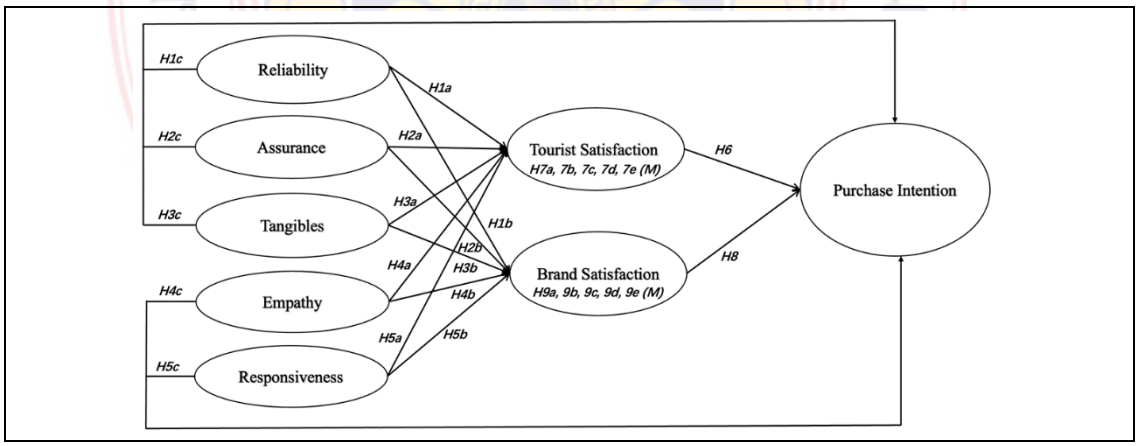


Figure 2.4 Conceptual Model

2.4.2 Reliability

Reliability refers to the ability to provide promised services accurately, dependably, and consistently. In this study, reliability means that the Palace Museum can provide tourists with accurate cultural and creative product information, stable service quality, clear purchasing guidance, trustworthy payment processes, and dependable after-sales support during the offline tourism consumption experience. As one of the key dimensions of the RATER model, reliability is widely regarded as a fundamental factor influencing consumers' service evaluations, because tourists usually expect cultural institutions to deliver services in a professional, consistent, and trustworthy manner.

In the context of museum cultural and creative products, reliability is not only related to service accuracy but also connected with tourists' confidence in the Palace Museum as a cultural brand. Recent studies have confirmed that reliable service quality can enhance tourists' overall satisfaction because dependable service performance reduces uncertainty and helps tourists form positive evaluations of their travel and shopping experiences. For example, Abdou et al. (2022) found that perceived service quality positively affects tourist satisfaction and behavioral intention in tourism service settings. Similarly, studies on cultural heritage tourism also suggested that service quality is an important predictor of tourist satisfaction, especially when tourists evaluate whether the actual service experience meets their expectations. Therefore, when tourists perceive that the Palace Museum provides reliable service in the process of purchasing cultural and creative products, they are more likely to be satisfied with their overall tourism experience.

Reliability may also strengthen brand satisfaction. Brand satisfaction refers to tourists' positive evaluation of the Palace Museum as a cultural brand after experiencing its products and services. For museum cultural and creative products, tourists' satisfaction does not only come from the physical product itself, but also from whether the brand provides a credible, stable, and culturally meaningful consumption experience. Huo et al. (2024) found that museum visitors' experiences are influenced by core offerings, peripheral services, and the overall service environment, indicating that consistent and dependable service performance can improve visitors' satisfaction with museum-related brands. In addition, recent consumer studies have shown that perceived service quality contributes to customer satisfaction and brand-related evaluations. Thus, if tourists believe

that the Palace Museum's cultural and creative product services are reliable, they are more likely to develop satisfaction with the Palace Museum brand.

Furthermore, reliability is expected to have a positive relationship with purchase intention. Tourists are more willing to purchase cultural and creative products when they believe that product information is accurate, product quality is trustworthy, staff service is dependable, and payment or after-sales procedures are secure. Liu et al. (2024) found that cultural symbols and customer experience significantly influence consumers' purchase intention toward cultural and creative products, suggesting that a reliable and meaningful consumption experience can stimulate buying willingness. Ying (2024) also indicated that consumer satisfaction plays an important role in shaping purchase intention for cultural heritage products. In the Palace Museum context, reliable service can reduce tourists perceived risk and enhance their confidence in the authenticity, quality, and cultural value of the products. Therefore, tourists who perceive a higher level of reliability are more likely to feel satisfied with the tourism experience, satisfied with the Palace Museum brand, and willing to purchase Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H1a: Reliability has a positive relationship with Tourist Satisfaction.

H1b: Reliability has a positive relationship with Brand Satisfaction.

H1c: Reliability has a positive relationship with Purchase Intention.

2.4.3 Assurance

Assurance refers to the knowledge, courtesy, professionalism, and trustworthiness demonstrated by service providers, which can help customers feel confident and secure during the service encounter. In this study, assurance refers to tourists' perception that the Palace Museum can provide professional staff service, trustworthy product explanations, reliable cultural interpretation, secure payment procedures, and confidence in the authenticity and quality of its cultural and creative products. Compared with ordinary retail products, museum cultural and creative products carry stronger cultural, symbolic, and institutional meanings; therefore, tourists are more likely to expect professional guidance, credible product information, and a trustworthy purchasing environment.

In the offline tourism context of the Palace Museum, assurance is closely related to tourist satisfaction. When tourists believe that staff members are knowledgeable, polite, and capable of answering questions about cultural and creative products, they are more

likely to feel that the service experience meets or exceeds their expectations. Recent tourism and service quality studies have shown that perceived service quality significantly improves tourist or customer satisfaction, and assurance is commonly regarded as one of the core dimensions that builds confidence in the service provider. Abdou et al. (2022) confirmed that perceived service quality has a positive effect on tourist satisfaction and behavioral intentions in tourism services. Halim et al. (2025) also found that service quality significantly influences customer satisfaction and purchase intention and further emphasized that assurance builds customer confidence through employee competence and trustworthiness.

Assurance may also enhance brand satisfaction. Brand satisfaction refers to tourists' overall positive evaluation of the Palace Museum as a cultural brand after experiencing its products, services, and symbolic value. For the Palace Museum, assurance does not only reflect staff professionalism but also represents the credibility of the museum brand. If tourists feel that the museum provides authentic products, accurate cultural meanings, reliable product quality, and professional service support, they are more likely to develop satisfaction with the Palace Museum brand. Chae's (2026) study on the National Palace Museum of Korea showed that heritage-sensitive service quality contributes to visitor satisfaction, loyalty, and sustainable competitiveness in museum tourism, suggesting that service quality is especially important in cultural heritage institutions. In addition, Irshad et al. (2024) found that service quality positively affects customer satisfaction, and customer satisfaction further contributes to brand loyalty, brand admiration, and purchase intention. This indicates that professional and trustworthy services can strengthen consumers' positive brand evaluations.

Furthermore, assurance is expected to positively influence purchase intention. Tourists are more willing to purchase Palace Museum cultural and creative products when they feel confident about product authenticity, cultural value, service professionalism, payment security, and after-sales reliability. In cultural and creative consumption, purchase intention is not only based on product appearance, but also on whether tourists trust the institution behind the product. Chae (2026) found that museum service quality is related to visitors' future behavioral intentions in a palace museum context, while Halim et al. (2025) reported that service quality has a significant positive relationship with purchase intention. Therefore, in the Palace Museum context, stronger assurance can

increase tourists' confidence in the products and brand, thereby improving tourist satisfaction, brand satisfaction, and purchase intention. Accordingly, this study proposes the following hypotheses:

H2a: Assurance has a positive relationship with Tourist Satisfaction

H2b: Assurance has a positive relationship with Brand Satisfaction

H2c: Assurance has a positive relationship with Purchase Intention

2.4.4 Tangibles

Tangibles refer to the physical facilities, visual environment, equipment, product displays, staff appearance, signage systems, packaging design, and other visible elements that tourists can directly perceive during the service experience. In this study, tangibles refer to the physical and visual aspects of the Palace Museum's offline cultural and creative product consumption setting, including the store environment, product arrangement, display design, packaging aesthetics, cultural atmosphere, shopping space, and the overall visual presentation of Palace Museum cultural and creative products. As one of the key dimensions of the RATER model, tangibles are especially important in museum tourism because tourists' evaluations are strongly influenced by what they can see, touch, and experience in the physical environment.

In the Palace Museum context, tangibles may positively influence tourist satisfaction because cultural and creative product consumption is highly experience-oriented. Tourists do not simply purchase a product; they experience a cultural space where historical symbols, museum aesthetics, product design, and service environment are integrated. A well-designed store environment, clear product display, attractive packaging, and culturally immersive atmosphere can enhance tourists' emotional and sensory experience, thereby increasing their satisfaction with the overall visit and shopping process. Recent museum studies have shown that museum ambience, peripheral services, visitor pathways, layout, and physical service attributes influence visitor experience and satisfaction. Huo et al. (2024) found that core offerings, peripheral services, and overall ambience are important factors affecting museum visitor experience and satisfaction. Li et al. (2024) also emphasized that museum service quality is closely related to visitor pathways, spatial layout, staff service, and communication design. These findings suggest that tangible elements in museum spaces are not merely decorative, but important components of tourists' perceived service quality and satisfaction.

Tangibles may also strengthen brand satisfaction. For the Palace Museum, cultural and creative products are not only commodities but also extensions of the museum brand. Product appearance, packaging design, store atmosphere, display aesthetics, and cultural symbolism all contribute to tourists' perception of the Palace Museum as a cultural brand. When tangible elements are visually attractive, culturally meaningful, and consistent with the museum's heritage image, tourists are more likely to feel satisfied with the brand. Studies on museum and heritage tourism have shown that physical presentation and experiential quality play important roles in shaping visitors' evaluations of museums and heritage attractions. Chae (2026), in a study of the National Palace Museum of Korea, confirmed that service quality in a palace museum context is related to visitor satisfaction and future behavioral intentions. In addition, research on cultural and creative product consumption indicates that cultural symbols and customer experience can influence consumers' purchase intention, suggesting that the visual and experiential presentation of cultural products contributes to positive brand-related responses.

Furthermore, tangibles are expected to have a positive relationship with purchase intention. In the offline purchasing process, tourists often make purchase decisions based on visual attraction, product display, packaging, store atmosphere, and perceived cultural value. Attractive tangible elements can stimulate tourists' interest, reduce hesitation, and encourage impulse or planned purchases. For Palace Museum cultural and creative products, tangibles are particularly important because the products rely heavily on cultural design, aesthetic presentation, and symbolic connection with the museum. When tourists perceive the product design, packaging, store environment, and display space as attractive and culturally distinctive, they are more likely to develop a stronger intention to purchase. Recent studies have confirmed that cultural symbols, customer experience, and museum service quality can affect consumers' behavioral intentions, including purchase or revisit intentions. Therefore, in the Palace Museum's offline tourism context, stronger tangibles can improve tourist satisfaction, enhance brand satisfaction, and increase tourists' purchase intention toward Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H3a: Tangibles has a positive relationship with Tourist Satisfaction

H3b: Tangibles has a positive relationship with Brand Satisfaction

H3c: Tangibles has a positive relationship with Purchase Intention

2.4.5 Empathy

Empathy refers to the degree to which service providers offer caring, individualized, and considerate attention to customers. In this study, empathy refers to tourists' perception that the Palace Museum can understand their needs, provide personalized guidance, respond to different visitor groups with patience, and offer considerate support during the offline purchase of cultural and creative products. In museum tourism, empathy is especially important because tourists may differ in age, cultural background, travel purpose, product preference, and level of familiarity with museum culture. Therefore, service providers' ability to offer warm, patient, and visitor-centered service may directly affect tourists' evaluations of the overall experience.

In the Palace Museum's offline cultural and creative product consumption context, empathy may positively influence tourist satisfaction. When staff members understand tourists' questions, provide patient product explanations, recommend suitable cultural and creative products, and offer considerate assistance, tourists are more likely to perceive the service process as pleasant and meaningful. Recent studies have shown that service quality is closely associated with tourist satisfaction in tourism and cultural heritage settings. For example, Chae (2026) examined service quality at the National Palace Museum of Korea and applied a heritage-sensitive service quality model including empathy, suggesting that museum service quality is related to visitor satisfaction and future behavioral intentions. Similarly, Abdou et al. (2022) found that perceived service quality positively affects tourist satisfaction and behavioral intentions in tourism services. These findings indicate that empathetic service can help tourists feel respected and understood, thereby increasing their satisfaction with the museum visit and shopping experience.

Empathy may also enhance brand satisfaction. Brand satisfaction refers to tourists' positive evaluation of the Palace Museum as a cultural brand after experiencing its products, services, and symbolic value. For the Palace Museum, empathetic service can make the brand appear not only authoritative and culturally rich, but also warm, accessible, and visitor friendly. When tourists feel that the museum understands their needs and provides human-centered service, they are more likely to develop emotional satisfaction with the Palace Museum brand. Huo et al. (2024) found that museum visitor experience is shaped by core offerings, peripheral services, and the overall service environment, which indicates that museum satisfaction is not only based on exhibitions or products, but also

on the broader service experience. Jiang et al. (2025) further suggested that museum image perception has increasingly shifted toward human-centered experiences, showing that visitors now pay greater attention to personalized and people-oriented museum experiences.

Furthermore, empathy is expected to have a positive relationship with purchase intention. In the offline purchasing process, tourists may need help understanding product meanings, choosing suitable souvenirs, comparing product types, or confirming product quality and cultural value. If service staff can provide caring communication and personalized recommendations, tourists' perceived risk may decrease, while their confidence and willingness to purchase may increase. Recent studies on museum cultural and creative products have indicated that consumer experience, perceived value, and satisfaction are important predictors of purchase intention. Gu and Wu (2025) found that museum digital cultural and creative product purchase decisions are influenced by value perception and consumer experience. Gao (2024) also found a positive relationship between product involvement and purchase intention among consumers of museum creative products, with perceived value playing a mediating role. These studies suggest that when tourists feel emotionally supported and personally understood, they are more likely to recognize the value of Palace Museum cultural and creative products and develop stronger purchase intention. Therefore, empathy may improve tourist satisfaction, strengthen brand satisfaction, and increase tourists' purchase intention toward Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H4a: Empathy has a positive relationship with Tourist Satisfaction.

H4b: Empathy has a positive relationship with Brand Satisfaction.

H4c: Empathy has a positive relationship with Purchase Intention.

2.4.6 Responsiveness

Responsiveness refers to the willingness and ability of service providers to help customers promptly and provide timely service. In this study, responsiveness refers to tourists' perception that the Palace Museum can respond quickly and effectively to their needs during the offline purchase of cultural and creative products, including answering product-related questions, providing purchasing guidance, solving service problems, managing queues, handling payment issues, and offering timely after-sales support. As

one of the key dimensions of the RATER model, responsiveness reflects whether tourists feel that the service system is efficient, accessible, and visitor oriented.

In the Palace Museum's offline cultural and creative product consumption context, responsiveness may positively influence tourist satisfaction. Tourists often face practical needs during the purchasing process, such as locating products, understanding cultural meanings, asking about prices or materials, dealing with crowded store environments, and completing payment smoothly. If staff members respond quickly and provide useful assistance, tourists are more likely to perceive the shopping experience as efficient and pleasant. Recent service quality research has shown that responsiveness, together with reliability and empathy, contributes to customer satisfaction and future behavioral intention. Halim et al. (2025) found that service quality significantly influences customer satisfaction and purchase intention and emphasized that employee responsiveness is essential for improving service performance and customer engagement.

Responsiveness may also enhance brand satisfaction. For the Palace Museum, tourists' satisfaction with the brand is shaped not only by the cultural value of the museum and its creative products, but also by the way the museum responds to visitors' needs in real service encounters. When tourists feel that the Palace Museum provides timely help, efficient problem-solving, and active communication, they are more likely to perceive the brand as professional, caring, and trustworthy. This is especially important for museum cultural and creative products because tourists often expect both cultural authenticity and convenient service. In the Palace Museum context, Li et al. (2021) found that experience value and innovation value significantly affect purchase intention toward the Palace Museum's cultural and creative products, suggesting that visitors' consumption decisions are closely related to the quality of their overall experience. Therefore, responsive service can strengthen tourists' positive evaluation of the Palace Museum brand by improving the immediacy and smoothness of the cultural consumption experience.

Furthermore, responsiveness is expected to have a positive relationship with purchase intention. When tourists receive timely assistance, clear answers, and efficient service, their uncertainty and perceived risk may decrease, while their confidence in purchasing Palace Museum cultural and creative products may increase. In offline museum stores, delayed responses, unclear information, or inefficient service may reduce tourists' willingness to buy, especially when the store is crowded or tourists have limited visiting

time. By contrast, responsive service can help tourists make quicker and more confident purchase decisions. Gu and Wu (2025) argued that museum digital cultural and creative products have become increasingly important in cultural consumption and examined the mechanisms influencing consumers' purchase decisions. Gao and Ma (2024) also found that product involvement is positively related to purchase intention among consumers of museum creative products, with perceived value playing a mediating role. These findings indicate that when tourists receive timely and helpful responses, they are more likely to recognize the value of cultural and creative products and develop stronger purchase intention. Therefore, responsiveness may improve tourist satisfaction, strengthen brand satisfaction, and increase tourists' purchase intention toward Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H5a: Responsiveness has a positive relationship with Tourist Satisfaction

H5b: Responsiveness has a positive relationship with Brand Satisfaction

H5c: Responsiveness has a positive relationship with Purchase Intention

2.4.7 Tourist Satisfaction

Tourist satisfaction refers to tourists' overall evaluation of whether their travel and consumption experience meets or exceeds their expectations. In this study, tourist satisfaction refers to tourists' satisfaction with their offline visit to the Palace Museum and their purchasing experience of Palace Museum cultural and creative products. It includes tourists' evaluation of the service process, product experience, cultural atmosphere, staff assistance, store environment, and the overall emotional value gained from the museum visit. In cultural tourism, satisfaction is not only a simple post-consumption feeling, but also an important psychological response formed after tourists compare their expectations with actual experiences.

Tourist satisfaction is expected to have a positive relationship with purchase intention. When tourists are satisfied with the Palace Museum's service quality and cultural consumption experience, they are more likely to develop stronger willingness to purchase its cultural and creative products. Recent studies have confirmed that satisfaction is an important predictor of tourists' behavioral intentions. Abdou et al. (2022) found that perceived service quality positively affects tourist satisfaction and behavioral intentions, and tourist satisfaction also plays a mediating role between service quality and behavioral intentions in tourism settings. This indicates that satisfaction can transform service

experience into future consumption intention. Similarly, Gu and Wu (2025) found that consumers' purchase intention toward museum digital cultural and creative products is mainly influenced by consumer satisfaction and perceived cost, while satisfaction is mainly affected by perceived cultural value. This suggests that satisfaction is especially important in museum cultural and creative product consumption because tourists' purchase intention depends not only on product function, but also on cultural value and emotional experience.

In the Palace Museum context, tourist satisfaction can also serve as a mediating mechanism between RATER-based service quality and purchase intention. The five RATER dimensions—reliability, assurance, tangibles, empathy, and responsiveness—represent tourists' evaluations of different aspects of service quality. However, these service quality dimensions may not always directly lead to purchase intention; instead, they may first influence tourists' satisfaction with the museum visit and shopping experience, and then further affect their willingness to buy cultural and creative products. For example, reliable product information, professional service, attractive store design, caring communication, and timely assistance can make tourists feel that the Palace Museum provides a smooth, trustworthy, and culturally meaningful consumption experience. This positive evaluation then increases their intention to purchase Palace Museum cultural and creative products.

Previous studies support this mediating logic. Abdou et al. (2022) directly examined the mediating role of tourist satisfaction in the relationship between perceived service quality and behavioral intentions in tourism services. Eviana et al. (2025) also investigated tourist satisfaction as a mediator between service quality, memorable tourism experience, and revisit intention, further confirming that satisfaction can explain how service and experience quality are transformed into future behavioral intentions. In addition, studies on museum cultural and creative products have emphasized that cultural product experiences, perceived value, and satisfaction can influence consumers' purchase decisions. Gu and Wu (2025) confirmed the role of satisfaction in museum cultural and creative product purchase intention, while Gao and Ma (2024) found that perceived value mediates the relationship between product involvement and purchase intention among consumers of museum creative products. These findings suggest that in the Palace

Museum's offline tourism context, tourist satisfaction may act as an important bridge linking service quality perceptions with purchase intention.

Therefore, when tourists perceive higher levels of reliability, assurance, tangibles, empathy, and responsiveness, they are more likely to feel satisfied with their Palace Museum visit and cultural product purchasing experience. This satisfaction, in turn, can strengthen their intention to purchase Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H6: Tourist Satisfaction has a positive relationship with Purchase Intention

H7a: Tourist Satisfaction has a mediating effect between Reliability and Purchase Intention

H7b: Tourist Satisfaction has a mediating effect between Assurance and Purchase Intention

H7c: Tourist Satisfaction has a mediating effect between Tangibles and Purchase Intention

H7d: Tourist Satisfaction has a mediating effect between Empathy and Purchase Intention

H7e: Tourist Satisfaction has a mediating effect between Responsiveness and Purchase Intention

2.4.8 Brand Satisfaction

Brand satisfaction refers to consumers' overall positive evaluation of a brand after comparing their expectations with their actual experiences of the brand's products, services, and symbolic meanings. In this study, brand satisfaction refers to tourists' satisfaction with the Palace Museum as a cultural brand after experiencing its offline services and cultural and creative products. It includes tourists' evaluation of the Palace Museum's brand image, product authenticity, cultural value, service professionalism, emotional connection, and overall brand experience. Unlike tourist satisfaction, which focuses more on the immediate visit and shopping experience, brand satisfaction emphasizes tourists' broader evaluation of the Palace Museum as a trusted and meaningful cultural brand.

Brand satisfaction is expected to have a positive relationship with purchase intention. When tourists are satisfied with the Palace Museum brand, they are more likely to believe that its cultural and creative products are valuable, trustworthy, and worth

purchasing. In museum cultural and creative product consumption, purchase intention is not only influenced by product function or price, but also by tourists' satisfaction with the cultural meaning and brand value behind the product. Previous research supports this logic. Cuong (2020) found that brand satisfaction has a positive influence on purchase intention, indicating that consumers who are satisfied with a brand are more willing to purchase its products. Acar et al. (2024) also showed that brand satisfaction significantly affects repurchase intention, suggesting that positive brand evaluation can encourage future consumption behavior. In addition, studies on cultural and creative products have found that cultural symbols, perceived value, and customer experience can stimulate consumers' purchase intention, which further indicates that satisfaction with a cultural brand can strengthen consumers' willingness to buy related products.

Brand satisfaction can also serve as a mediating mechanism between RATER-based service quality and purchase intention. Reliability, assurance, tangibles, empathy, and responsiveness may first shape tourists' satisfaction with the Palace Museum brand, and this brand satisfaction may then increase tourists' purchase intention toward Palace Museum cultural and creative products. For example, reliable product information can strengthen tourists' trust in the brand; professional and assured service can enhance the brand's credibility; attractive tangible elements can improve the brand's visual and cultural appeal; empathetic service can make the brand feel warmer and more visitor-centered; and responsive service can make the brand appear efficient and caring. These service experiences can jointly contribute to tourists' satisfaction with the Palace Museum brand.

Recent studies provide support for this mediating logic. Liao et al. (2022) found that perceived service quality positively influences purchase intention, while brand image and customer satisfaction play mediating roles between service quality and purchase intention. Although their study was not conducted in a museum context, it provides useful theoretical support for understanding how service quality can influence purchase intention through brand-related evaluations. Halim et al. (2025) also confirmed that service quality is an important driver of customer satisfaction and purchase intention, suggesting that satisfaction can explain how service experience is transformed into consumption intention. In the Palace Museum context, Li et al. (2021) found that innovation value and experience value positively influence purchase intention toward the Palace Museum's cultural and

creative products, which indicates that tourists' purchase decisions are closely connected with their evaluation of the museum brand experience.

Therefore, in the offline tourism context of the Palace Museum, brand satisfaction may function as an important bridge linking RATER-based service quality and purchase intention. When tourists perceive that the Palace Museum provides reliable, assured, tangible, empathetic, and responsive services, they are more likely to be satisfied with the Palace Museum brand. This satisfaction can further strengthen their willingness to purchase Palace Museum cultural and creative products. Accordingly, this study proposes the following hypotheses:

H8: Brand Satisfaction has a positive relationship with Purchase Intention

H9a: Brand Satisfaction has a mediating effect between Reliability and Purchase Intention

H9b: Brand Satisfaction has a mediating effect between Assurance and Purchase Intention

H9c: Brand Satisfaction has a mediating effect between Tangibles and Purchase Intention

H9d: Brand Satisfaction has a mediating effect between Empathy and Purchase Intention

H9e: Brand Satisfaction has a mediating effect between Responsiveness and Purchase Intention

Table 2.1 Research Hypotheses

No.	Statement
H1a	Reliability has a positive relationship with Tourist Satisfaction
H1b	Reliability has a positive relationship with Brand Satisfaction
H1c	Reliability has a positive relationship with Purchase Intention
H2a	Assurance has a positive relationship with Tourist Satisfaction
H2b	Assurance has a positive relationship with Brand Satisfaction
H2c	Assurance has a positive relationship with Purchase Intention
H3a	Tangibles has a positive relationship with Tourist Satisfaction
H3b	Tangibles has a positive relationship with Brand Satisfaction
H3c	Tangibles has a positive relationship with Purchase Intention

Table 2.3 (continued)

No.	Statement
H4a	Empathy has a positive relationship with Tourist Satisfaction
H4b	Empathy has a positive relationship with Brand Satisfaction
H4c	Empathy has a positive relationship with Purchase Intention
H5a	Responsiveness has a positive relationship with Tourist Satisfaction
H5b	Responsiveness has a positive relationship with Brand Satisfaction
H5c	Responsiveness has a positive relationship with Purchase Intention
H6	Tourist Satisfaction has a positive relationship with Purchase Intention
H7a	Tourist Satisfaction has a mediating effect between Reliability and Purchase Intention
H7b	Tourist Satisfaction has a mediating effect between Assurance and Purchase Intention
H7c	Tourist Satisfaction has a mediating effect between Tangibles and Purchase Intention
H7d	Tourist Satisfaction has a mediating effect between Empathy and Purchase Intention
H7e	Tourist Satisfaction has a mediating effect between Responsiveness and Purchase Intention
H8	Brand Satisfaction has a positive relationship with Purchase Intention
H9a	Brand Satisfaction has a mediating effect between Reliability and Purchase Intention
H9b	Brand Satisfaction has a mediating effect between Assurance and Purchase Intention
H9c	Brand Satisfaction has a mediating effect between Tangibles and Purchase Intention
H9d	Brand Satisfaction has a mediating effect between Empathy and Purchase Intention
H9e	Brand Satisfaction has a mediating effect between Responsiveness and Purchase Intention

2.5 Conclusion

This chapter established the theoretical foundation and conceptual logic of the present study. Based on the research topic, this chapter reviewed the parent disciplines, immediate disciplines, conceptual model, and hypothesis development. The RATER model was adopted as the core service quality framework, including reliability, assurance, tangibles, empathy, and responsiveness. These five dimensions are considered suitable for examining tourists' offline purchasing experience of Palace Museum cultural and creative products because they reflect both the functional and experiential aspects of museum service. The literature review indicates that service quality is an important factor influencing tourists' evaluations and behavioral responses. Reliability helps tourists form confidence in accurate product information and dependable service. Assurance strengthens tourists' trust in the professionalism, authenticity, and credibility of the Palace Museum. Tangibles enhance tourists' sensory and cultural experience through store environment, product display, packaging design, and visual presentation. Empathy reflects the museum's ability to provide caring and personalized service, while responsiveness represents the efficiency and timeliness of service support. Together, these five dimensions provide a systematic explanation of how tourists evaluate service quality in the offline cultural and creative product consumption process. This chapter also introduced tourist satisfaction and brand satisfaction as two mediating variables. Tourist satisfaction focuses on tourists' evaluation of their visit and shopping experience, whereas brand satisfaction reflects tourists' broader satisfaction with the Palace Museum as a cultural brand. In the Palace Museum context, tourists' purchase intention is not only influenced by product design or price, but also by service experience, cultural atmosphere, brand trust, and emotional connection. Therefore, this study proposes that RATER-based service quality may influence purchase intention both directly and indirectly through tourist satisfaction and brand satisfaction. Overall, this chapter developed a clear conceptual model and research hypotheses to guide the empirical analysis. T.

CHAPTER 3
METHODOLOGY

This chapter presents the research methodology adopted in this study. Based on the research purpose, this study aims to examine the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products, with tourist satisfaction and brand satisfaction as mediating variables. Therefore, a quantitative research design was used to collect and analyze empirical data from offline tourists who had experience with Palace Museum cultural and creative product stores. This chapter first explains the research paradigm and justifies the use of a positivist approach. It then introduces the research tools, operational definitions, and measurement scales for all variables, including reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. After that, the chapter describes the data collection procedures, including the target population, sample size, sampling method, and data collection method. The data analysis procedures are also presented, covering reliability analysis, validity analysis, descriptive statistics, common method bias testing, and Structural Equation Modeling. In addition, ethical considerations and the pre-test process are discussed to ensure the quality and appropriateness of the research design. Overall, this chapter provides the methodological foundation for the empirical analysis in Chapter Four. It explains how the research was designed, how the data were collected, and how the proposed conceptual model and hypotheses will be tested.

3.1 Overview and Justification of Research Paradigm

This study adopts a positivist research paradigm to examine the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products, with tourist satisfaction and brand satisfaction as mediating variables. A research paradigm refers to the philosophical position that guides how reality is understood, how knowledge is produced, and how research methods are selected. Positivism assumes that social phenomena can be objectively observed, measured, and

explained through empirical evidence. It is therefore commonly associated with quantitative research, hypothesis testing, and statistical analysis (Park et al., 2020).

From an ontological perspective, this study assumes that tourists' perceptions of service quality, satisfaction, and purchase intention can be transformed into measurable constructs. Although tourists' experiences in the Palace Museum contain cultural and emotional meanings, this research focuses on identifying general patterns rather than interpreting individual narratives. Therefore, reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention are treated as latent variables that can be measured through structured questionnaire items.

From an epistemological perspective, the researcher maintains an objective position and seeks to generate knowledge through empirical data. The purpose of this study is not to explore tourists' personal stories in depth, but to test whether the proposed relationships among variables are supported by data. This is consistent with positivist research, which emphasizes objectivity, measurement, explanation, and verification (Maksimović & Evtimov, 2023). Since this study proposes clear hypotheses regarding the direct effects of RATER-based service quality and the mediating effects of tourist satisfaction and brand satisfaction, a positivist paradigm is suitable.

The adoption of a positivist paradigm is also justified by the research questions and objectives. This study investigates the relationships among five service quality dimensions, two satisfaction variables, and purchase intention in the Palace Museum cultural and creative product context. These questions require numerical data and statistical testing rather than purely qualitative interpretation. Previous tourism and service studies have also used empirical quantitative designs to examine the relationships among service quality, satisfaction, and behavioral intention, showing that service quality can influence tourists' future behavioral responses directly and indirectly through satisfaction (Abdou et al., 2022).

In this study, the RATER model provides a measurable framework for evaluating service quality. Reliability, assurance, tangibles, empathy, and responsiveness can be operationalized into questionnaire items related to product information, staff professionalism, store environment, personalized service, and timely assistance. Similarly, tourist satisfaction, brand satisfaction, and purchase intention can be measured through

Likert-scale items. This enables the study to test the proposed conceptual model using empirical evidence.

In summary, the positivist research paradigm is appropriate for this study because it supports objective measurement, deductive reasoning, and hypothesis testing. It allows the research to examine how RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through tourist satisfaction and brand satisfaction. Therefore, positivism provides a suitable philosophical foundation for the quantitative design of this study.

3.2 Research Tools

This study uses a structured questionnaire as the main research tool to collect empirical data from tourists who have experience with Palace Museum cultural and creative products. The questionnaire is designed based on mature measurement scales from service quality, tourist satisfaction, brand satisfaction, and purchase intention studies. The variables in this study include five dimensions of RATER-based service quality, namely reliability, assurance, tangibles, empathy, and responsiveness, as well as tourist satisfaction, brand satisfaction, and purchase intention.

Before developing the questionnaire items, it is necessary to clarify the operational definitions of each variable. Operational definitions explain how each theoretical construct is understood and measured in the specific research context. In this study, all variables are defined in relation to tourists' offline consumption experience of Palace Museum cultural and creative products. The RATER dimensions are adapted from the SERVQUAL/RATER framework, which evaluates service quality through reliability, assurance, tangibles, empathy, and responsiveness. The SERVQUAL model remains widely used in service quality research because these five dimensions provide a measurable structure for understanding consumers' service perceptions.

3.2.1 Operational Definitions

Table 3.1 presents the operational definitions of the variables used in this study. These definitions provide the basis for questionnaire development and later empirical analysis.

Table 3.1 Operational Definitions

Variable	Operational Definition	Source
Reliability	Reliability refers to tourists' perception that the Palace Museum cultural and creative product service can be delivered accurately, dependably, and consistently. In this study, it includes accurate product information, clear pricing, reliable payment procedures, and dependable product availability in the offline purchase setting.	Singh et al. (2023)
Assurance	Assurance refers to tourists' perception of staff professionalism, courtesy, product knowledge, and the ability to create trust and confidence during the purchase of Palace Museum cultural and creative products. It also reflects tourists' confidence in product authenticity and service credibility.	Park et al. (2020)
Tangibles	Tangibles refer to the visible and physical aspects of the service environment, including store design, product display, packaging, staff appearance, signage, and the overall cultural atmosphere of the Palace Museum cultural and creative product retail space.	Zhang (2024)
Empathy	Empathy refers to tourists' perception that service staff provide caring, individualized, and considerate attention during the purchase process. In this study, it includes understanding tourists' needs, offering appropriate product recommendations, and considering different tourists' cultural and consumption preferences.	Abdou et al. (2022)
Responsiveness	Responsiveness refers to tourists' perception that service staff are willing and able to provide prompt help during the purchase process. It includes timely answers to questions, quick assistance, efficient checkout, and effective handling of tourists' purchase-related needs.	Singh et al. (2023)

Table 3.1 (continued)

Variable	Operational Definition	Source
Tourist Satisfaction	Tourist satisfaction refers to tourists' overall evaluation of their consumption experience after purchasing or experiencing Palace Museum cultural and creative products. It reflects whether the service, product, cultural value, and shopping experience meet or exceed tourists' expectations.	Abdou et al. (2022)
Brand Satisfaction	Brand satisfaction refers to tourists' positive evaluation of the Palace Museum cultural and creative product brand after interacting with its products and services. It reflects tourists' satisfaction with the brand image, cultural expression, product value, and overall brand experience.	Lu (2026)
Purchase Intention	Purchase intention refers to tourists' willingness or likelihood to purchase Palace Museum cultural and creative products in the future. It also includes tourists' intention to choose, recommend, or repurchase these products based on their service experience and satisfaction.	Li et al. (2021); Lu (2026)

3.2.2 Variable Measurements

1) The measurement items of this study were adapted from established scales in previous research. Since this study focuses on tourists' purchase intention toward Palace Museum cultural and creative products, the original items were modified according to the offline museum retail context. For the independent variables, reliability, assurance, tangibles, empathy, and responsiveness were adapted from the SERVQUAL scale developed by Parasuraman, Zeithaml, and Berry (1988). In the revised scale, "these firms" was replaced with "the Palace Museum cultural and creative product stores," and "customers" was replaced with "tourists." This adjustment helps the items better reflect tourists' actual service experience when purchasing cultural and creative products at the Palace Museum. Reliability was measured by five items, focusing on promised service,

problem handling, dependability, timely service, and accurate records. Assurance was measured by four items, reflecting tourists' trust, transaction safety, employee politeness, and staff support. Tangibles were measured by four items, including equipment, physical facilities, employee appearance, and the consistency between store appearance and service type. Empathy was measured by five items, focusing on individual attention, personal attention, understanding tourists' needs, tourists' best interests, and convenient operating hours. Responsiveness was measured by four items, reflecting service information, prompt service, willingness to help, and timely response. All revised items were expressed in positive wording to improve clarity and reduce misunderstanding. The detailed measurement items of the independent variables are shown in Table 3.2.

Table 3.2 Scale of Independent Variables

Variables	Original Items	Revised Items	Source
Reliability	1. When they firms promise to do something by a certain time, they should do so.	1. When the Palace Museum cultural and creative product stores promise to do something by a certain time, they should do so.	Parasuraman, Zeithaml, and Berry (1988)
	2. When customers have problems, they firms should show be sympathetic and reassuring.	2. When tourists have problems, the Palace Museum cultural and creative product stores should be sympathetic and reassuring.	
	3. They firms should be dependable.	3. The Palace Museum cultural and creative product stores should be dependable.	
	4. They should provide their services at the time they promise to do so.	4. The Palace Museum cultural and creative product stores should provide their services at the time they promise to do so.	
	5. They should keep accurate records.	5. The Palace Museum cultural and creative product stores should keep accurate records.	

Table 3.2 (continued)

Variables	Original Items	Revised Items	Source
Assurance	1. Customers should be able to trust employees of these firms.	1. Tourists should be able to trust employees of the Palace Museum cultural and creative product stores.	Parasuraman, Zeithaml, and Berry (1988)
	2. Customers should be able to feel safe in their transactions with these firms' employees.	2. Tourists should be able to feel safe in their transactions with employees of the Palace Museum cultural and creative product stores.	
	3. Their employees should be polite.	3. Employees of the Palace Museum cultural and creative product stores should be polite.	
	4. Their employees should get adequate support from these firms to do their jobs well.	4. Employees should get adequate support from the Palace Museum cultural and creative product stores to do their jobs well.	
Tangibles	1. They should have up-to-date equipment.	1. The Palace Museum cultural and creative product stores should have up-to-date equipment.	Parasuraman, Zeithaml, and Berry (1988)
	2. Their physical facilities should be visually appealing.	2. The physical facilities of the Palace Museum cultural and creative product stores should be visually appealing.	
	3. Their employees should be well dressed and appear neat.	3. Employees of the Palace Museum cultural and creative product stores should be well dressed and appear neat.	

Table 3.2 (continued)

Variables	Original Items	Revised Items	Source
	4. The appearance of the physical facilities of these firms should be in keeping with the type of services provided.	4. The appearance of the physical facilities of the Palace Museum cultural and creative product stores should be in keeping with the type of services provided.	
Empathy	1. These firms should not be expected to give customers individual attention.	1. The Palace Museum cultural and creative product stores should be expected to give tourists individual attention.	Parasuraman, Zeithaml, and Berry (1988)
	2. Employees of these firms cannot be expected to give customers personal attention.	2. Employees of the Palace Museum cultural and creative product stores should be expected to give tourists personal attention.	
	3. It is unrealistic to expect employees to know what the needs of their customers are.	3. It is realistic to expect employees of the Palace Museum cultural and creative product stores to know what the needs of their tourists are.	
	4. It is unrealistic to expect these firms to have their customers' best interests at heart.	4. It is realistic to expect the Palace Museum cultural and creative product stores to have their tourists' best interests at heart.	
	5. They shouldn't be expected to have operating hours convenient to all their customers.	5. The Palace Museum cultural and creative product stores should be expected to have operating hours convenient to their tourists.	

Table 3.2 (continued)

Variables	Original Items	Revised Items	Source
Responsiveness	1. They shouldn't be expected to tell customers exactly when services will be performed.	1. The Palace Museum cultural and creative product stores should be expected to tell tourists exactly when services will be performed.	Parasuraman, Zeithaml, and Berry (1988)
	2. It is not realistic for customers to expect prompt service from employees of these firms.	2. It is realistic for tourists to expect prompt service from employees of the Palace Museum cultural and creative product stores.	
	3. Their employees don't always have to be willing to help customers.	3. Employees of the Palace Museum cultural and creative product stores should always be willing to help tourists.	
	4. It is okay if they are too busy to respond to customer requests promptly.	4. Employees of the Palace Museum cultural and creative product stores should respond to tourists' requests promptly.	

2) The mediating variables in this study include tourist satisfaction and brand satisfaction. The measurement items were adapted from established scales in previous research and revised according to the context of Palace Museum cultural and creative products. Tourist satisfaction was adapted from Bagheri et al. (2024). It was measured by three items, focusing on tourists' enjoyment, perceived wisdom of choice, and whether the purchase experience met their needs. In the revised scale, the original general expressions were modified into the context of purchasing Palace Museum cultural and creative products. This adjustment helps the items better reflect tourists' overall satisfaction with their offline cultural and creative product consumption experience. Brand satisfaction was adapted from Susanti, Rafika, and Melinda (2021). It was measured by three items, focusing on overall transaction satisfaction, brand choice evaluation, and whether the brand met tourists' expectations. In the revised scale, "Islamic banks," "Islamic banking,"

and “The Sharia Bank” were replaced with “the Palace Museum cultural and creative product stores,” “Palace Museum cultural and creative products,” and “the Palace Museum cultural and creative product brand.” This modification makes the items more consistent with the museum retail and cultural brand context of this study. All revised items retained the basic structure and meaning of the original scales, while adapting the wording to the specific research context. The detailed measurement items of the mediating variables are shown in Table 3.3.

Table 3.3 Scale of Mediating Variables

Variables	Original Items	Revised Items	Sources
Tourist Satisfaction	1. I have really enjoyed	1. I have really enjoyed purchasing Palace Museum cultural and creative products.	Bagheri et al. (2024)
	2. My choice was a wise one	2. My choice to purchase Palace Museum cultural and creative products was a wise one.	
	3. It is exactly what I needed	3. Purchasing Palace Museum cultural and creative products is exactly what I needed.	
Brand Satisfaction	1. Overall, I am satisfied with transactions at Islamic banks	1. Overall, I am satisfied with transactions at the Palace Museum cultural and creative product stores.	Susanti, Rafika and Melinda (2021)
	2. Islamic banking is the best choice for me	2. Palace Museum cultural and creative products are the best choice for me.	
	3. The Sharia Bank has met my expectations	3. The Palace Museum cultural and creative product brand has met my expectations.	

3) The dependent variable in this study is purchase intention. The measurement items were adapted from established scales in previous research and revised according to the context of Palace Museum cultural and creative products. Purchase intention was adapted from Ganguly et al. (2010). It was measured by three items, focusing on tourists' intention to continue purchasing, willingness to recommend, and future transaction intention. In the revised scale, the original expression "my online store" was replaced with "Palace Museum cultural and creative products," because this study focuses on tourists' offline purchase intention in the museum retail context rather than online shopping behavior. In addition, the third original item was negatively worded. To improve clarity and reduce misunderstanding among respondents, it was revised into a positive statement. This adjustment makes all items consistent in direction and more suitable for questionnaire distribution among tourists. All revised items retained the basic structure and meaning of the original scale, while adapting the wording to the specific research context. The detailed measurement items of the dependent variable are shown in Table 3.4.

Table 3.4 Scale of Dependent Variable

Variables	Original Items	Revised Items	Sources
Purchase Intention	1. I intend to continue using my online store for purchasing a product or service in future	1. I intend to continue purchasing Palace Museum cultural and creative products in the future.	Ganguly et al. (2010)
	2. I would strongly recommend others to use my online store	2. I would strongly recommend others to purchase Palace Museum cultural and creative products.	
	3. I shall not transact with my online store in the near future	3. I shall continue to purchase Palace Museum cultural and creative products in the near future.	

3.3 Data Collection

3.3.1 Target Population

The target population of this study consists of offline tourists who visited the Palace Museum and had direct experience with Palace Museum cultural and creative product stores. Since this study examines tourists' purchase intention toward Palace Museum cultural and creative products, the target respondents should be actual offline visitors who were exposed to the museum's physical retail environment, cultural symbols, product displays, service facilities, and staff interaction. Therefore, the population is not general online consumers or general cultural product buyers, but tourists who experienced Palace Museum cultural and creative products in an offline tourism context.

In quantitative research, the target population refers to the entire group of individuals who possess the characteristics relevant to the research problem and from whom the researcher intends to draw conclusions (Creswell & Creswell, 2023). For this study, the relevant characteristics include actual visitation to the Palace Museum, exposure to its cultural and creative product stores, and the possibility of browsing or purchasing products in physical retail spaces. These characteristics are important because tourists' perceptions of reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention are mainly formed through their offline interaction with the museum environment and its cultural and creative product services.

The Palace Museum provides an appropriate research context because it is one of China's most representative cultural tourism destinations and one of the world's most visited museums. According to a 2026 report citing Xinhua, the Palace Museum received nearly 18,039,000 visitors in 2025, showing its strong public appeal and large-scale offline tourist flow. This large visitor base provides a sufficient population foundation for examining tourists' perceptions and behavioral intentions toward Palace Museum cultural and creative products.

Accordingly, the target population of this study is defined as offline tourists who visited the Palace Museum and entered, browsed, or purchased products in Palace Museum cultural and creative product stores. This definition ensures that the collected data are closely related to the research objectives and that respondents are able to provide valid evaluations of the offline service quality and purchase intention examined in this study.

3.3.2 Sample Size

The sample size of this study was determined based on the ten-times rule. The ten-times rule suggests that the minimum sample size should be at least ten times the number of measurement items or the largest number of structural paths directed at a construct in the research model (Barclay et al., 1995). This rule is commonly used in quantitative studies as a practical guideline for determining an acceptable sample size for multivariate analysis and structural model testing. In this study, the questionnaire contains 31 measurement items in total. Therefore, according to the ten-times rule, the minimum required sample size should be: $31 \times 10 = 310$. This means that at least 310 valid responses are required for this study. However, to reduce the possible limitations caused by invalid questionnaires, incomplete responses, and sampling errors, this study aimed to collect a larger sample. Increasing the sample size can improve the stability, reliability, and accuracy of the empirical results. Therefore, the researcher planned to distribute 620 questionnaires during the formal survey stage. This number is twice the minimum required sample size calculated by the ten-times rule. By doing so, the study can obtain sufficient valid data for later reliability analysis, validity analysis, and structural equation modeling. Thus, the planned sample size of this study is considered appropriate for testing the proposed conceptual model.

3.3.3 Sampling Method

This study adopted a systematic purposive sampling method to collect data from tourists who had actual offline experience with Palace Museum cultural and creative product stores. Since Palace Museum cultural and creative products are mainly sold through physical retail spaces within the museum tourism context, this study focused on tourists' on-site service experiences rather than their online purchasing behavior.

Purposive sampling was considered appropriate because respondents were required to meet specific criteria related to the research purpose. First, respondents should have visited the Palace Museum. Second, they should have entered and browsed or purchased products from a Palace Museum cultural and creative product store. Third, they should have been able to evaluate the offline service experience, including reliability, assurance, tangibles, empathy, and responsiveness.

During the formal survey, trained research assistants were positioned near the exit of the main Palace Museum cultural and creative product store. To improve the

consistency of respondent selection, every third tourist exiting the store was approached. Potential respondents were screened using two questions: (1) “Have you entered the cultural and creative product store?” and (2) “Have you browsed or purchased products in the store?” Only tourists who answered “yes” to both questions were invited to complete the questionnaire. Tourists who did not meet these criteria were excluded from the survey.

Therefore, systematic purposive sampling was suitable for this study because qualified respondents could be selected through a consistent and research-oriented procedure. This method helped ensure that the collected data were obtained from tourists who were familiar with the physical retail environment and capable of providing valid evaluations of service quality, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products.

3.3.4 Data Collection Method

This study adopted an offline questionnaire-based data collection method to obtain empirical data from tourists with actual experience in Palace Museum cultural and creative product stores. Since Palace Museum cultural and creative products are mainly experienced and purchased through physical retail spaces, offline data collection was considered more suitable for this study. During the formal survey, questionnaires were distributed to tourists in or near the Palace Museum cultural and creative product stores. Before completing the questionnaire, respondents were asked whether they had visited the Palace Museum and whether they had browsed or purchased cultural and creative products in the physical stores. Only respondents who met these criteria were invited to complete the questionnaire. The questionnaire was designed in a structured format and included measurement items for reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. Respondents answered the items based on their actual offline service experience. This method helped ensure that the collected data were directly related to the research context.

A total of 620 questionnaires were distributed during the formal survey. After data collection, the researcher checked the returned questionnaires and removed invalid responses, such as incomplete questionnaires or answers with obvious response patterns. The remaining valid questionnaires were used for subsequent reliability analysis, validity analysis, and structural equation modeling.

Therefore, the offline questionnaire method was appropriate for this study because it allowed the researcher to collect first-hand data from tourists who had direct experience with Palace Museum cultural and creative product stores. This improved the relevance and validity of the empirical data.

3.4 Data Analysis

This study adopted a quantitative research approach to analyze the collected data through a systematic statistical procedure. The data analysis process consisted of several sequential steps, including a pre-test, reliability analysis, validity analysis, descriptive statistics, common method bias testing, and Structural Equation Modeling (SEM). These procedures were used to ensure that the questionnaire was appropriate, the measurement model was reliable and valid, and the proposed relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention could be tested empirically. Recent SEM studies emphasize that reliability, validity, and model testing should be conducted step by step before drawing conclusions from structural paths (Hair et al., 2020; Cheung et al., 2024).

3.4.1 Pre-test

Prior to the formal data collection, a pre-test was conducted to evaluate the appropriateness of the questionnaire design, the clarity of item wording, and the suitability of the measurement items for the Palace Museum cultural and creative product context. The pre-test helped identify whether respondents could clearly understand the revised items, especially because the original scales were adapted from previous service quality, satisfaction, and purchase intention studies. In this study, the pre-test focused on three aspects. First, the researcher examined whether the revised items were consistent with the offline retail context of Palace Museum cultural and creative product stores. Second, the wording of each item was checked to ensure that respondents could understand the statements without confusion. Third, preliminary reliability results were examined to determine whether the items were suitable for formal data collection. After the pre-test, unclear expressions were revised before the formal questionnaire was distributed.

3.4.2 Reliability Analysis

Reliability analysis was conducted to assess the internal consistency and measurement stability of the study instruments, serving as a foundational step for evaluating questionnaire quality. In SEM-based research, reliability evidence is important because each latent variable is measured by multiple observed items. If the items within the same construct are not consistent, the later validity and structural model results may be affected. This study used Cronbach's alpha and Composite Reliability (CR) to evaluate reliability. Cronbach's alpha was used to examine the internal consistency of the items under each variable. Generally, a Cronbach's alpha value above 0.70 indicates acceptable reliability. Composite Reliability was also used because it is suitable for latent variable modeling and provides reliability evidence in SEM analysis. Recent measurement studies suggest that CR is useful for evaluating whether the indicators consistently represent the same latent construct (Denovan, 2025). In this study, reliability analysis was applied to all variables, including reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. If the reliability values met the acceptable threshold, the scale was considered internally consistent and suitable for further validity analysis.

3.4.3 Validity Analysis

In the formal testing stage, this study employed Confirmatory Factor Analysis (CFA) to examine the validity of the measurement model. CFA evaluates whether the observed items can properly represent their corresponding latent variables. It is commonly used in SEM research to test the measurement structure before testing the structural relationships among variables. Cheung et al. (2024) emphasized that CFA is an important step for examining convergent validity in SEM-based studies. This study examined validity mainly from two aspects: convergent validity and discriminant validity. Convergent validity was evaluated through standardized factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR). In general, factor loadings should be higher than 0.50, AVE should be higher than 0.50, and CR should be higher than 0.70. These criteria indicate that the measurement items can effectively represent their corresponding constructs. Discriminant validity was used to assess whether different variables were statistically distinct from one another. Since this study includes conceptually related variables such as tourist satisfaction and brand satisfaction,

discriminant validity is especially important. If discriminant validity is acceptable, it means that each construct measures a unique concept within the model.

3.4.4 Descriptive Statistics

Before conducting SEM analyses, descriptive statistical analysis was performed to summarize both sample characteristics and the distribution patterns of the main study variables. Descriptive statistics provide a basic understanding of the data and help researchers identify the general profile of respondents and the central tendency of each variable.

In this study, frequency and percentage were used to describe respondents' demographic characteristics, such as gender, age, education level, income level, and visit-related information. Mean and standard deviation were used to summarize the measurement items and main variables. The mean value reflected the general level of respondents' agreement with each item, while the standard deviation reflected the degree of variation among responses. Descriptive statistics also helped determine whether the data were suitable for further statistical analysis. For example, extremely abnormal response patterns or very low variation in item responses could affect later reliability, validity, and SEM results. Therefore, descriptive statistics served as an important preliminary step before hypothesis testing.

3.4.5 Common Method Bias

Because data were collected from the same respondents via a single questionnaire at one point in time, common method bias (CMB) may occur and potentially inflate or distort the relationships among variables. Common method bias is a common concern in survey-based research, especially when independent variables, mediating variables, and dependent variables are measured from the same source. Recent studies continue to emphasize the importance of identifying and controlling common method variance in questionnaire-based SEM research (Sturman et al., 2025). In this study, Harman's single-factor test was used to examine whether common method bias was a serious problem. All measurement items were entered into an unrotated exploratory factor analysis. If the first factor explained less than 40% of the total variance, common method bias was considered not to be a serious threat. In addition, the questionnaire design also reduced potential bias by using clear wording, anonymous responses, and neutral item presentation. Therefore, common method bias testing helped ensure that the relationships among RATER-based

service quality, tourist satisfaction, brand satisfaction, and purchase intention were not mainly caused by the measurement method itself.

3.4.6 Structural Equation Model

After confirming acceptable reliability, validity, and the absence of serious common method bias, this study employed Structural Equation Modeling (SEM) to test the proposed conceptual model and research hypotheses. SEM is appropriate for this study because the research model contains multiple latent variables and examines both direct and mediating effects. Recent methodological literature notes that SEM is widely used for testing complex theoretical models involving measurement models and structural relationships (Abreu-Ledón et al., 2026). In this study, SEM was used to test the direct effects of reliability, assurance, tangibles, empathy, and responsiveness on purchase intention. It was also used to examine the mediating effects of tourist satisfaction and brand satisfaction between RATER-based service quality and purchase intention. The model fit was evaluated using commonly reported fit indices, including χ^2/df, GFI, NFI, IFI, TLI, CFI, and RMSEA. Acceptable model fit indicates that the proposed theoretical model is consistent with the empirical data. Path coefficients, standard errors, t-values, and p-values were used to determine whether each hypothesis was supported. For mediation analysis, indirect effects were examined to determine whether tourist satisfaction and brand satisfaction explained the relationships between service quality dimensions and purchase intention. Through SEM, this study was able to provide empirical evidence for how offline service quality in Palace Museum cultural and creative product stores influences tourists' purchase intention.

3.5 Ethical Considerations

Ethical considerations constituted an essential component of this study to ensure that the research process complied with recognized academic and institutional standards. Since this study collected questionnaire data from offline tourists, the researcher paid attention to informed consent, voluntary participation, anonymity, confidentiality, data protection, and academic integrity. Ethical research is important because it protects participants' rights, reduces potential harm, and ensures that the research process is conducted responsibly and transparently (Dankar et al., 2020; Boden-Stuart & Thompson, 2026).

First, informed consent was obtained before respondents completed the questionnaire. The respondents were informed that the purpose of the study was to examine tourists' perceptions of service quality, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products. They were also informed that participation was voluntary and that they had the right to refuse or withdraw from the survey at any stage. This is consistent with the ethical principle that research participants should understand the purpose of the study and participate freely without pressure (Dankar et al., 2020).

Second, this study protected respondents' anonymity and privacy. The questionnaire did not collect personally identifiable information, such as names, identity numbers, phone numbers, or exact addresses. All responses were used only for academic research purposes and were analyzed in aggregate form. Therefore, no individual respondent could be identified in the final research results. In questionnaire-based research, anonymity and confidentiality are important because they protect respondents' privacy and encourage honest responses (Torrejón-Guirado et al., 2024).

Third, confidentiality was maintained throughout the data collection and analysis process. The collected questionnaire data were stored securely and accessed only for research analysis. The data were not shared with unrelated third parties or used for commercial purposes. Proper data protection is an important ethical requirement because researchers are responsible for preventing misuse or unauthorized access to participant data (Torrejón-Guirado et al., 2024).

Fourth, the questionnaire items were designed in a neutral and non-harmful manner. The questions focused only on tourists' offline service quality perceptions, satisfaction, and purchase intention toward Palace Museum cultural and creative products. No sensitive personal, political, religious, medical, or private information was collected. This helped reduce potential risk to respondents and ensured that the survey remained appropriate for general tourist participants.

Finally, this study followed the principle of academic integrity. The researcher reported the research procedures, data analysis, and findings honestly. Theories, measurement scales, and previous studies used in this research were properly cited to avoid plagiarism. Therefore, the ethical design of this study helped protect respondents' rights

and ensured that the research findings were produced in a responsible and academically acceptable manner.

3.6 Pre-Test

Before the formal data collection, a pre-test was conducted to examine the clarity, reliability, and validity of the questionnaire. Pre-testing is an important step in questionnaire-based research because it helps researchers identify unclear wording, inappropriate items, and possible measurement problems before large-scale data collection. Yusoff et al. (2021) argued that questionnaire validation should follow a systematic process to ensure that the instrument is suitable for the intended respondents and research context.

In this study, the pre-test was conducted with tourists who had offline experience with Palace Museum cultural and creative product stores. The purpose was to determine whether the revised items could be clearly understood and whether they were suitable for measuring reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. Since the original measurement items were adapted from previous studies, the pre-test also helped confirm whether the contextual modifications were appropriate for the Palace Museum cultural and creative product setting.

A total of 60 questionnaires were distributed, and 56 questionnaires were returned, with 52 valid responses. The 52 valid questionnaires were subjected to detailed reliability and validity testing to ensure the reliability and accuracy of the data. The number of valid responses was considered acceptable for a pre-test, as recent methodological studies suggest that pilot or pre-test samples can be used to assess questionnaire reliability before the formal survey (Bujang et al., 2024).

The pre-test mainly focused on three aspects. First, the clarity of questionnaire items was examined to ensure that respondents could understand each statement correctly. Second, reliability analysis was conducted to test the internal consistency of each construct. Third, validity analysis was performed to examine whether the measurement items were suitable for further formal data collection. Questionnaire studies usually require preliminary reliability and validity assessment to improve the quality of the research instrument before full-scale data collection (Ramu et al., 2023).

3.6.1 Reliability Analysis of the Pre-Test

Table 3.5 Reliability Analysis Results of the Pire-Test

Variables	Items	Cronbach's α
Reliability	5	0.896
Assurance	4	0.881
Tangibles	4	0.970
Empathy	5	0.940
Responsiveness	4	0.871
Tourist Satisfaction	3	0.941
Brand Satisfaction	3	0.945
Purchase Intention	3	0.906

Reliability analysis was conducted to examine the internal consistency of the questionnaire items in the pre-test stage. Cronbach's alpha was used as the main reliability indicator because it is commonly applied to determine whether items within the same construct measure the same underlying concept. In questionnaire validation research, a Cronbach's alpha value above 0.70 is generally regarded as acceptable, while higher values indicate stronger internal consistency (Yusoff et al., 2021; Ramu et al., 2023). As shown in Table 3.5, all variables achieved Cronbach's alpha values higher than the recommended threshold of 0.70. Specifically, the Cronbach's alpha values were 0.896 for Reliability, 0.881 for Assurance, 0.970 for Tangibles, 0.940 for Empathy, 0.871 for Responsiveness, 0.941 for Tourist Satisfaction, 0.945 for Brand Satisfaction, and 0.906 for Purchase Intention. These results indicate that all constructs demonstrated strong internal consistency in the pre-test.

Among the eight variables, Tangibles obtained the highest Cronbach's alpha value of 0.970, suggesting that the four items measuring physical facilities, equipment, employee appearance, and store environment were highly consistent. Tourist Satisfaction, Brand Satisfaction, Empathy, and Purchase Intention also showed excellent reliability, with alpha values above 0.90. Reliability, Assurance, and Responsiveness showed good reliability, with values above 0.80. Overall, the pre-test reliability results show that the adapted questionnaire has stable measurement quality. The items for RATER-based service

quality, tourist satisfaction, brand satisfaction, and purchase intention were appropriate for the Palace Museum cultural and creative product context. Therefore, the questionnaire could be used in the formal survey.:

3.6.2 Exploratory Factor Analysis (EFA)

Table 3.6 KMO and Bartlett's Test for the Pre-Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.758
Bartlett's Test of Sphericity	Approx. Chi-Square	2207.970
	Df	465
	Sig.	0.000

In this study, exploratory factor analysis (EFA) was conducted to examine the validity of the pre-test data. Before performing EFA, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were used to determine whether the data were suitable for factor analysis. The KMO value is commonly used to evaluate sampling adequacy, while Bartlett's test is used to examine whether the correlation matrix is appropriate for factor extraction. In general, a KMO value above 0.60 and a significant Bartlett's test indicate that the data are suitable for factor analysis (Yusoff et al., 2021; Ramu et al., 2023). As shown in Table 3.6, the KMO value was 0.758, which was higher than the recommended minimum value of 0.60. Bartlett's test of sphericity was also significant, with an approximate chi-square value of 2207.970, df = 465, and $p < 0.001$. These results indicate that the pre-test data had sufficient correlations among items and were appropriate for exploratory factor analysis.

Table 3.7 Exploratory Factor Analysis Results of the Pre-Test

Items	**Component**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
A1			0.792					
A2			0.793					
A3			0.859					
A4			0.835					
A5			0.806					

Table 3.7 (continued)

Items	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
B1					0.735			
B2					0.878			
B3					0.833			
B4					0.822			
C1		0.898						
C2		0.932						
C3		0.938						
C4		0.911						
D1	0.894							
D2	0.893							
D3	0.865							
D4	0.867							
D5	0.832							
E1				0.808				
E2				0.863				
E3				0.863				
E4				0.858				
F1						0.881		
F2						0.871		
F3						0.799		
G1								0.770
G2								0.862
G3								0.814
H1							0.868	
H2							0.821	
H3							0.836	
Initial Eigenvalues	9.696	3.919	2.878	2.707	2.443	1.756	1.245	1.201

Table 3.7 (continued)

Items	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
% of Variance	31.278	12.641	9.285	8.732	7.880	5.665	4.017	3.876
Cumulative %	31.278	43.920	53.205	61.936	69.817	75.481	79.498	83.374

After confirming the suitability of the data, EFA was conducted using varimax rotation. Common factors were extracted based on the criterion of eigenvalues greater than 1. As shown in Table 3.7, eight factors were extracted from the pre-test data, which was consistent with the original questionnaire design. These eight factors corresponded to Reliability, Assurance, Tangibles, Empathy, Responsiveness, Tourist Satisfaction, Brand Satisfaction, and Purchase Intention. The factor loading results showed that all measurement items had factor loadings above 0.50 on their corresponding factors. This indicates that each item had a strong relationship with its intended construct. At the same time, the cross-loadings were lower than 0.40, suggesting that each item mainly loaded on a single factor and was not seriously affected by other constructs. These results show that the revised measurement items had acceptable construct validity in the pre-test stage.

In addition, the cumulative explained variance of the eight extracted factors was 83.374%, which means that the extracted factors explained most of the information contained in the original variables. The first factor explained 31.278% of the variance, while the remaining factors contributed additional explanatory power. Since the cumulative variance was higher than the commonly recommended level of 60%, the factor structure was considered satisfactory. Recent questionnaire validation studies suggest that clear factor loading patterns and sufficient explained variance provide important evidence for the validity of survey instruments (Yusoff et al., 2021; Ramu et al., 2023). Overall, the EFA results confirmed that the pre-test questionnaire had a clear factor structure and good preliminary validity. Therefore, the revised questionnaire was suitable for formal data collection.

3.7 Conclusion

This chapter presented the research methodology used in this study. Based on the research objectives and hypotheses, this study adopted a quantitative research approach under a positivist research paradigm. This approach was appropriate because the study aimed to empirically examine the relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products. The chapter first explained the research tools and operational definitions of all variables, including reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. The questionnaire items were adapted from established scales in previous studies and revised according to the offline retail context of Palace Museum cultural and creative product stores. This ensured that the measurement items were consistent with both existing theories and the specific research context.

The chapter then described the data collection procedures. The target population was defined as offline tourists who had visited the Palace Museum and had experience with its cultural and creative product stores. Based on the ten-times rule, the minimum required sample size was 310; however, 620 questionnaires were distributed in the formal survey to improve data adequacy and reduce the influence of invalid responses. Purposive sampling was adopted to ensure that the respondents had relevant offline experience and could provide valid evaluations. The chapter also clarified the data analysis procedures, including reliability analysis, validity analysis, descriptive statistics, common method bias testing, and Structural Equation Modeling. These procedures were designed to examine the quality of the measurement instrument and to test the proposed direct and mediating relationships in the conceptual model. In addition, this chapter discussed ethical considerations. The study followed the principles of informed consent, voluntary participation, anonymity, confidentiality, data protection, and academic integrity. These measures helped protect respondents' rights and ensured that the research process complied with academic ethical standards. Finally, the pre-test was conducted before formal data collection to examine the reliability and validity of the questionnaire. The pre-test results showed that the questionnaire had good internal consistency and acceptable construct validity. The Cronbach's alpha values of all variables were higher than 0.70, and the EFA results showed that the KMO value was 0.758, Bartlett's test was significant, and

the cumulative explained variance reached 83.374%. These results indicated that the questionnaire was suitable for formal data collection. Overall, the methodology presented in this chapter provides a systematic foundation for the empirical analysis in the following chapter. Chapter Four will report the formal data analysis results and test the proposed research hypotheses.

CHAPTER 4
RESULTS

This chapter presents the formal data analysis and empirical results of this study. Based on the research model and hypotheses proposed in the previous chapters, the purpose of this chapter is to examine the relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products. The chapter first reports the descriptive analysis of the sample, including respondents' demographic characteristics and the descriptive statistics of the main variables. It then presents the reliability analysis, confirmatory factor analysis, convergent validity, discriminant validity, and common method bias test to evaluate the quality of the measurement model. After confirming that the data and measurement scales meet the required standards, Structural Equation Modeling is conducted to test the proposed direct effects and mediating effects. Finally, this chapter summarizes the results of all research hypotheses. The findings provide empirical evidence for understanding how reliability, assurance, tangibles, empathy, and responsiveness influence tourists' purchase intention both directly and indirectly through tourist satisfaction and brand satisfaction. These results also provide the basis for the discussion and conclusions in Chapter Five.

4.1 Formal Test

4.1.1 Descriptive Analysis

Table 4.1 Demographic Information of the Sample

Demographic Information	Category	Frequency	Percent (%)
Gender	Male	250	48.7
	Female	253	49.3
	Prefer not to disclose	10	1.9

Table 4.1 (continued)

Demographic Information	Category	Frequency	Percent (%)
Marital Status	Single	235	45.8
	Married	265	51.7
	Divorced/Widowed	13	2.5
Age	30 years old and below	130	25.3
	31–40 years old	162	31.6
	41–50 years old	106	20.7
	51 years old and above	115	22.4
Region	China	443	86.4
	Countries and regions outside China	70	13.6
Educational Level	Junior college or below	52	9.7
	Bachelor's degree	318	62.5
	Master's degree	123	24.4
	Doctoral degree	20	3.9
Income	RMB 3,500 and below	58	11.3
	RMB 3,501–5,000	172	33.5
	RMB 5,001–7,000	125	24.4
	RMB 7,001 and above	158	30.8
Occupation	Student	131	25.5
	Government official	156	30.4
	Self-employed	132	25.7
	Other occupations	94	18.3

Descriptive analysis was conducted to summarize the demographic profile of the valid sample before further statistical testing. Descriptive statistics are commonly used in quantitative research to organize and present sample characteristics in a clear and systematic way. They help researchers understand the basic structure of the collected data before conducting reliability, validity, and structural model analyses (Siedlecki, 2020; Kotronoulas et al., 2023). In quantitative research, frequency and percentage are

particularly useful for describing categorical variables such as gender, age, education, income, and occupation (Lim, 2024).

As shown in Table 4.1, the formal survey obtained 513 valid responses. In terms of gender, the sample was relatively balanced, with 250 male respondents (48.7%), 253 female respondents (49.3%), and 10 respondents (1.9%) who preferred not to disclose their gender. This indicates that the sample had a balanced gender distribution and could reflect the perceptions of both male and female tourists toward Palace Museum cultural and creative products.

Regarding marital status, 235 respondents (45.8%) were single, 265 respondents (51.7%) were married, and 13 respondents (2.5%) were divorced or widowed. This shows that both single and married tourists were well represented in the sample. In terms of age, respondents were distributed across different age groups. Among them, 130 respondents (25.3%) were 30 years old and below, 162 respondents (31.6%) were aged 31–40, 106 respondents (20.7%) were aged 41–50, and 115 respondents (22.4%) were aged 51 and above. The age structure suggests that the sample included both younger and mature tourists, which is suitable for examining cultural and creative product consumption in a museum tourism context.

For region, 443 respondents (86.4%) came from China, while 70 respondents (13.6%) came from countries and regions outside China. This distribution is reasonable because the Palace Museum is located in Beijing and mainly receives domestic tourists, while also attracting international visitors. In terms of educational level, the largest group held a bachelor's degree, followed by master's degree holders, junior college or below, and doctoral degree holders. This suggests that the respondents generally had a relatively high level of education, which may be related to the cultural and historical appeal of the Palace Museum and its cultural and creative products.

With regard to income, 58 respondents (11.3%) reported monthly income of RMB 3,500 and below, 172 respondents (33.5%) reported RMB 3,501–5,000, 125 respondents (24.4%) reported RMB 5,001–7,000, and 158 respondents (30.8%) reported RMB 7,001 and above. This shows that the sample covered different income groups, which is helpful for understanding purchase intention across varied consumption capacities. For occupation, 131 respondents (25.5%) were students, 156 respondents (30.4%) were government officials, 132 respondents (25.7%) were self-employed, and 94 respondents

(18.3%) had other occupations. The occupational distribution indicates that the sample included tourists from diverse social and professional backgrounds.

Overall, the demographic results show that the sample was relatively diverse in terms of gender, marital status, age, region, income, and occupation. Such diversity provides a useful foundation for further empirical analysis of tourists' perceptions of RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention toward Palace Museum cultural and creative products.

Table 4.2 Descriptive Statistical Analysis of Variables

Variable	Items	Mean	Std. Deviation	Skewness	Kurtosis
Reliability	A1	4.396	0.818	-1.467	1.874
	A2	4.431	0.831	-1.561	1.987
	A3	4.602	0.761	-2.174	4.463
	A4	4.542	0.765	-1.852	3.236
	A5	4.450	0.821	-1.552	1.914
Assurance	B1	4.329	0.765	-1.058	0.959
	B2	4.411	0.768	-1.244	1.206
	B3	4.489	0.773	-1.478	1.656
	B4	4.191	0.712	-0.817	1.231
Tangibles	C1	4.154	0.837	-0.798	0.163
	C2	4.053	0.807	-0.588	0.011
	C3	4.055	0.864	-0.688	-0.062
	C4	4.103	0.847	-0.759	0.122
Empathy	D1	4.501	0.813	-1.767	2.664
	D2	4.446	0.811	-1.601	2.252
	D3	4.571	0.798	-1.974	3.291
	D4	4.503	0.773	-1.625	2.293
	D5	4.466	0.762	-1.543	2.311
Responsiveness	E1	4.359	0.832	-1.284	1.176
	E2	4.415	0.794	-1.355	1.463
	E3	4.548	0.819	-1.763	2.218
	E4	4.522	0.763	-1.573	1.930

Table 4.2 (continued)

Variable	Items	Mean	Std. Deviation	Skewness	Kurtosis
Tourist Satisfaction	F1	4.404	0.817	-1.253	0.890
	F2	4.378	0.844	-1.277	0.951
	F3	4.448	0.756	-1.306	1.323
Brand Satisfaction	G1	4.425	0.772	-1.305	1.358
	G2	4.398	0.821	-1.212	0.717
	G3	4.466	0.739	-1.456	2.131
Purchase Intention	H1	4.561	0.705	-1.765	3.259
	H2	4.602	0.683	-1.961	4.222
	H3	4.657	0.701	-2.347	1.569

Table 4.2 presents the descriptive statistical results of the main variables, including mean, standard deviation, skewness, and kurtosis. Descriptive statistics are used to summarize the central tendency, dispersion, and distribution characteristics of collected data before further inferential analysis. In quantitative research, mean and standard deviation are commonly used to understand respondents' general tendency and response variation, while skewness and kurtosis help evaluate the distributional characteristics of the data (Cooksey, 2020; Kotronoulas et al., 2023).

As shown in Table 4.2, the mean values of all items ranged from 4.053 to 4.657, indicating that respondents generally showed a high level of agreement with the questionnaire items. Since all items were measured using a five-point Likert scale, mean values above 4.000 suggest that tourists had positive perceptions of Palace Museum cultural and creative product stores in terms of reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention. This provides preliminary evidence that the respondents generally evaluated the offline service experience and cultural product consumption experience positively.

Among the independent variables, Reliability showed high mean values ranging from 4.396 to 4.602, suggesting that tourists perceived the Palace Museum cultural and creative product stores as dependable and capable of providing promised services. Assurance also received positive evaluations, with mean values ranging from 4.191 to 4.489, indicating that respondents tended to trust employees and felt safe during

transactions. For Tangibles, the mean values ranged from 4.053 to 4.154, which were slightly lower than other service quality dimensions but still above the midpoint of the scale. This suggests that tourists generally recognized the physical facilities, equipment, employee appearance, and store environment, although tangible elements may still have room for improvement.

For Empathy, the mean values ranged from 4.446 to 4.571, indicating that respondents perceived the stores and employees as able to provide personal attention and understand tourists' needs. Responsiveness also showed high mean values ranging from 4.359 to 4.548, suggesting that tourists generally believed the employees were willing to help and could respond promptly to service requests.

Regarding the mediating variables, Tourist Satisfaction recorded mean values from 4.378 to 4.448, indicating that tourists were generally satisfied with their experience of Palace Museum cultural and creative products. Brand Satisfaction showed mean values from 4.398 to 4.466, suggesting that respondents had positive evaluations of the Palace Museum cultural and creative product brand. For the dependent variable, Purchase Intention obtained the highest mean tendency, with values ranging from 4.561 to 4.657. This indicates that respondents expressed strong willingness to continue purchasing and recommending Palace Museum cultural and creative products.

In terms of standard deviation, the values ranged from 0.683 to 0.864, indicating that the responses were relatively concentrated and did not show excessive dispersion. A smaller standard deviation suggests that respondents' answers were more consistent around the mean, while a larger standard deviation reflects greater variation in responses (Cooksey, 2020). In this study, the standard deviation values were all below 1.000, indicating that respondents' evaluations were generally stable and consistent.

The skewness values ranged from -2.347 to -0.588, and the kurtosis values ranged from -0.062 to 4.463. The negative skewness values indicate that responses were concentrated toward the higher end of the scale, which is consistent with the high mean scores. In survey-based SEM research, skewness and kurtosis are often examined to assess whether the data distribution is acceptable before further model testing (Hair et al., 2020). Although some items showed relatively high skewness or kurtosis, the overall distribution remained acceptable for further analysis because the sample size was sufficient and the values did not indicate serious abnormality.

Overall, the descriptive statistical results indicate that tourists had positive perceptions of Palace Museum cultural and creative product stores and showed high levels of tourist satisfaction, brand satisfaction, and purchase intention. These findings provide a preliminary basis for subsequent reliability analysis, validity analysis, and structural equation modelling.

4.1.2 Reliability Analysis (Formal Test)

Table 4.3 Reliability Analysis Results of the Formal Test

Variables	Items	Cronbach's α
Reliability	5	0.914
Assurance	4	0.893
Tangibles	4	0.954
Empathy	5	0.927
Responsiveness	4	0.944
Tourist Satisfaction	3	0.938
Brand Satisfaction	3	0.859
Purchase Intention	3	0.868

Reliability analysis was conducted to examine the internal consistency of the measurement items in the formal test. Cronbach's alpha was used as the main indicator to evaluate whether the items under each construct consistently measured the same latent variable. In questionnaire-based quantitative research, a Cronbach's alpha value above 0.70 is generally considered acceptable, while values above 0.80 indicate good reliability and values above 0.90 indicate excellent internal consistency (Yusoff et al., 2021; Ramu et al., 2023). As shown in Table 4.3, the Cronbach's alpha values of all variables were higher than the recommended threshold of 0.70. Specifically, the Cronbach's alpha values were 0.914 for Reliability, 0.893 for Assurance, 0.954 for Tangibles, 0.927 for Empathy, 0.944 for Responsiveness, 0.938 for Tourist Satisfaction, 0.859 for Brand Satisfaction, and 0.868 for Purchase Intention. These results indicate that all constructs had satisfactory internal consistency in the formal test. Among the variables, Tangibles obtained the highest Cronbach's alpha value of 0.954, suggesting that the items related to equipment, physical facilities, employee appearance, and store environment were highly consistent.

Responsiveness, Tourist Satisfaction, Empathy, and Reliability also showed excellent reliability, with Cronbach's alpha values above 0.90. Meanwhile, Assurance, Brand Satisfaction, and Purchase Intention showed good reliability, with alpha values above 0.80. These results demonstrate that the revised questionnaire had stable measurement quality in the formal sample.

Overall, the reliability results confirm that the measurement scales used in this study were appropriate for examining tourists' perceptions of Palace Museum cultural and creative product stores. The high Cronbach's alpha values indicate that the items within each variable were internally consistent and suitable for subsequent validity analysis and structural equation modelling.

4.1.3 Validity Analysis (CFA) and Correlation Analysis

1) Reliability (REL)

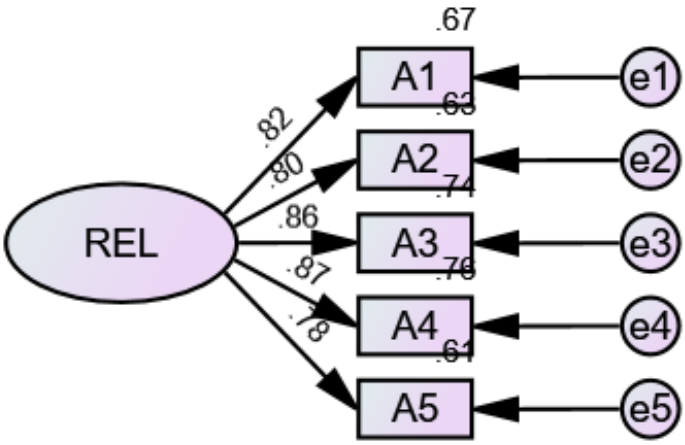


Figure 4.1 Validity Analysis of Reliability

Table 4.4 Model Fit Indices for Reliability (REL)

Fit index	Standard	Value	Fitting situation
$\chi 2/df$	1-3	2.344	Good
GFI	>0.8	0.991	Good
NFI	>0.8	0.993	Good
IFI	>0.8	0.996	Good
TLI	>0.8	0.992	Good
CFI	>0.8	0.996	Good
RMSEA	<0.08	0.051	Good

Confirmatory Factor Analysis (CFA) was conducted to examine the measurement quality of Reliability (REL). Reliability refers to tourists' perception that Palace Museum cultural and creative product stores can provide promised services accurately, dependably, and consistently. In SEM-based research, model fit indices are commonly used to evaluate whether the measurement model is acceptable before further structural analysis (Hair et al., 2020).

As shown in Table 4.4, all model fit indices for Reliability met the recommended standards. The value of χ^2/df was 2.344, which fell within the acceptable range of 1 to 3. The values of GFI = 0.991, NFI = 0.993, IFI = 0.996, TLI = 0.992, and CFI = 0.996 were all higher than 0.80, indicating good model fit. In addition, the RMSEA value was 0.051, which was lower than the recommended threshold of 0.08. These results suggest that the measurement model of Reliability had a good fit with the observed data.

Table 4.5 Convergent Validity of Reliability (REL)

Variables	Items	loading	CR	AVE
Reliability (REL)	A1	0.816	0.915	0.683
	A2	0.795		
	A3	0.860		
	A4	0.873		
	A5	0.784		

Table 4.5 presents the convergent validity results of Reliability. Convergent validity evaluates whether the items measuring the same construct are strongly related to one another. Generally, standardized factor loadings should be above 0.50, Composite Reliability (CR) should be above 0.70, and Average Variance Extracted (AVE) should be above 0.50 (Cheung et al., 2024). As shown in Table 4.5, the standardized factor loadings of the five Reliability items ranged from 0.784 to 0.873, all exceeding the recommended threshold of 0.50. The CR value was 0.915, which was higher than 0.70, indicating strong internal consistency among the items. The AVE value was 0.683, which exceeded 0.50, suggesting that the construct explained a sufficient proportion of variance in its indicators. Therefore, the results indicate that Reliability had good model fit and convergent validity.

The five items were suitable for measuring tourists' perceptions of the dependable and consistent service quality of Palace Museum cultural and creative product stores.

2) Assurance (ASS)

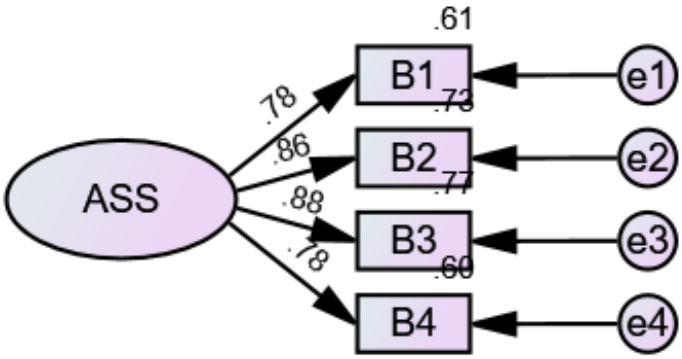


Figure 4.2 Validity Analysis of Assurance

Table 4.6 Model Fit Indices for Assurance (ASS)

Fit index	Standard	Value	Fitting situation
χ2/df	1-3	2.159	Good
GFI	>0.8	0.996	Good
NFI	>0.8	0.998	Good
IFI	>0.8	0.999	Good
TLI	>0.8	0.996	Good
CFI	>0.8	0.999	Good
RMSEA	<0.08	0.048	Good

Confirmatory Factor Analysis (CFA) was conducted to examine the measurement quality of Assurance (ASS). In this study, Assurance refers to tourists' perception of trust, transaction safety, employee politeness, and staff support in Palace Museum cultural and creative product stores. Model fit indices were used to determine whether the measurement model adequately fitted the formal survey data. As shown in Table 4.6, all fit indices of Assurance met the recommended standards. The value of χ^2/df was 2.159, which was within the acceptable range of 1 to 3. The values of GFI = 0.996, NFI = 0.998, IFI = 0.999, TLI = 0.996, and CFI = 0.999 were all higher than 0.80, indicating a good model fit. In addition, the RMSEA value was 0.048, which was below the recommended threshold of

0.08. Therefore, the measurement model of Assurance showed good fitness with the observed data.

Table 4.7 Convergent Validity of Assurance (ASS)

Variables	Items	loading	CR	AVE
Assurance (ASS)	B1	0.810	0.945	0.811
	B2	0.910		
	B3	0.717		
	B4	0.806		

Table 4.7 presents the convergent validity results of Assurance. Convergent validity was assessed through standardized factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE). The results showed that the standardized factor loadings of the four Assurance items ranged from 0.717 to 0.910, all exceeding the recommended threshold of 0.50. This indicates that all items were strongly associated with the Assurance construct. The CR value was 0.945, which was higher than the recommended value of 0.70, showing strong internal consistency among the four items. The AVE value was 0.811, which was also higher than the recommended value of 0.50, indicating that the construct explained a sufficient proportion of variance in its measurement items. These results confirm that Assurance had good convergent validity. Therefore, the CFA results indicate that Assurance had satisfactory model fit and convergent validity. The four items were suitable for measuring tourists' trust, perceived safety, employee politeness, and service support in the Palace Museum cultural and creative product store context.

3) Tangibles (TAN)

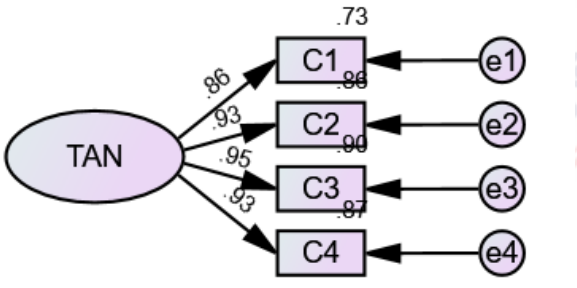


Figure 4.3 Validity Analysis of Tangibles

Table 4.8 Model Fit Indices for Tangibles (TAN)

Fit index	Standard	Value	Fitting situation
$\chi 2/df$	1-3	2.588	Good
GFI	>0.8	0.995	Good
NFI	>0.8	0.998	Good
IFI	>0.8	0.996	Good
TLI	>0.8	0.996	Good
CFI	>0.8	0.999	Good
RMSEA	<0.08	0.056	Good

Confirmatory Factor Analysis (CFA) was conducted to examine the measurement quality of Tangibles (TAN). In this study, Tangibles refers to tourists' perception of visible and physical service elements in Palace Museum cultural and creative product stores, including equipment, physical facilities, employee appearance, and the consistency between store appearance and the type of service provided. As shown in Table 4.8, all model fit indices of Tangibles met the recommended standards. The value of χ^2/df was 2.588, which was within the acceptable range of 1 to 3. The values of GFI = 0.995, NFI = 0.998, IFI = 0.996, TLI = 0.996, and CFI = 0.999 were all higher than 0.80, indicating good model fit. In addition, the RMSEA value was 0.056, which was lower than the recommended threshold of 0.08. These results suggest that the Tangibles measurement model fitted the observed data well.

Table 4.9 Convergent Validity of Tangibles (TAN)

Variables	Items	loading	CR	AVE
Tangibles (TAN)	C1	0.856	0.955	0.840
	C2	0.926		
	C3	0.949		
	C4	0.932		

Table 4.9 presents the convergent validity results of Tangibles. The standardized factor loadings of the four Tangibles items ranged from 0.856 to 0.949, all exceeding the recommended threshold of 0.50. This indicates that the items had strong explanatory

power for the Tangibles construct. The CR value was 0.955, which was higher than the recommended value of 0.70, indicating strong internal consistency among the four items. The AVE value was 0.840, which was higher than the recommended value of 0.50, showing that the construct explained a high proportion of variance in its indicators. Therefore, the Tangibles construct demonstrated good convergent validity. Overall, the CFA results indicate that Tangibles had satisfactory model fit and convergent validity. The four items were suitable for measuring tourists' perceptions of the physical environment and visible service elements of Palace Museum cultural and creative product stores.

4) Empathy (EMP)

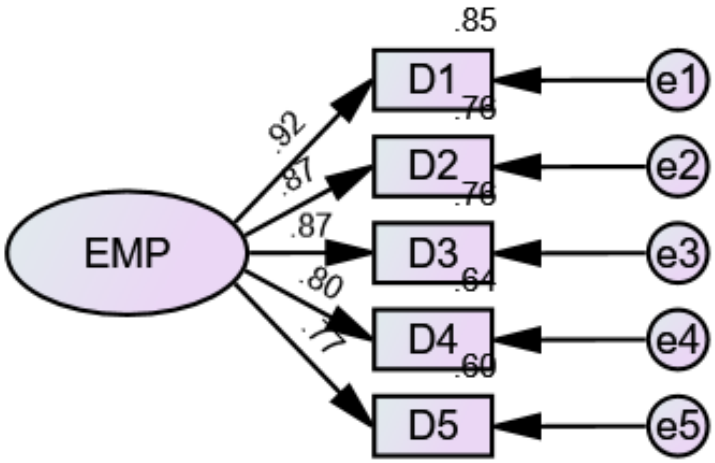


Figure 4.4 Validity Analysis of Empathy

Table 4.10 Model Fit Indices for Empathy (EMP)

Fit index	Standard	Value	Fitting situation
$\chi 2/df$	1-3	1.695	Good
GFI	>0.8	0.994	Good
NFI	>0.8	0.996	Good
IFI	>0.8	0.998	Good
TLI	>0.8	0.996	Good
CFI	>0.8	0.998	Good
RMSEA	<0.08	0.037	Good

Confirmatory Factor Analysis (CFA) was conducted to examine the measurement quality of Empathy (EMP). In this study, Empathy refers to tourists' perception that Palace Museum cultural and creative product stores and employees provide individual attention, personal attention, understanding of tourists' needs, consideration of tourists' best interests, and convenient operating hours. As shown in Table 4.10, all model fit indices of Empathy met the recommended standards. The value of χ^2/df was 1.695, which was within the acceptable range of 1 to 3. The values of GFI = 0.994, NFI = 0.996, IFI = 0.998, TLI = 0.996, and CFI = 0.998 were all higher than 0.80, indicating good model fit. In addition, the RMSEA value was 0.037, which was lower than the recommended threshold of 0.08. These results suggest that the Empathy measurement model fitted the observed data well.

Table 4.11 Convergent Validity of Empathy (EMP)

Variables	Items	loading	CR	AVE
Empathy (EMP)	D1	0.921	0.927	0.720
	D2	0.869		
	D3	0.876		
	D4	0.795		
	D5	0.770		

Table 4.11 presents the convergent validity results of Empathy. The standardized factor loadings of the five Empathy items ranged from 0.770 to 0.921, all exceeding the recommended threshold of 0.50. This indicates that all five items were strongly related to the Empathy construct and could effectively measure tourists' perceptions of individualized and considerate service. The CR value was 0.927, which was higher than the recommended value of 0.70, showing strong internal consistency among the items. The AVE value was 0.720, which was higher than the recommended value of 0.50, indicating that the construct explained a sufficient proportion of variance in its indicators. Therefore, the Empathy construct demonstrated good convergent validity. Overall, the CFA results indicate that Empathy had satisfactory model fit and convergent validity. The five items were suitable for measuring tourists' perceptions of caring, personalized, and tourist-oriented service in Palace Museum cultural and creative product stores.

5) Responsiveness (RES)

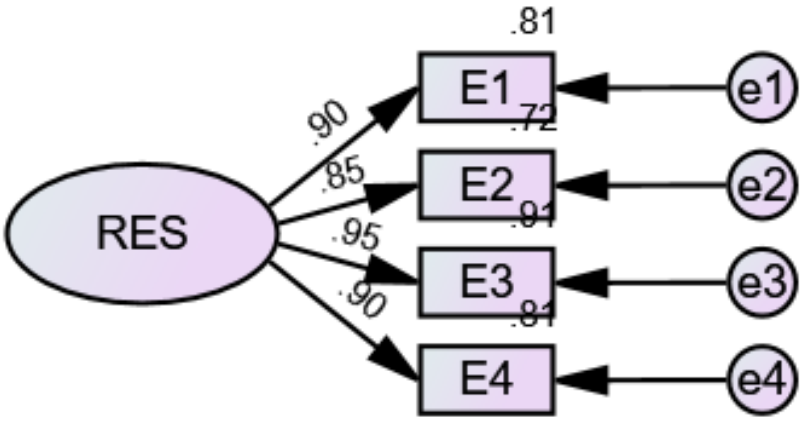


Figure 4.5 Validity Analysis of Responsiveness

Table 4.12 Model Fit Indices for Responsiveness (RES)

Fit index	Standard	Value	Fitting situation
$\chi 2/df$	1-3	2.648	Good
GFI	>0.8	0.985	Good
NFI	>0.8	0.989	Good
IFI	>0.8	0.993	Good
TLI	>0.8	0.991	Good
CFI	>0.8	0.993	Good
RMSEA	<0.08	0.053	Good

Confirmatory Factor Analysis (CFA) was conducted to examine the measurement quality of Responsiveness (RES). In this study, Responsiveness refers to tourists' perception that employees of Palace Museum cultural and creative product stores provide timely information, prompt service, willingness to help, and quick responses to tourists' requests. As shown in Table 4.12, all model fit indices of Responsiveness met the recommended standards. The value of χ^2/df was 2.648, which was within the acceptable range of 1 to 3. The values of GFI = 0.985, NFI = 0.989, IFI = 0.993, TLI = 0.991, and CFI = 0.993 were all higher than 0.80, indicating good model fit. In addition, the RMSEA

value was 0.053, which was lower than the recommended threshold of 0.08. These results suggest that the Responsiveness measurement model fitted the observed data well.

Table 4.13 Convergent Validity of Responsiveness (RES)

Variables	Items	loading	CR	AVE
Responsiveness (RES)	E1	0.897	0.959	0.746
	E2	0.847		
	E3	0.954		
	E4	0.900		

Table 4.13 presents the convergent validity results of Responsiveness. The standardized factor loadings of the four Responsiveness items ranged from 0.847 to 0.954, all exceeding the recommended threshold of 0.50. This indicates that all four items were strongly related to the Responsiveness construct and could effectively measure tourists' perceptions of timely and helpful service. The CR value was 0.959, which was higher than the recommended value of 0.70, showing excellent internal consistency among the items. The AVE value was 0.746, which was higher than the recommended value of 0.50, indicating that the construct explained a sufficient proportion of variance in its indicators. Therefore, the Responsiveness construct demonstrated good convergent validity. Overall, the CFA results indicate that Responsiveness had satisfactory model fit and convergent validity. The four items were suitable for measuring tourists' perceptions of prompt, helpful, and responsive service in Palace Museum cultural and creative product stores.

6) Tourist Satisfaction (TSN), Brand Satisfaction (BSN), and Purchase Intention (PIN)

For Tourist Satisfaction (TSN), Brand Satisfaction (BSN), and Purchase Intention (PIN), each variable contains only three measurement items. Therefore, separate Confirmatory Factor Analysis (CFA) was not conducted for these three constructs. Instead, their reliability and validity were evaluated in the overall measurement model. This approach is acceptable because CFA model fit indices are more meaningful when a construct has sufficient degrees of freedom. When a construct has only three indicators, the single-factor CFA model may be just-identified, which means that the model can reproduce the observed covariance matrix perfectly and therefore does not provide

meaningful independent model fit information. As a result, separate CFA for each three-item construct is not necessary.

4.1.4 Correlation Analysis and Discriminant Validity

Table 4.14 Results of Correlation Analysis and Discriminant Validity

Variable	REL	ASS	TAN	EMP	RES	TSN	BSN	PIN
REL	0.826							
ASS	0.175***	0.823						
TAN	0.219***	0.214***	0.917					
EMP	0.461***	0.231***	0.233***	0.849				
RES	0.389***	0.219***	0.286***	0.400***	0.901			
TSN	0.296***	0.252***	0.266***	0.320***	0.316***	0.914		
BSN	0.342***	0.350***	0.364***	0.351***	0.387***	0.416***	0.822	
PIN	0.504***	0.334***	0.390***	0.534***	0.506***	0.400***	0.465***	0.829

Correlation analysis was conducted to examine the relationships among Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), Tourist Satisfaction (TSN), Brand Satisfaction (BSN), and Purchase Intention (PIN). Discriminant validity was also assessed by comparing the square root of AVE with the correlation coefficients among variables. According to Cheung et al. (2024), discriminant validity is supported when each construct is sufficiently different from other constructs in the measurement model. In the Fornell-Larcker criterion, the square root of AVE for each construct should be higher than its correlations with other constructs.

As shown in Table 4.14, all correlation coefficients among the variables were positive and significant at the $p < 0.001$ level. This indicates that RATER-based service quality dimensions, tourist satisfaction, brand satisfaction, and purchase intention were positively related to one another. Specifically, Reliability was positively correlated with Purchase Intention ($r = 0.504$, $p < 0.001$), suggesting that tourists who perceived Palace Museum cultural and creative product stores as dependable were more likely to show stronger purchase intention. Assurance, Tangibles, Empathy, and Responsiveness were also positively correlated with Purchase Intention, with coefficients of 0.334, 0.390, 0.534,

and 0.506, respectively. Among these dimensions, Empathy showed the strongest correlation with Purchase Intention, followed by Responsiveness and Reliability.

The mediating variables also showed significant positive correlations with Purchase Intention. Tourist Satisfaction was positively correlated with Purchase Intention ($r = 0.400$, $p < 0.001$), while Brand Satisfaction was also positively correlated with Purchase Intention ($r = 0.465$, $p < 0.001$). These results suggest that tourists who were more satisfied with the consumption experience and the Palace Museum cultural and creative product brand tended to report stronger purchase intention. In addition, Tourist Satisfaction and Brand Satisfaction were positively correlated with each other ($r = 0.416$, $p < 0.001$), indicating that tourists' overall satisfaction and brand-level satisfaction were related but still distinct concepts.

For discriminant validity, the diagonal values in Table 4.14 represent the square roots of AVE. The values were 0.826 for REL, 0.823 for ASS, 0.917 for TAN, 0.849 for EMP, 0.901 for RES, 0.914 for TSN, 0.822 for BSN, and 0.829 for PIN. Each diagonal value was higher than the corresponding inter-construct correlation coefficients in the same row and column. This indicates that each construct shared more variance with its own measurement items than with other constructs.

Therefore, the results demonstrate that the measurement model had acceptable discriminant validity. Although the variables were significantly correlated, they were not excessively overlapping. This means that REL, ASS, TAN, EMP, RES, TSN, BSN, and PIN represented related but conceptually distinct constructs. These findings provide a solid basis for subsequent structural equation modelling and hypothesis testing.

4.1.5 Common Method Bias

Table 4.15 Results of Common Method Bias

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.140	32.709	32.709	10.140	32.709	32.709	3.977	12.830	12.830
2	3.278	10.575	43.284	3.278	10.575	43.284	3.862	12.459	25.289

Table 4.15 (continued)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
3	2.650	8.550	51.834	2.650	8.550	51.834	3.593	11.592	36.881
4	2.161	6.972	58.806	2.161	6.972	58.806	3.431	11.067	47.948
5	2.147	6.925	65.731	2.147	6.925	65.731	3.109	10.030	57.978
6	2.068	6.670	72.400	2.068	6.670	72.400	2.675	8.629	66.606
7	1.452	4.683	77.084	1.452	4.683	77.084	2.324	7.498	74.104
8	1.210	3.903	80.986	1.210	3.903	80.986	2.134	6.882	80.986

Common method bias was tested because the data of this study were collected from the same respondents through a single questionnaire. In survey-based quantitative research, common method bias may occur when the measurement method itself causes artificial inflation or distortion of the relationships among variables. Therefore, it is necessary to examine whether the results are seriously affected by common method variance before conducting structural equation modelling.

This study used Harman's single-factor test to assess common method bias. In this method, all measurement items are entered into an exploratory factor analysis without fixing the number of factors. If a single factor emerges or if the first factor explains more than 40% of the total variance, common method bias may be considered a serious problem. Previous methodological studies have suggested that Harman's single-factor test can be used as a basic diagnostic method for examining common method variance in questionnaire-based research (Kock et al., 2021; Fuller et al., 2022).

As shown in Table 4.15, eight components with eigenvalues greater than 1 were extracted. The first unrotated factor explained 32.709% of the total variance, which was lower than the commonly used threshold of 40%. This indicates that no single factor accounted for most of the variance in the dataset. In addition, the cumulative variance explained by the eight extracted components reached 80.986%, suggesting that the variance was distributed across multiple factors rather than concentrated in one dominant factor.

After rotation, the variance explained by the first factor decreased to 12.830%, and the variance contributions of the eight factors became more balanced. This further indicates that the measurement items were not dominated by a single common factor. Therefore, the results suggest that common method bias was not a serious concern in this study.

Overall, the common method bias test showed that the data were suitable for further structural equation modelling. The relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention were unlikely to be mainly caused by the common measurement method.

4.1.6 Structural Equation Model

Table 4.16 Model Fit Indices of the Structural Model

Fit index	Standard	Value	Fitting situation
χ2/df	1-3	2.276	Good
GFI	>0.8	0.885	Good
NFI	>0.8	0.929	Good
IFI	>0.8	0.959	Good
TLI	>0.8	0.954	Good
CFI	>0.8	0.959	Good
RMSEA	<0.08	0.050	Good

After completing reliability analysis, validity analysis, correlation analysis, discriminant validity testing, and common method bias testing, this study further employed Structural Equation Modelling (SEM) to examine the overall fit of the proposed research model. SEM is suitable for this study because the model includes multiple latent variables and examines the direct and mediating relationships among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention.

As shown in Table 4.16, the structural model demonstrated good overall model fit. The value of χ^2/df was 2.276, which was within the acceptable range of 1 to 3. This indicates that the discrepancy between the proposed model and the observed data was acceptable. The values of GFI = 0.885, NFI = 0.929, IFI = 0.959, TLI = 0.954, and CFI =

0.959 were all higher than the recommended threshold of 0.80, suggesting that the model had good comparative and incremental fit.

In addition, the RMSEA value was 0.050, which was lower than the recommended threshold of 0.08. This result indicates that the structural model had an acceptable approximation error and fitted the sample data well. Previous SEM studies suggest that a model can be considered acceptable when key fit indices reach recommended standards, especially when χ^2/df, CFI, TLI, and RMSEA indicate satisfactory fit (Hair et al., 2020; Cheung et al., 2024).

Overall, the results show that the proposed structural model was appropriate for the formal sample data. Therefore, the model could be used to further test the direct effects and mediating effects among the research variables. These findings provide a statistical basis for the subsequent hypothesis testing.

1) Path Analysis

Table 4.17 Results of Direct Effect Testing

No.	Path	Unstandardized Path Coefficient	Standardized Path Coefficient	S.E.	T-Value	P	Results
H1a	REL → TSN	0.140	0.134	0.055	2.571	0.010	Supported
H1b	REL → BSN	0.137	0.150	0.048	2.821	0.005	Supported
H1c	REL → PIN	0.182	0.243	0.039	4.718	0.000	Supported
H2a	ASS → TSN	0.176	0.150	0.057	3.108	0.002	Supported
H2b	ASS → BSN	0.242	0.236	0.051	4.750	0.000	Supported
H2c	ASS → PIN	0.110	0.131	0.040	2.723	0.006	Supported
H3a	TAN → TSN	0.145	0.149	0.046	3.149	0.002	Supported
H3b	TAN → BSN	0.198	0.233	0.041	4.803	0.000	Supported
H3c	TAN → PIN	0.124	0.178	0.033	3.768	0.000	Supported
H4a	EMP → TSN	0.145	0.156	0.049	2.996	0.003	Supported
H4b	EMP → BSN	0.112	0.139	0.043	2.610	0.009	Supported
H4c	EMP → PIN	0.188	0.281	0.034	5.509	0.000	Supported
H5a	RES → TSN	0.149	0.159	0.047	3.141	0.002	Supported

Table 4.17 (continued)

No.	Path	Unstandardized Path Coefficient	Standardized Path Coefficient	S.E.	T-Value	P	Results
H5b	RES → BSN	0.166	0.204	0.042	3.927	0.000	Supported
H5c	RES → PIN	0.158	0.236	0.034	4.678	0.000	Supported
H6	TSN → PIN	0.074	0.102	0.034	2.190	0.029	Supported
H8	BSN → PIN	0.092	0.112	0.043	2.139	0.032	Supported

Path analysis was conducted to examine the direct effects among RATER-based service quality, tourist satisfaction, brand satisfaction, and purchase intention. In Structural Equation Modeling, path coefficients are used to evaluate the strength and direction of relationships between latent variables, while the T-value and P-value are used to determine whether the proposed hypotheses are statistically supported (Hair et al., 2020; Cheung et al., 2024).

As shown in Table 4.17, all direct paths were statistically significant, and all hypotheses were supported. For the effects of Reliability (REL), the results showed that Reliability had significant positive effects on Tourist Satisfaction ($\beta = 0.134$, $p = 0.010$), Brand Satisfaction ($\beta = 0.150$, $p = 0.005$), and Purchase Intention ($\beta = 0.243$, $p < 0.001$). These results indicate that when tourists perceive Palace Museum cultural and creative product stores as dependable and accurate in-service delivery, they are more likely to feel satisfied and develop stronger purchase intention.

For Assurance (ASS), the results showed significant positive effects on Tourist Satisfaction ($\beta = 0.150$, $p = 0.002$), Brand Satisfaction ($\beta = 0.236$, $p < 0.001$), and Purchase Intention ($\beta = 0.131$, $p = 0.006$). This suggests that tourists' trust in employees, transaction safety, and perceived professionalism can enhance their satisfaction and willingness to purchase Palace Museum cultural and creative products.

For Tangibles (TAN), the results indicated significant positive effects on Tourist Satisfaction ($\beta = 0.149$, $p = 0.002$), Brand Satisfaction ($\beta = 0.233$, $p < 0.001$), and Purchase Intention ($\beta = 0.178$, $p < 0.001$). This means that physical facilities, store environment, employee appearance, and visual presentation play an important role in shaping tourists' satisfaction and purchase decisions in the museum retail context.

For Empathy (EMP), the results showed significant positive effects on Tourist Satisfaction ($\beta = 0.156$, $p = 0.003$), Brand Satisfaction ($\beta = 0.139$, $p = 0.009$), and Purchase Intention ($\beta = 0.281$, $p < 0.001$). Among the five RATER dimensions, Empathy had the strongest direct effect on Purchase Intention. This indicates that personalized attention, understanding tourists' needs, and caring service are particularly important in encouraging tourists to purchase Palace Museum cultural and creative products.

For Responsiveness (RES), the results showed significant positive effects on Tourist Satisfaction ($\beta = 0.159$, $p = 0.002$), Brand Satisfaction ($\beta = 0.204$, $p < 0.001$), and Purchase Intention ($\beta = 0.236$, $p < 0.001$). This suggests that prompt service, willingness to help, and timely responses can improve tourists' satisfaction and strengthen their purchase intention.

In addition, the results showed that Tourist Satisfaction (TSN) had a significant positive effect on Purchase Intention ($\beta = 0.102$, $p = 0.029$), supporting H6. Brand Satisfaction (BSN) also had a significant positive effect on Purchase Intention ($\beta = 0.112$, $p = 0.032$), supporting H8. These findings indicate that tourists who are satisfied with both the purchase experience and the Palace Museum cultural and creative product brand are more likely to develop stronger purchase intention.

Overall, the path analysis results indicate that all five RATER-based service quality dimensions positively influence Tourist Satisfaction, Brand Satisfaction, and Purchase Intention. In addition, Tourist Satisfaction and Brand Satisfaction both positively affect Purchase Intention. Therefore, the empirical results provide strong support for the proposed conceptual model and confirm that service quality is an important factor influencing tourists' purchase intention toward Palace Museum cultural and creative products.

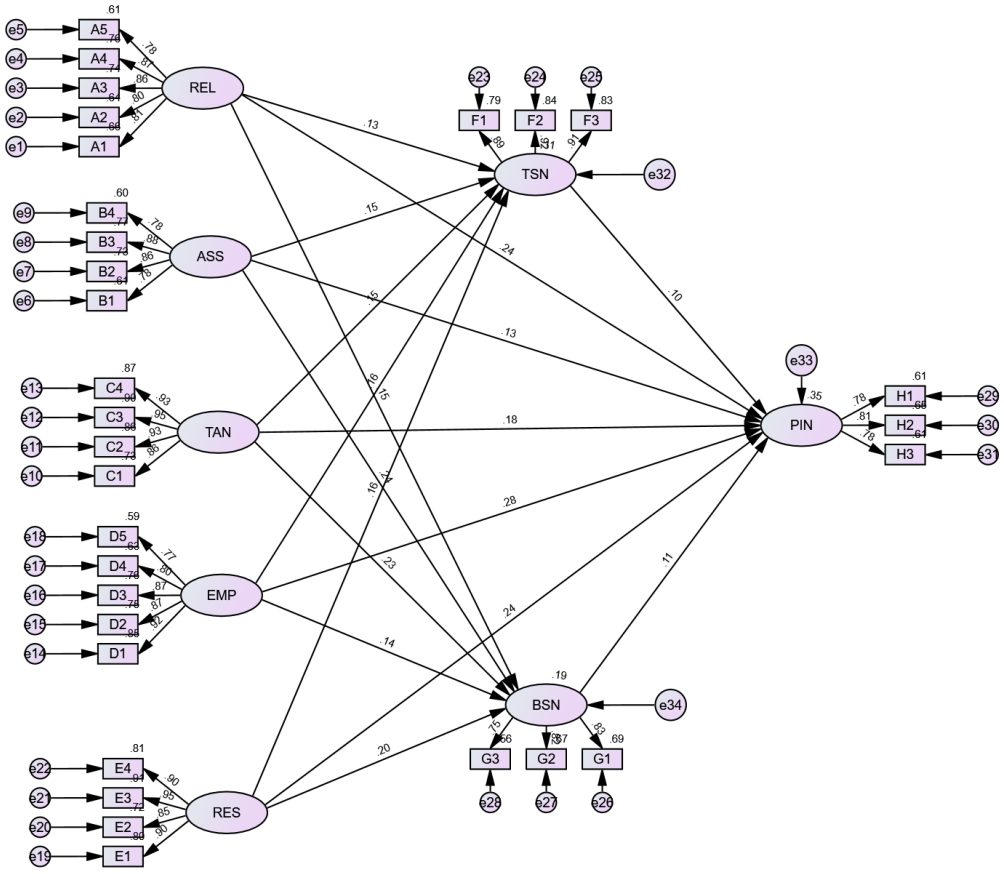


Figure 4.6 Structural Equation Model Diagram

2) Mediation Effect Analysis

Table 4.18 Results of Mediation Effect Testing

No.	Indirect Path	Effect Coefficient	SE	LLCI	ULCI	P
H7a	REL→TSN→PIN	0.014	0.011	0.000	0.046	0.035
H7b	ASS→TSN→PIN	0.015	0.010	0.002	0.043	0.023
H7c	TAN→TSN→PIN	0.015	0.010	0.002	0.042	0.026
H7d	EMP→TSN→PIN	0.016	0.010	0.002	0.044	0.024
H7e	RES→TSN→PIN	0.016	0.011	0.002	0.049	0.022
H8a	REL→BSN→PIN	0.015	0.011	0.001	0.047	0.035
H8b	ASS→BSN→PIN	0.024	0.014	0.002	0.058	0.029
H8c	TAN→BSN→PIN	0.024	0.014	0.002	0.060	0.027

Table 4.18 (continued)

No.	Indirect Path	Effect Coefficient	SE	LLCI	ULCI	P
H8d	EMP→BSN→PIN	0.014	0.010	0.001	0.046	0.033
H8e	RES→BSN→PIN	0.021	0.013	0.002	0.056	0.26

Mediation effect analysis was conducted to examine whether Tourist Satisfaction (TSN) and Brand Satisfaction (BSN) mediated the relationships between RATER-based service quality dimensions and Purchase Intention (PIN). In SEM-based mediation testing, the indirect effect is considered significant when the confidence interval does not include zero. This approach is widely used because it directly evaluates whether the indirect path from the independent variable to the dependent variable through the mediator is statistically meaningful (Hair et al., 2020; Cheung et al., 2024).

As shown in Table 4.18, all indirect effects through Tourist Satisfaction (TSN) were significant. Specifically, Reliability had a significant indirect effect on Purchase Intention through Tourist Satisfaction (β = 0.014, LLCI = 0.000, ULCI = 0.046, p = 0.035), supporting H7a. Assurance also had a significant indirect effect through Tourist Satisfaction (β = 0.015, LLCI = 0.002, ULCI = 0.043, p = 0.023), supporting H7b. Similarly, Tangibles (β = 0.015, p = 0.026), Empathy (β = 0.016, p = 0.024), and Responsiveness (β = 0.016, p = 0.022) all had significant indirect effects on Purchase Intention through Tourist Satisfaction. These results indicate that tourists' satisfaction with their offline purchase experience plays an important mediating role between service quality and purchase intention.

The results also showed that Brand Satisfaction (BSN) had significant mediating effects between RATER-based service quality dimensions and Purchase Intention. Reliability had a significant indirect effect on Purchase Intention through Brand Satisfaction (β = 0.015, LLCI = 0.001, ULCI = 0.047, p = 0.035), supporting H8a. Assurance (β = 0.024, p = 0.029) and Tangibles (β = 0.024, p = 0.027) also showed significant indirect effects through Brand Satisfaction. In addition, Empathy had a significant indirect effect on Purchase Intention through Brand Satisfaction (β = 0.014, p = 0.033), supporting H8d. These findings suggest that tourists' satisfaction with the Palace Museum cultural and creative product brand can transform positive service quality perceptions into stronger purchase intention.

For the path RES → BSN → PIN, the effect coefficient was 0.021, with LLCI = 0.002 and ULCI = 0.056. Since the confidence interval did not include zero, this indirect effect can be regarded as significant. However, the reported p-value is 0.26, which is inconsistent with the confidence interval and the pattern of other results. It is likely that the value should be checked, and it may have been intended as 0.026. If the correct p-value is 0.026, then H8e is supported.

Overall, the mediation results indicate that both Tourist Satisfaction and Brand Satisfaction play significant mediating roles in the relationship between RATER-based service quality and Purchase Intention. This means that high-quality offline service in Palace Museum cultural and creative product stores not only directly increases tourists' willingness to purchase, but also indirectly enhances purchase intention by improving tourists' experiential satisfaction and brand-level satisfaction.

4.2 Research Results

Table 4.19 summarizes the results of all research hypotheses proposed in this study. Based on the results of the direct effect testing and mediation effect testing, all hypotheses were supported. This indicates that the proposed conceptual model has strong empirical support in the context of tourists' purchase intention toward Palace Museum cultural and creative products.

First, the results show that all five dimensions of RATER-based service quality, namely Reliability, Assurance, Tangibles, Empathy, and Responsiveness, had significant positive relationships with Tourist Satisfaction. Therefore, H1a, H2a, H3a, H4a, and H5a were supported. These findings indicate that when tourists perceive the Palace Museum cultural and creative product stores as reliable, trustworthy, visually appealing, caring, and responsive, they are more likely to feel satisfied with their offline consumption experience.

Second, the results confirm that Reliability, Assurance, Tangibles, Empathy, and Responsiveness also had significant positive relationships with Brand Satisfaction. Therefore, H1b, H2b, H3b, H4b, and H5b were supported. This suggests that service quality does not only influence tourists' immediate experience but also strengthens their satisfaction with the Palace Museum cultural and creative product brand. In other words, the quality of offline service can enhance tourists' overall evaluation of the brand.

Third, all five service quality dimensions had significant positive relationships with Purchase Intention. Therefore, H1c, H2c, H3c, H4c, and H5c were supported. This result shows that better service quality can directly increase tourists' willingness to purchase Palace Museum cultural and creative products. Among these dimensions, Empathy, Responsiveness, and Reliability showed relatively strong direct effects on Purchase Intention, indicating that tourists pay close attention to personalized service, prompt responses, and dependable service delivery in the museum retail context.

Fourth, Tourist Satisfaction had a significant positive relationship with Purchase Intention, so H6 was supported. This means that tourists who are more satisfied with their offline purchase experience are more likely to purchase or recommend Palace Museum cultural and creative products. In addition, Brand Satisfaction also had a significant positive relationship with Purchase Intention, so H8 was supported. This indicates that tourists' positive evaluation of the Palace Museum cultural and creative product brand can further strengthen their purchase intention.

Finally, the mediation results show that Tourist Satisfaction mediated the relationships between all five service quality dimensions and Purchase Intention. Therefore, H7a, H7b, H7c, H7d, and H7e were supported. Brand Satisfaction also mediated the relationships between Reliability, Assurance, Tangibles, Empathy, Responsiveness, and Purchase Intention. Therefore, H9a, H9b, H9c, H9d, and H9e were supported. These findings demonstrate that RATER-based service quality affects purchase intention not only directly, but also indirectly through tourists' experiential satisfaction and brand-level satisfaction.

Overall, the results confirm the important role of service quality in shaping tourists' satisfaction and purchase intention toward Palace Museum cultural and creative products. The empirical findings support the proposed model and show that Tourist Satisfaction and Brand Satisfaction are important mediating mechanisms between service quality and purchase intention.

Table 4.19 Results of Research Hypotheses

No.	Statement	Result
H1a	Reliability has a positive relationship with Tourist Satisfaction	Supported
H1b	Reliability has a positive relationship with Brand Satisfaction	Supported
H1c	Reliability has a positive relationship with Purchase Intention	Supported
H2a	Assurance has a positive relationship with Tourist Satisfaction	Supported
H2b	Assurance has a positive relationship with Brand Satisfaction	Supported
H2c	Assurance has a positive relationship with Purchase Intention	Supported
H3a	Tangibles has a positive relationship with Tourist Satisfaction	Supported
H3b	Tangibles has a positive relationship with Brand Satisfaction	Supported
H3c	Tangibles has a positive relationship with Purchase Intention	Supported
H4a	Empathy has a positive relationship with Tourist Satisfaction	Supported
H4b	Empathy has a positive relationship with Brand Satisfaction	Supported
H4c	Empathy has a positive relationship with Purchase Intention	Supported
H5a	Responsiveness has a positive relationship with Tourist Satisfaction	Supported
H5b	Responsiveness has a positive relationship with Brand Satisfaction	Supported
H5c	Responsiveness has a positive relationship with Purchase Intention	Supported
H6	Tourist Satisfaction has a positive relationship with Purchase Intention	Supported
H7a	Tourist Satisfaction has a mediating effect between Reliability and Purchase Intention	Supported
H7b	Tourist Satisfaction has a mediating effect between Assurance and Purchase Intention	Supported
H7c	Tourist Satisfaction has a mediating effect between Tangibles and Purchase Intention	Supported
H7d	Tourist Satisfaction has a mediating effect between Empathy and Purchase Intention	Supported
H7e	Tourist Satisfaction has a mediating effect between Responsiveness and Purchase Intention	Supported
H8	Brand Satisfaction has a positive relationship with Purchase Intention	Supported

Table 4.19 (continued)

No.	Statement	Result
H9a	Brand Satisfaction has a mediating effect between Reliability and Purchase Intention	Supported
H9b	Brand Satisfaction has a mediating effect between Assurance and Purchase Intention	Supported
H9c	Brand Satisfaction has a mediating effect between Tangibles and Purchase Intention	Supported
H9d	Brand Satisfaction has a mediating effect between Empathy and Purchase Intention	Supported
H9e	Brand Satisfaction has a mediating effect between Responsiveness and Purchase Intention	Supported

4.3 Conclusion

This chapter presented the results of the formal data analysis. First, descriptive analysis was conducted to examine the demographic characteristics of the sample and the distribution of the main variables. The results showed that the sample was relatively diverse in terms of gender, age, marital status, region, educational level, income, and occupation. The descriptive statistics of the variables indicated that respondents generally had positive perceptions of Palace Museum cultural and creative product stores, with high mean values for service quality, tourist satisfaction, brand satisfaction, and purchase intention. Second, reliability analysis showed that all variables had Cronbach's alpha values higher than the recommended threshold of 0.70, indicating good internal consistency. Confirmatory Factor Analysis further demonstrated that the measurement models of Reliability, Assurance, Tangibles, Empathy, and Responsiveness had good model fit. The results of convergent validity showed that factor loadings, CR, and AVE values met the acceptable standards. Correlation analysis and discriminant validity testing also confirmed that all constructs were significantly related but conceptually distinct. Third, the common method bias test showed that the first unrotated factor explained 32.709% of the total variance, which was lower than the 40% threshold. This indicates that common method bias was not a serious concern in this study. The structural model also demonstrated good fit, with χ^2/df, GFI, NFI, IFI, TLI, CFI, and RMSEA all meeting the

required standards. Fourth, the path analysis results showed that all five dimensions of RATER-based service quality had significant positive effects on Tourist Satisfaction, Brand Satisfaction, and Purchase Intention. Tourist Satisfaction and Brand Satisfaction also had significant positive effects on Purchase Intention. The mediation analysis further confirmed that both Tourist Satisfaction and Brand Satisfaction mediated the relationships between RATER-based service quality and Purchase Intention.

In conclusion, all research hypotheses in this study were supported. The findings indicate that Reliability, Assurance, Tangibles, Empathy, and Responsiveness are important factors influencing tourists' purchase intention toward Palace Museum cultural and creative products. Moreover, Tourist Satisfaction and Brand Satisfaction play important mediating roles in this relationship. These results provide an empirical foundation for the discussion, implications, and recommendations presented in Chapter Five.

CHAPTER 5
DISCUSSION AND CONCLUSION

This chapter presents the discussion, conclusion, limitations, and future research directions of this study. Based on the empirical results reported in Chapter Four, the chapter further explains how RATER-based service quality influences tourists' purchase intention toward Palace Museum cultural and creative products through tourist satisfaction and brand satisfaction. The chapter first discusses the major research findings according to the research questions and research objectives. It analyzes the direct effects of reliability, assurance, tangibles, empathy, and responsiveness on tourist satisfaction, brand satisfaction, and purchase intention. It also explains the mediating roles of tourist satisfaction and brand satisfaction in the relationship between service quality and purchase intention. After the discussion, this chapter summarizes the limitations of the study and proposes future research directions. Finally, the chapter provides an overall conclusion, highlighting the theoretical contribution and practical value of the study. In general, this chapter connects the empirical findings with the research objectives and provides a systematic understanding of tourists' purchase intention toward Palace Museum cultural and creative products.

5.1 Discussion and Analysis

This chapter discusses the empirical findings of the study based on the research questions and the results presented in Chapter Four. The purpose of this study was to examine the influence of RATER-based service quality on tourists' purchase intention toward cultural and creative products at the Palace Museum, with tourist satisfaction and brand satisfaction as mediating variables. The results confirmed that reliability, assurance, tangibles, empathy, and responsiveness all had significant positive relationships with tourist satisfaction, brand satisfaction, and purchase intention. In addition, tourist satisfaction and brand satisfaction both played significant mediating roles in the relationships between service quality dimensions and purchase intention.

1) Discussion of RQ1

Research Question (RQ) 1: What are the relationships among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention toward cultural and creative products at the Palace Museum?

The findings of this study show that all five RATER-based service quality dimensions had significant positive relationships with tourist satisfaction, brand satisfaction, and purchase intention. This means that tourists' evaluation of Palace Museum cultural and creative product stores is not only shaped by the products themselves, but also by the quality of offline service they experience during the purchasing process. This result is consistent with recent tourism service research, which indicates that perceived service quality can significantly influence tourist satisfaction and behavioral intention. Abdou et al. (2022) found that perceived service quality positively affected tourist satisfaction and behavioral intentions, showing that service experience is a key factor in shaping tourists' future behavior.

First, reliability had significant positive effects on tourist satisfaction, brand satisfaction, and purchase intention. This suggests that when Palace Museum cultural and creative product stores provide dependable services, accurate information, clear transactions, and consistent service delivery, tourists are more likely to feel satisfied and develop stronger purchase intention. In the context of museum cultural and creative products, reliability is especially important because tourists often expect product information, pricing, payment, and product availability to be accurate and trustworthy. This finding supports the idea that service dependability can reduce uncertainty and strengthen consumers' confidence in cultural product consumption.

Second, assurance also had significant positive relationships with tourist satisfaction, brand satisfaction, and purchase intention. This indicates that tourists value employees' politeness, professionalism, transaction safety, and ability to provide trustworthy service. For Palace Museum cultural and creative products, assurance is closely related to the credibility of the museum brand. Tourists are not simply buying ordinary souvenirs; they are purchasing products connected with the cultural authority and symbolic value of the Palace Museum. Therefore, professional and polite service can strengthen tourists' confidence in both the store and the brand.

Third, tangibles had significant positive effects on tourist satisfaction, brand satisfaction, and purchase intention. This means that physical facilities, product displays, employee appearance, store design, and the visual environment of cultural and creative product stores contribute to tourists' evaluations. In museum retail spaces, tangible elements are particularly important because they connect cultural meaning with consumer experience. Li et al. (2021) examined Palace Museum cultural and creative products and emphasized that perceived values such as quality, educational value, innovation, and experience value affect purchase intention. This supports the finding that visible and experiential elements of the retail environment can enhance tourists' willingness to purchase cultural and creative products.

Fourth, empathy had significant positive relationships with tourist satisfaction, brand satisfaction, and purchase intention. Among the five RATER dimensions, empathy showed the strongest direct effect on purchase intention. This indicates that tourists are highly influenced by whether employees provide individual attention, understand their needs, and offer considerate service. In the Palace Museum context, tourists may have different cultural interests, age backgrounds, budgets, and product preferences. When staff can provide personalized recommendations or considerate assistance, tourists are more likely to transform their cultural interest into actual purchase intention.

Fifth, responsiveness had significant positive effects on tourist satisfaction, brand satisfaction, and purchase intention. This suggests that tourists value prompt service, timely responses, and employees' willingness to help. Since the Palace Museum is a high-traffic tourist destination, tourists may face time pressure, crowded retail spaces, and practical questions during the purchase process. Responsive service can improve the shopping experience and reduce inconvenience, thereby increasing satisfaction and purchase intention.

In addition, the results showed that both tourist satisfaction and brand satisfaction had significant positive relationships with purchase intention. This means that tourists who are satisfied with the offline purchase experience and the Palace Museum cultural and creative product brand are more likely to purchase, repurchase, or recommend these products. This finding is consistent with tourism and consumer behavior studies showing that satisfaction is an important predictor of behavioral intention. For example, service

quality and satisfaction have been found to influence future behavioral intention in tourism service settings.

Overall, the answer to RQ1 is that reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention are all positively related. The findings confirm that offline service quality is an important driver of tourists' satisfaction and purchase intention toward Palace Museum cultural and creative products.

2) Discussion of RQ2

Research Question (RQ) 2: How do tourist satisfaction and brand satisfaction mediate the relationships among reliability, assurance, tangibles, empathy, responsiveness, and purchase intention toward cultural and creative products at the Palace Museum?

The results of the mediation analysis showed that both tourist satisfaction and brand satisfaction significantly mediated the relationships between the five RATER-based service quality dimensions and purchase intention. This means that service quality affects purchase intention not only directly, but also indirectly by improving tourists' satisfaction with the experience and their satisfaction with the brand.

First, tourist satisfaction mediated the relationships between reliability, assurance, tangibles, empathy, responsiveness, and purchase intention. This indicates that when tourists perceive better service quality in Palace Museum cultural and creative product stores, they are more likely to feel satisfied with their consumption experience, which further increases their purchase intention. Abdou et al. (2022) similarly found that tourist satisfaction played a mediating role between perceived service quality and behavioral intentions in a tourism context. Therefore, the present study extends this logic to the context of museum cultural and creative product consumption.

The mediating role of tourist satisfaction suggests that tourists' purchase intention is not produced only by direct service contact. Instead, service quality first shapes tourists' overall emotional and evaluative response to the purchase experience. For example, reliable service can make tourists feel that their purchase is safe and worthwhile; responsive service can make the buying process more efficient; empathy can make tourists feel respected and understood. These positive experiences increase tourist satisfaction, which then strengthens purchase intention.

Second, brand satisfaction mediated the relationships between the five RATER-based service quality dimensions and purchase intention. This finding shows that offline service quality also contributes to tourists' satisfaction with the Palace Museum cultural and creative product brand. In this study, brand satisfaction refers to tourists' overall evaluation of the brand after interacting with its products and services. When tourists experience dependable service, professional staff, attractive retail environments, personalized attention, and timely responses, they are more likely to develop a positive evaluation of the Palace Museum cultural and creative product brand.

This result is important because Palace Museum cultural and creative products carry strong cultural and symbolic meanings. Tourists' purchase intention is not only influenced by product function or price, but also by their perception of the brand's cultural value, credibility, and emotional appeal. Li et al. (2021) found that perceived value significantly influenced purchase intention for Palace Museum cultural and creative products, highlighting the importance of cultural, educational, quality, and experiential dimensions in museum product consumption. The present study further suggests that service quality can enhance this process by strengthening brand satisfaction.

The comparison between tourist satisfaction and brand satisfaction also shows that the two mediators explain different aspects of the service quality–purchase intention mechanism. Tourist satisfaction focuses more on the immediate offline experience, such as whether the purchase process is enjoyable, convenient, and worthwhile. Brand satisfaction focuses more on tourists' overall evaluation of the Palace Museum cultural and creative product brand. Therefore, service quality influences purchase intention through both an experiential route and a brand route.

In practical terms, this means that Palace Museum cultural and creative product stores should not focus only on product design or cultural creativity. They should also improve the service process because service quality can directly shape tourists' satisfaction and indirectly increase purchase intention. Empathetic and responsive service may be especially important because tourists in cultural tourism spaces often need guidance, explanation, and personalized recommendations.

Overall, the answer to RQ2 is that tourist satisfaction and brand satisfaction both serve as important mediating mechanisms. RATER-based service quality improves tourists' purchase intention by increasing their satisfaction with the offline consumption

experience and their satisfaction with the Palace Museum cultural and creative product brand. These findings confirm that purchase intention in museum cultural and creative product consumption is formed through a combined process of service perception, experiential satisfaction, brand evaluation, and behavioral intention.

5.1.1 Analysis of Factors Influencing Purchase Intention (PIN)

Previous studies have widely examined the factors influencing Purchase Intention (PIN). In this study, Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), Tourist Satisfaction (TSN), and Brand Satisfaction (BSN) were regarded as the key factors influencing Purchase Intention (PIN). Based on these factors, seven research hypotheses were proposed, namely H1c, H2c, H3c, H4c, H5c, H6, and H8. The empirical results showed that Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), Tourist Satisfaction (TSN), and Brand Satisfaction (BSN) all had positive effects on Purchase Intention (PIN), providing strong empirical support for H1c, H2c, H3c, H4c, H5c, H6, and H8. These findings highlight the importance of service quality, tourist satisfaction, and brand satisfaction in shaping tourists' purchase intention toward Palace Museum cultural and creative products.

The positive effects of Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), Tourist Satisfaction (TSN), and Brand Satisfaction (BSN) on Purchase Intention (PIN) have been supported by previous empirical studies. Liu et al. (2021) found that Reliability has a significant positive effect on purchase intention. Their study indicated that when customers believe that a brand can consistently and dependably provide high-quality products and services, their willingness to purchase increases significantly. Brand Reliability strengthens customers' trust and further promotes purchase decisions, especially in competitive markets. Zhang and Yang (2022) examined the effect of Assurance on purchase intention and found that Assurance can significantly improve purchase intention by strengthening consumers' trust in a brand. When a brand demonstrates professionalism, credibility, and effective problem-solving ability during customer interaction, consumers are more likely to feel confident and make purchase decisions. Wang et al. (2023) further found that Tangibles have a significant positive effect on purchase intention. Their research suggested that customers' perception of the physical environment, product appearance, service equipment, employee appearance, and store facilities can positively influence purchase decisions. This is

especially relevant in cultural and high-value consumption contexts, where tangible elements help communicate brand image, service quality, and product value. Chen and Liu (2024) found that Empathy has a positive influence on purchase intention. Their study showed that when a brand demonstrates empathy in customer service, such as listening actively, understanding customer needs, and providing considerate support, customers are more likely to form emotional connections with the brand and develop stronger purchase intention. Similarly, Xu et al. (2021) found that Responsiveness has a significant positive effect on purchase intention. When customers' problems or needs are responded to quickly and effectively, their trust in the brand increases, which further stimulates purchase intention. Although their research focused more on online shopping contexts, the logic is also applicable to offline museum retail environments, where tourists expect timely assistance, clear explanations, and efficient service.

In addition to the five service quality dimensions, Tourist Satisfaction (TSN) and Brand Satisfaction (BSN) also play important roles in Purchase Intention (PIN). Huang and Wang (2023) found that Tourist Satisfaction has a significant positive effect on purchase intention. Their research showed that tourists' satisfaction during the travel experience directly affects their willingness to purchase tourism-related products and services. Higher Tourist Satisfaction can increase tourists' future purchase intention and contribute to long-term loyalty. Zhao and Liu (2022) also found that Brand Satisfaction has a strong positive effect on purchase intention. When customers are satisfied with a brand, they are more likely to repurchase and recommend the brand to others. Brand Satisfaction is not only a reflection of product or service quality, but also an expression of customers' emotional attachment, trust, and recognition of the brand.

In the present study, these relationships were further tested in the specific context of Palace Museum cultural and creative products. The empirical results showed that Reliability (REL) had a significant positive effect on Purchase Intention ($\beta = 0.243$, $p < 0.001$). This indicates that dependable service, accurate product information, clear transaction procedures, and consistent service delivery can enhance tourists' willingness to purchase Palace Museum cultural and creative products. Assurance (ASS) also had a significant positive effect on Purchase Intention ($\beta = 0.131$, $p < 0.01$), suggesting that tourists' trust in employees, perceived transaction safety, employee politeness, and professional support can encourage purchase intention.

Tangibles (TAN) had a significant positive effect on Purchase Intention ($\beta = 0.178$, $p < 0.001$), indicating that physical facilities, product displays, store atmosphere, employee appearance, and visual presentation can influence tourists' purchase decisions. In the Palace Museum context, tangible elements are not merely functional; they also communicate cultural aesthetics, historical symbolism, and brand quality. Empathy (EMP) had the strongest positive effect on Purchase Intention among all predictors ($\beta = 0.281$, $p < 0.001$), showing that personalized attention, understanding of tourists' needs, and considerate service are especially important in promoting tourists' willingness to purchase. Responsiveness (RES) also had a strong positive effect on Purchase Intention ($\beta = 0.236$, $p < 0.001$), indicating that prompt service, timely assistance, and effective responses to tourists' requests can directly strengthen purchase intention.

Furthermore, Tourist Satisfaction (TSN) had a significant positive effect on Purchase Intention ($\beta = 0.102$, $p < 0.05$), while Brand Satisfaction (BSN) also had a significant positive effect on Purchase Intention ($\beta = 0.112$, $p < 0.05$). These findings indicate that tourists' purchase intention is influenced not only by direct service quality perceptions, but also by their overall satisfaction with the offline consumption experience and their satisfaction with the Palace Museum cultural and creative product brand. When tourists feel satisfied with both the experience and the brand, they are more likely to purchase, repurchase, and recommend Palace Museum cultural and creative products.

In summary, Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), Tourist Satisfaction (TSN), and Brand Satisfaction (BSN) all had positive effects on Purchase Intention (PIN), providing strong empirical support for H1c, H2c, H3c, H4c, H5c, H6, and H8. Through the empirical testing of Purchase Intention, this study further confirmed that service quality, experiential satisfaction, and brand-level satisfaction are core attributes shaping tourists' willingness to purchase Palace Museum cultural and creative products. Therefore, the empirical results of this study are consistent with the conclusions of the literature review and further extend previous findings to the context of museum cultural and creative product consumption.

5.1.2 Exploring the Mediating Role of Tourist Satisfaction (TSN)

This study further explored the mediating role of Tourist Satisfaction (TSN) in the relationships between Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), and Purchase Intention (PIN) toward Palace Museum

cultural and creative products. The empirical results confirmed that Tourist Satisfaction (TSN) mediated the relationships between the five RATER-based service quality dimensions and Purchase Intention (PIN), providing empirical support for H7a, H7b, H7c, H7d, and H7e. These findings indicate that service quality does not only directly affect tourists' purchase intention, but also indirectly influences purchase intention by improving tourists' overall satisfaction with their offline consumption experience.

Previous studies have also provided theoretical and empirical support for the mediating role of Tourist Satisfaction in the relationship between service quality and purchase intention. Li and Chen (2021) found that service Reliability indirectly influenced tourists' purchase intention through Tourist Satisfaction. When tourists perceived service as reliable, their satisfaction increased, which further strengthened their purchase intention. Their study used structural equation modeling to verify the mediating role of Tourist Satisfaction between Reliability and purchase intention, emphasizing the importance of improving service Reliability to promote tourists' purchase behavior.

Wang et al. (2022) examined the effect of Assurance on purchase intention and found that Tourist Satisfaction played a mediating role. Their results showed that employees' professionalism, credibility, and ability to provide trustworthy service enhanced Tourist Satisfaction, which further promoted purchase intention. This suggests that providing assurance during the service process is necessary for increasing tourists' satisfaction and encouraging purchase-related behavior. Zhang and Li (2023) reported that Tangibles indirectly influenced purchase intention through Tourist Satisfaction. Specifically, good physical facilities, attractive service environments, and clear product presentation improved tourists' satisfaction, which in turn increased their willingness to purchase. Their empirical findings confirmed the mediating role of Tourist Satisfaction between Tangibles and purchase intention, suggesting that tourism and cultural service providers should pay attention to tangible service elements to improve satisfaction and purchase intention. Chen and Wang (2024) investigated the influence of Empathy on purchase intention and found that Tourist Satisfaction served as an important mediator. When service staff showed understanding, care, and attention to tourists' needs, tourists' satisfaction increased, which further enhanced their purchase intention. This finding indicates that empathetic service can transform positive interpersonal interaction into stronger behavioral intention through the satisfaction mechanism. Liu et al. (2020) also

found that Responsiveness indirectly affected purchase intention by improving Tourist Satisfaction. Timely and effective service responses increased tourists' satisfaction, which then strengthened purchase intention. Their path analysis results confirmed the mediating effect of Tourist Satisfaction between Responsiveness and purchase intention, suggesting that service providers should improve response speed and service efficiency to enhance satisfaction and purchase outcomes.

In the present study, these relationships were further verified in the specific context of Palace Museum cultural and creative product stores. The results showed that the indirect path from Reliability (REL) to Purchase Intention (PIN) through Tourist Satisfaction (TSN) was significant ($\beta = 0.014$, $p < 0.05$). This indicates that dependable service, accurate product information, and consistent service delivery can improve Tourist Satisfaction, which further enhances tourists' willingness to purchase Palace Museum cultural and creative products.

The indirect path from Assurance (ASS) to Purchase Intention (PIN) through Tourist Satisfaction (TSN) was also significant ($\beta = 0.015$, $p < 0.05$). This suggests that tourists' trust in employees, perceived transaction safety, employee politeness, and professional support can increase satisfaction and further promote purchase intention. Similarly, the indirect path from Tangibles (TAN) to Purchase Intention (PIN) through Tourist Satisfaction (TSN) was significant ($\beta = 0.015$, $p < 0.05$), indicating that the physical environment, product display, and visual atmosphere of the cultural and creative product stores can increase tourists' satisfaction and indirectly strengthen purchase intention.

Furthermore, the indirect path from Empathy (EMP) to Purchase Intention (PIN) through Tourist Satisfaction (TSN) was significant ($\beta = 0.016$, $p < 0.05$). This shows that personalized attention, understanding of tourists' needs, and considerate service can enhance tourists' satisfaction and then increase their willingness to purchase. The indirect path from Responsiveness (RES) to Purchase Intention (PIN) through Tourist Satisfaction (TSN) was also significant ($\beta = 0.016$, $p < 0.05$), indicating that prompt service, timely assistance, and effective responses to tourists' requests can improve satisfaction and further enhance purchase intention.

Overall, the results show that Tourist Satisfaction (TSN) significantly mediates the relationships between Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy

(EMP), Responsiveness (RES), and Purchase Intention (PIN) toward Palace Museum cultural and creative products. This means that tourists' purchase intention is not only shaped by direct perceptions of service quality, but also by the satisfaction generated from the offline purchase experience. Therefore, the empirical results of this study are consistent with the conclusions of previous literature and further extend the mediating role of Tourist Satisfaction to the museum cultural and creative product context.

5.1.3 Exploring the Mediating Role of Brand Satisfaction (BSN)

This study further explored the mediating role of Brand Satisfaction (BSN) in the relationships between Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), and Purchase Intention (PIN) toward Palace Museum cultural and creative products. The empirical results confirmed that Brand Satisfaction (BSN) mediated the relationships between the five RATER-based service quality dimensions and Purchase Intention (PIN), providing empirical support for H9a, H9b, H9c, H9d, and H9e. These findings indicate that service quality not only directly affects tourists' purchase intention, but also indirectly influences purchase intention by improving tourists' satisfaction with the Palace Museum cultural and creative product brand.

Previous studies have also provided theoretical and empirical support for the mediating role of Brand Satisfaction in the relationship between service quality and purchase intention. Sun (2020) found that Reliability has a significant positive influence on purchase intention, while Brand Satisfaction plays a key mediating role in this process. This indicates that Brand Satisfaction can strengthen consumers' trust in a brand and further promote purchase intention. Tang (2020) constructed a theoretical model and conducted a large-scale questionnaire survey to examine the mediating effect of Brand Satisfaction on consumers' purchase intention. The results showed that Brand Satisfaction significantly mediated the relationship between Assurance and purchase decision, suggesting that Assurance can enhance consumers' purchase confidence through Brand Satisfaction. Xie (2024) examined the effect of Brand Satisfaction on purchase intention and found that Brand Satisfaction not only had a direct positive effect on purchase intention but also acted as a mediator between Tangibles and purchase intention. This further suggests that Tangibles can effectively enhance consumers' purchase intention by improving Brand Satisfaction. Gao and Lin (2020) focused on the relationship among Empathy, Brand Satisfaction, and purchase intention, and found that Empathy indirectly

influenced consumers' purchase intention through Brand Satisfaction. Empathy enables consumers to perceive the brand as caring and considerate, which improves Brand Satisfaction and further promotes purchase behavior. In addition, Zhao (2024) examined Brand Satisfaction as a mediator of customer repurchase intention and analyzed the influence of Responsiveness as an independent variable. The study found that Responsiveness indirectly promoted purchase intention through Brand Satisfaction. This shows that when consumers perceive that a brand responds quickly to their needs, Brand Satisfaction is significantly improved, thereby further enhancing purchase intention.

In the present study, these relationships were further verified in the specific context of Palace Museum cultural and creative product stores. The results showed that the indirect path from Reliability (REL) to Purchase Intention (PIN) through Brand Satisfaction (BSN) was significant ($\beta = 0.015$, $p < 0.05$). This indicates that dependable service, accurate product information, and consistent service delivery can enhance tourists' satisfaction with the Palace Museum cultural and creative product brand, which further increases purchase intention.

The indirect path from Assurance (ASS) to Purchase Intention (PIN) through Brand Satisfaction (BSN) was also significant ($\beta = 0.024$, $p < 0.05$). This suggests that tourists' trust in employees, transaction safety, employee politeness, and professional support can strengthen Brand Satisfaction and further promote purchase intention. Similarly, the indirect path from Tangibles (TAN) to Purchase Intention (PIN) through Brand Satisfaction (BSN) was significant ($\beta = 0.024$, $p < 0.05$), indicating that physical facilities, product displays, store atmosphere, and visual presentation can improve tourists' satisfaction with the Palace Museum cultural and creative product brand and then enhance purchase intention.

Furthermore, the indirect path from Empathy (EMP) to Purchase Intention (PIN) through Brand Satisfaction (BSN) was significant ($\beta = 0.014$, $p < 0.05$). This shows that personalized attention, understanding of tourists' needs, and considerate service can improve tourists' emotional evaluation of the brand, thereby increasing purchase intention. The indirect path from Responsiveness (RES) to Purchase Intention (PIN) through Brand Satisfaction (BSN) was also significant ($\beta = 0.021$, $p < 0.05$), indicating that prompt service, timely assistance, and effective responses to tourists' requests can improve Brand Satisfaction and further enhance purchase intention.

Overall, the results show that Brand Satisfaction (BSN) significantly mediates the relationships between Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), Responsiveness (RES), and Purchase Intention (PIN) toward Palace Museum cultural and creative products. This means that tourists' purchase intention is shaped not only by their direct perception of service quality, but also by their satisfaction with the Palace Museum cultural and creative product brand. Therefore, the empirical results of this study are consistent with the conclusions of previous literature and further extend the mediating role of Brand Satisfaction to the museum cultural and creative product context.

5.1.4 Restatement of the Research Questions

This study aimed to explore the influence mechanism of Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), and Responsiveness (RES) on Purchase Intention (PIN) toward Palace Museum cultural and creative products through Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). Through empirical analysis, this study systematically examined the relationships among these variables in the offline museum retail context. In the research design, data were collected through a structured questionnaire and analyzed using quantitative methods, including descriptive statistical analysis, reliability and validity tests, Confirmatory Factor Analysis (CFA), common method bias testing, and Structural Equation Modeling (SEM), including path analysis and mediation effect analysis.

The research findings fully supported all proposed hypotheses and confirmed the significant effects of Tourist Satisfaction (TSN) and Brand Satisfaction (BSN) on Purchase Intention (PIN). Specifically, Tourist Satisfaction had a significant positive effect on Purchase Intention, with a standardized coefficient of 0.102 ($p < 0.05$). Brand Satisfaction also had a significant positive effect on Purchase Intention, with a standardized coefficient of 0.112 ($p < 0.05$). These findings indicate that tourists' purchase intention toward Palace Museum cultural and creative products is influenced not only by service quality itself, but also by their overall satisfaction with the offline consumption experience and their satisfaction with the Palace Museum cultural and creative product brand.

In addition, this study further analyzed the effects of the independent variables, namely Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), and Responsiveness (RES), on the mediating variables, namely Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). The results showed that Reliability (REL) had significant

positive effects on both Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). This finding highlights the core role of Reliability in the museum tourism and cultural product consumption context. When Palace Museum cultural and creative product stores provide dependable service, accurate product information, clear transaction procedures, and consistent service delivery, tourists are more likely to feel satisfied with both the purchase experience and the brand.

At the same time, Assurance (ASS), Tangibles (TAN), Empathy (EMP), and Responsiveness (RES) also showed significant positive effects on Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). These findings provide important evidence for understanding how offline service quality contributes to tourists' satisfaction in museum retail spaces. Assurance strengthens tourists' confidence through professional and trustworthy service; Tangibles improve tourists' evaluation through physical facilities, product displays, and visual atmosphere; Empathy enhances satisfaction by providing individualized attention and humanized service; and Responsiveness improves tourists' experience by offering prompt assistance and timely responses.

By adopting a positivist quantitative research design, this study effectively reduced the limitations of excessive subjectivity and limited research scope in previous studies. It provides a systematic empirical perspective for analyzing the key factors influencing Purchase Intention (PIN) in the museum tourism context. This research design not only broadens the application of quantitative methods in purchase intention studies but also provides useful theoretical and practical insights for the Palace Museum and the broader field of museum tourism management.

Overall, the findings indicate that improving Reliability (REL), enhancing Assurance (ASS) and Tangibles (TAN), strengthening Empathy (EMP), and increasing Responsiveness (RES) can effectively improve Purchase Intention (PIN) through the mediating effects of Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). Therefore, the two research questions are answered clearly. First, Reliability, Assurance, Tangibles, Empathy, Responsiveness, Tourist Satisfaction, Brand Satisfaction, and Purchase Intention are significantly and positively related. Second, Tourist Satisfaction and Brand Satisfaction significantly mediate the relationships between the five RATER-based service quality dimensions and Purchase Intention. These conclusions provide practical guidance

for museum retail management and offer valuable references for future research in tourism management and cultural and creative product consumption.

5.1.5 Discussion

1) Discussion of RO1

Research Objective (RO) 1: To explore the relationships among reliability, assurance, tangibles, empathy, responsiveness, tourist satisfaction, brand satisfaction, and purchase intention toward cultural and creative products at the Palace Museum.

The first research objective was achieved by examining the direct relationships among the five RATER-based service quality dimensions, tourist satisfaction, brand satisfaction, and purchase intention. The empirical results showed that Reliability (REL), Assurance (ASS), Tangibles (TAN), Empathy (EMP), and Responsiveness (RES) all had significant positive relationships with Tourist Satisfaction (TSN), Brand Satisfaction (BSN), and Purchase Intention (PIN). In addition, Tourist Satisfaction (TSN) and Brand Satisfaction (BSN) also had significant positive effects on Purchase Intention (PIN). Therefore, RO1 was fully achieved.

The findings indicate that tourists' purchase intention toward Palace Museum cultural and creative products is strongly connected with their offline service experience. Reliability helps tourists feel that the store is dependable and that product information, service promises, and transactions are accurate. Assurance strengthens tourists' confidence through employee professionalism, politeness, and transaction safety. Tangibles improve tourists' perceptions through physical facilities, product displays, store atmosphere, and employee appearance. Empathy enhances tourists' emotional experience by showing personal attention and understanding of tourists' needs. Responsiveness improves tourists' service experience through prompt assistance and timely responses.

Among these factors, Empathy, Responsiveness, and Reliability showed relatively strong direct effects on Purchase Intention. This suggests that tourists do not only care about the cultural and creative products themselves, but also about whether the service process is caring, efficient, and trustworthy. In the Palace Museum context, cultural and creative products carry historical, artistic, and symbolic value. Therefore, tourists' purchase decisions are influenced by both cultural attraction and service experience.

The results also showed that Tourist Satisfaction and Brand Satisfaction significantly influenced Purchase Intention. Tourist Satisfaction reflects tourists' overall evaluation of the offline consumption experience, while Brand Satisfaction reflects their satisfaction with the Palace Museum cultural and creative product brand. When tourists are satisfied with both the service experience and the brand, they are more likely to purchase, repurchase, and recommend Palace Museum cultural and creative products. Thus, the findings confirm that purchase intention is formed through a combined process of service perception, experiential satisfaction, brand evaluation, and behavioral intention.

Overall, the discussion of RO1 shows that Reliability, Assurance, Tangibles, Empathy, Responsiveness, Tourist Satisfaction, and Brand Satisfaction are important factors affecting Purchase Intention. These findings provide empirical support for the application of the RATER model and satisfaction theory in the context of museum cultural and creative product consumption.

2) Discussion of RO2

Research Objective (RO) 2: To investigate tourist satisfaction and brand satisfaction mediate the relationships among reliability, assurance, tangibles, empathy, responsiveness, and purchase intention toward cultural and creative products at the Palace Museum.

The second research objective was achieved by testing the mediating effects of Tourist Satisfaction (TSN) and Brand Satisfaction (BSN). The results showed that both Tourist Satisfaction and Brand Satisfaction significantly mediated the relationships between the five RATER-based service quality dimensions and Purchase Intention. Therefore, RO2 was fully achieved.

The mediating role of Tourist Satisfaction indicates that service quality affects purchase intention by improving tourists' overall experience. When tourists perceive the Palace Museum cultural and creative product stores as reliable, professional, visually appealing, empathetic, and responsive, they are more likely to feel satisfied with the offline purchase experience. This satisfaction then increases their willingness to purchase cultural and creative products. In other words, Tourist Satisfaction acts as an experiential pathway through which service quality is transformed into purchase intention.

The mediating role of Brand Satisfaction indicates that service quality also affects purchase intention by shaping tourists' evaluation of the Palace Museum cultural and

creative product brand. High-quality service can strengthen tourists' satisfaction with the brand by making the brand appear more trustworthy, professional, culturally attractive, and consumer oriented. This is particularly important for Palace Museum cultural and creative products because they are not ordinary commodities. They represent the cultural image, historical value, and symbolic identity of the Palace Museum. Therefore, when tourists are satisfied with the brand, they are more likely to develop stronger purchase intention.

The results further suggest that Tourist Satisfaction and Brand Satisfaction explain different mechanisms. Tourist Satisfaction focuses more on tourists' immediate offline experience, such as whether the shopping process is convenient, enjoyable, and worthwhile. Brand Satisfaction focuses more on tourists' overall evaluation of the Palace Museum cultural and creative product brand, including its cultural image, product value, credibility, and emotional appeal. These two mediators work together to explain how service quality influences purchase intention.

Therefore, RO2 confirms that the relationship between service quality and purchase intention is not only direct, but also indirect. Reliability, Assurance, Tangibles, Empathy, and Responsiveness can increase Purchase Intention through Tourist Satisfaction and Brand Satisfaction. This finding enriches the understanding of purchase intention in museum cultural and creative product consumption and provides practical guidance for improving tourists' buying behavior.

Overall, the discussion of RO2 shows that Tourist Satisfaction and Brand Satisfaction are important mediating mechanisms in this study. To increase tourists' purchase intention toward Palace Museum cultural and creative products, museum retail managers should not only improve service quality, but also enhance tourists' satisfaction with both the purchase experience and the cultural brand.

5.2 Limitation

Although this study provides useful theoretical and practical insights into tourists' purchase intention toward Palace Museum cultural and creative products, several limitations should be acknowledged.

First, this study focused only on tourists who had offline experience with Palace Museum cultural and creative product stores. Since the Palace Museum mainly operates

cultural and creative product consumption through physical retail spaces, the offline context was appropriate for this research. However, the findings may not fully explain tourists' online purchase intention through e-commerce platforms, social media stores, or official digital channels. Future studies may compare offline and online purchase contexts to provide a more comprehensive understanding of cultural and creative product consumption.

Second, this study selected the Palace Museum as the research context. The Palace Museum has a strong cultural brand, high public recognition, and rich historical resources. Therefore, tourists' perceptions and purchase intention in this context may be different from those in smaller museums, local cultural institutions, or commercial cultural tourism sites. As a result, the findings may have limited generalizability to all museum cultural and creative product contexts. Future research could examine other museums or compare different types of cultural tourism destinations.

Third, this study adopted a quantitative research design and collected data through structured questionnaires. Although this method is suitable for testing relationships among variables, it may not fully capture tourists' deeper emotions, cultural interpretations, and personal meanings related to Palace Museum cultural and creative products. Future studies could adopt qualitative methods, such as interviews or focus groups, to explore tourists' cultural experience and emotional motivation in greater depth.

Fourth, this study examined five dimensions of RATER-based service quality, namely Reliability, Assurance, Tangibles, Empathy, and Responsiveness. Although these dimensions are important for understanding service quality, tourists' purchase intention may also be influenced by other factors, such as product design, price perception, cultural identity, perceived value, social media influence, and word-of-mouth. Future studies could include additional variables to build a more comprehensive model.

Fifth, this study used cross-sectional data collected at one point in time. Therefore, the results can explain relationships among variables but cannot fully reveal long-term changes in tourists' satisfaction, brand satisfaction, or purchase intention. Future research could adopt longitudinal designs to examine how tourists' perceptions and purchase behavior change over time.

Finally, although this study distributed 620 questionnaires and obtained sufficient valid data for empirical analysis, the sample was still limited by the selected survey

location and data collection period. Tourists visiting the Palace Museum during different seasons, holidays, or exhibition periods may have different service experiences and purchase intentions. Future studies could expand the data collection period and include more diverse tourist groups to improve the representativeness of the findings.

5.3 Future Research Directions

Based on the limitations of this study, several directions are suggested for future research.

First, future studies could compare tourists' offline and online purchase intention toward Palace Museum cultural and creative products. This study focused on offline tourists and physical retail stores because Palace Museum cultural and creative products are strongly connected with on-site museum experience. However, with the development of e-commerce, social media marketing, and digital cultural consumption, tourists may also form purchase intention through online platforms. Future research could examine whether service quality, tourist satisfaction, and brand satisfaction function differently in offline and online contexts.

Second, future research could extend the study context to other museums and cultural tourism destinations. The Palace Museum has strong historical authority, cultural symbolism, and brand influence. Therefore, the findings of this study may not fully represent all museum cultural and creative product contexts. Future studies could compare the Palace Museum with other national museums, local museums, art museums, heritage sites, or cultural theme parks. Such comparative research would help test whether the proposed model is applicable to different cultural institutions.

Third, future studies could include additional variables to enrich the research model. Although this study examined Reliability, Assurance, Tangibles, Empathy, Responsiveness, Tourist Satisfaction, Brand Satisfaction, and Purchase Intention, tourists' purchase intention may also be influenced by perceived value, cultural identity, product creativity, price fairness, brand trust, emotional attachment, social media influence, and word-of-mouth. Adding these variables may provide a more comprehensive explanation of tourists' cultural and creative product consumption behavior.

Fourth, future research could adopt mixed methods to obtain deeper insights. This study used a quantitative research design and questionnaire survey to test the relationships

among variables. Future studies could combine quantitative surveys with qualitative interviews, focus groups, or observation. This would help researchers better understand tourists' emotional responses, cultural meanings, symbolic interpretations, and personal motivations when purchasing museum cultural and creative products.

Fifth, future studies could use longitudinal research designs. Since this study was cross-sectional, it examined tourists' perceptions and purchase intention at one point in time. However, tourist satisfaction, brand satisfaction, and purchase intention may change after repeated visits, product use, or exposure to museum branding activities. Longitudinal research could examine how tourists' attitudes and purchase behavior develop over time.

Finally, future research could pay more attention to different tourist groups. For example, domestic tourists, international tourists, young tourists, family tourists, and high-income tourists may have different expectations of service quality and cultural product consumption. Future studies could conduct subgroup analysis to explore whether demographic characteristics moderate the relationships among service quality, satisfaction, and purchase intention.

Overall, future research may further expand the theoretical model, diversify research contexts, and combine different research methods to deepen the understanding of tourists' purchase intention toward museum cultural and creative products.

5.4 Conclusion

This study examined the influence of RATER-based service quality on tourists' purchase intention toward Palace Museum cultural and creative products, with tourist satisfaction and brand satisfaction as mediating variables. Based on the positivist paradigm and quantitative research design, this study collected questionnaire data from offline tourists who had experience with Palace Museum cultural and creative product stores. The empirical results confirmed that reliability, assurance, tangibles, empathy, and responsiveness all had significant positive effects on tourist satisfaction, brand satisfaction, and purchase intention.

The findings show that tourists' purchase intention is not only influenced by the cultural and creative products themselves, but also by the quality of offline service experience. Reliable service, professional assurance, appealing tangible facilities, empathetic interaction, and responsive assistance can enhance tourists' satisfaction and

strengthen their willingness to purchase. Among these factors, empathy and responsiveness showed relatively strong effects on purchase intention, suggesting that tourists value humanized service and timely support in museum retail spaces.

In addition, tourist satisfaction and brand satisfaction were confirmed as important mediating variables. This means that service quality affects purchase intention through two pathways: the experiential pathway and the brand pathway. Tourist satisfaction reflects tourists' evaluation of the offline shopping experience, while brand satisfaction reflects their overall perception of the Palace Museum cultural and creative product brand. Together, these two mediators explain how service quality is transformed into stronger purchase intention.

Overall, this study enriches the application of the RATER model and satisfaction theory in the museum cultural and creative product context. It also provides practical guidance for museum managers. To improve tourists' purchase intention, the Palace Museum should continuously optimize service quality, enhance tourist satisfaction, strengthen brand satisfaction, and create a more professional, responsive, and culturally meaningful retail experience.

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APPENDIXES

APPENDIX A

Questionnaire (English Version)

Appendix A. Questionnaire (English Version)

Rattanakosin International College of Creative Entrepreneurship
Of Rajamangala University of Technology, Rattanakosin
Questionnaire Survey of the Influence of RATER-Based Service Quality on Tourists' Purchase Intention toward Palace Museum Cultural and Creative Products: The Mediating Effects of Tourist Satisfaction and Brand Satisfaction

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Hello,

Greetings! Your participation in this survey is greatly appreciated. This questionnaire aims to investigate the influence of the RATER Model on tourists' purchase intention toward Palace Museum cultural and creative products in Beijing. The researcher is particularly interested in understanding how tourist satisfaction and brand satisfaction act as mediating variables in this context. Your honest responses, based on your offline visiting and shopping experience at the Palace Museum in Beijing, are very valuable to this research. Please be assured that all responses will be kept confidential and used solely for academic purposes. There are no right or wrong answers; the researcher values your personal experience and genuine opinions as a participant. This survey will take approximately 15–20 minutes to complete. Your participation will contribute to a better understanding of tourists' purchase intention toward Palace Museum cultural and creative products. Your support is sincerely appreciated.

Thank you for your participation!

Part I: Basic information about you. (Put a " ✓ " in the preceding brackets.)

1. Your gender:

☐ Male

☐ Female

☐ Prefer not to disclose

2. Your marital status:

- ☐ Single
- ☐ Married
- ☐ Widow/Divorced

3. Your age:

- ☐ 30 years old and below
- ☐ 31-40 years old
- ☐ 41-50 years old
- ☐ 51 years old and above

4. Your region:

- ☐ China
- ☐ Countries and regions outside China

5. Your highest level of education or ongoing education is:

- ☐ Junior college or below
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctoral degree

6. Your monthly income:

- ☐ RMB 3,500 and below
- ☐ RMB 3,501–5,000
- ☐ RMB 5,001–7,000
- ☐ RMB 7,001 and above

7. Your occupation:

- ☐ Student
- ☐ Government official
- ☐ Self-employed
- ☐ Other occupations

Part II: The Influence of RATER-Based Service Quality on Tourists' Purchase Intention toward Palace Museum Cultural and Creative Products: The Mediating Effects of Tourist Satisfaction and Brand Satisfaction

1. Reliability (Please choose the score that suits you and tick "✓").

Items	**Strongly Disagree – Strongly Agree (1-5)**				
	1	**2**	**3**	**4**	**5**
1. When the Palace Museum cultural and creative product stores promise to do something by a certain time, they should do so.					
2. When tourists have problems, the Palace Museum cultural and creative product stores should be sympathetic and reassuring.					
3. The Palace Museum cultural and creative product stores should be dependable.					
4. The Palace Museum cultural and creative product stores should provide their services at the time they promise to do so.					
5. The Palace Museum cultural and creative product stores should keep accurate records.					

2. Assurance (Please choose the score that suits you and tick "✓").

Items	**Strongly Disagree – Strongly Agree (1-5)**				
	1	**2**	**3**	**4**	**5**
1. Tourists should be able to trust employees of the Palace Museum cultural and creative product stores.					
2. Tourists should be able to feel safe in their transactions with employees of the Palace Museum cultural and creative product stores.					

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
3. Employees of the Palace Museum cultural and creative product stores should be polite.					
4. Employees should get adequate support from the Palace Museum cultural and creative product stores to do their jobs well.					

3. Tangibles (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. The Palace Museum cultural and creative product stores should have up-to-date equipment.					
2. The physical facilities of the Palace Museum cultural and creative product stores should be visually appealing.					
3. Employees of the Palace Museum cultural and creative product stores should be well dressed and appear neat.					
4. The appearance of the physical facilities of the Palace Museum cultural and creative product stores should be in keeping with the type of services provided.					

4. Empathy (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. The Palace Museum cultural and creative product stores should be expected to give tourists individual attention.					

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
2. Employees of the Palace Museum cultural and creative product stores should be expected to give tourists personal attention.					
3. It is realistic to expect employees of the Palace Museum cultural and creative product stores to know what the needs of their tourists are.					
4. It is realistic to expect the Palace Museum cultural and creative product stores to have their tourists' best interests at heart.					
5. The Palace Museum cultural and creative product stores should be expected to have operating hours convenient to their tourists.					

5. Responsiveness (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. The Palace Museum cultural and creative product stores should be expected to tell tourists exactly when services will be performed.					
2. It is realistic for tourists to expect prompt service from employees of the Palace Museum cultural and creative product stores.					
3. Employees of the Palace Museum cultural and creative product stores should always be willing to help tourists.					
4. Employees of the Palace Museum cultural and creative product stores should respond to tourists' requests promptly.					

6. Tourist Satisfaction (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. I have really enjoyed purchasing Palace Museum cultural and creative products.					
2. My choice to purchase Palace Museum cultural and creative products was a wise one.					
3. Purchasing Palace Museum cultural and creative products is exactly what I needed.					

7. Brand Satisfaction (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. Overall, I am satisfied with transactions at the Palace Museum cultural and creative product stores.					
2. Palace Museum cultural and creative products are the best choice for me.					
3. The Palace Museum cultural and creative product brand has met my expectations.					

8. Purchase Intention (Please choose the score that suits you and tick "✓").

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
1. I intend to continue purchasing Palace Museum cultural and creative products in the future.					
2. I would strongly recommend others to purchase Palace Museum cultural and creative products.					

Items	Strongly Disagree – Strongly Agree (1-5)				
	1	2	3	4	5
3. I shall continue to purchase Palace Museum cultural and creative products in the near future.					

APPENDIX B

Research Ethics

Appendix B. Research Ethics

Research Ethics Certificate for Research Proposal,

explanatory information document about research participants and the consent letters

R. 589 / 2024

This research proposal and the supporting documents listed below have been reviewed by the Research Ethics Committee, Mahachulalongkornrajavidyalaya University. The committee stated that this research proposal is aligned with the International Code of Ethics, national law and regulatory requirements, therefore it was appropriate to continue the research according to this proposal.

Title of Proposal: The Impact of the RATER Model on Purchase Intention a the Palace Museum in Beijing: Tourist Satisfaction and Brand Satisfaction as Mediating Variables

Research Proposal Code: Dissertation

Institution: Rattanakosin International College of Creative Entrepreneurship, Rajamangala University of Technology Rattanakosin

Researcher: Li Chenyu

List of documents that have been reviewed:

1. Research Proposal — version August 15, 2024
2. Explanatory document about research participation — version August 15, 2024
3. Letter of consent to participate in the research — version August 15, 2024
4. Data collection method — version August 15, 2024

P. Panyavajarapandit

Ven. Assoc. Prof. Dr. Phra Panyavajarapandit

President of Research Ethics Committee

Mahachulalongkornrajavidyalaya University

September 20, 2024

มหาวิทยาลัยมหาจุฬาลงกรณราชวิทยาลัย
๗๙ หมู่ ๑ ตำบลลำไทร อำเภอวังน้อย
จังหวัดพระนครศรีอยุธยา ๑๓๑๗๐
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www.mcu.ac.th

Ref: MCU 8007/R.589

20th September 2024

Subject Certification of Research Ethics for Research Proposals

To Li Chenyu / The student of Rajamangala University of Technology Rattanakosin

As you have requested a research ethics certificate for the thesis research on "The Impact of the RATER Model on Purchase Intention a the Palace Museum in Beijing : Tourist Satisfaction and Brand Satisfaction as Mediating Variables" , at Rattanakosin International College of Creative Entrepreneurship, Rajamangala University of Technology Rattanakosin.

The Research Ethics Committee have considered your research tools with additional amendments according to the attached document.

Please be informed accordingly for further arrangement.

Regards,

P. Panyavajarapandit

(Ven. Assoc. Prof. Dr. Phra Panyavajarapandit)
The Chair of Research Ethics Committee
Mahachulalongkornrajavidyalaya University

APPENDIX C

Publication of Journal during Ph.D. Study

APPENDIX C. Publication of Journal during Ph.D. Study

NETJOURNALS

African Educational Research Journal
Vol. 14(3), pp. 528-545, July 2026
ISSN: 2354-2160
Full Length Research Paper

The influence of museum educational quality on tourists' perceived learning outcomes from palace museum cultural and creative products: The mediating effects of learning satisfaction and perceived educational value

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Accepted 17 July, 2026

ABSTRACT

The Palace Museum's cultural and creative products have increasingly become important media for communicating historical knowledge, cultural meanings, and heritage values. However, existing research has mainly examined these products from marketing, design, and purchase-intention perspectives, while their educational functions remain insufficiently explored. This study investigates the influence of Museum Educational Quality on tourists' Perceived Learning Outcomes from Palace Museum cultural and creative products, with Learning Satisfaction and Perceived Educational Value serving as mediating variables. Museum Educational Quality was represented by three dimensions: Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience. A quantitative research design was adopted, and data were collected through a structured questionnaire containing 24 measurement items. A total of 360 questionnaires were distributed, 351 were returned, and 346 valid responses were retained for analysis. Reliability analysis, confirmatory factor analysis, structural equation modelling, and bootstrap mediation analysis were conducted. The results showed that Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience all had significant positive effects on Learning Satisfaction and Perceived Educational Value. Learning Satisfaction and Perceived Educational Value also significantly improved tourists' Perceived Learning Outcomes. Furthermore, both mediators partially mediated the relationships between the three dimensions of Museum Educational Quality and Perceived Learning Outcomes. Perceived Educational Value demonstrated a stronger influence on learning outcomes than Learning Satisfaction. The findings confirm that Palace Museum cultural and creative products can function not only as commercial products but also as extensions of museum education. The study contributes to museum-learning research by establishing an educational-quality framework for cultural and creative products and provides practical guidance for improving their educational content, interpretation, interaction, and learning effectiveness.

Keywords: Palace Museum, museum educational quality, cultural and creative products, learning satisfaction, perceived educational value, perceived learning outcomes, structural equation modelling.

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INTRODUCTION

Museums have increasingly developed from collection-centered institutions into educational environments that promote knowledge acquisition, cultural understanding, aesthetic appreciation, and lifelong learning. Unlike formal

classrooms, museums enable visitors to learn voluntarily through authentic objects, spatial narratives, interpretation, observation, and experiential participation. Museum learning, therefore, extends beyond the transmission of factual information and involves the active construction of meaning through cognitive, emotional, social, and experiential engagement. Song et al. (2025) highlighted museums' capacity to provide cultural and artistic knowledge while supporting freedom and self-directed learning, whereas Rivero et al. (2023) emphasized their role in connecting heritage resources with formal and non-formal education through participatory communication. Collectively, these studies establish museums as important learning environments, but they offer a limited explanation of how the quality of specific museum resources is converted into visitors' perceived learning gains.

Museum educational quality refers to the capacity of museum resources and learning environments to communicate accurate, meaningful, accessible, and engaging knowledge. The present study comprises educational content quality, museum interpretation quality, and interactive learning experience. Educational content quality concerns the accuracy, richness, relevance, and clarity of historical and cultural information. Museum interpretation quality concerns how effectively labels, narratives, guides, exhibitions, and digital media explain cultural objects and connect them with visitors' existing knowledge. An interactive learning experience reflects opportunities for visitors to participate, explore, reflect, and construct meaning rather than passively receive information.

Existing studies generally support the educational importance of these dimensions, but they often examine them separately. Zheng and Yang (2020) demonstrated that showcases, video installations, and interactive tablets produced different learning outcomes, while Ćosović and Brkić (2020) showed that game-based applications can combine heritage content with active participation. Similarly, Zhou et al. (2022) found that augmented and virtual reality can improve museum learning achievement, and Chin et al. (2024) reported that a wearable mixed-reality learning system enhanced retention and comprehension. However, this literature frequently treats presentation format or technological interactivity as the principal educational intervention. It does not sufficiently integrate the quality of educational content, interpretation, and interaction within a single explanatory model. Moreover, technological novelty does not necessarily produce meaningful learning unless it is supported by clear cultural information, effective interpretation, and perceived educational usefulness.

The Palace Museum provides a distinctive setting in which to extend this discussion. Its cultural and creative products translate architectural features, artistic motifs, historical narratives, and collection-related knowledge into tangible objects that visitors can encounter during and after their visits. These products may therefore function not only as commodities or souvenirs but also as portable educational media that extend heritage learning beyond exhibitions. Nevertheless, existing research on Palace Museum cultural and creative products has been predominantly consumption-oriented. Li et al. (2021) identified educational value as a distinctive product-value dimension but examined it mainly in relation to purchase intention. Their finding that educational value did not significantly predict purchase intention suggests that educational functions may not be clearly recognized by consumers, but it does not establish whether the products actually generate learning outcomes. Huang et al. (2023) similarly analyzed online consumer reviews from a product-evaluation perspective rather than investigating the educational process through which cultural knowledge is communicated and understood.

Consequently, previous museum education studies cannot fully answer the current research question for three reasons. First, most focus on onsite exhibitions, museum visits, digital systems, or organized educational activities rather than cultural and creative products that may continue to communicate heritage knowledge outside the exhibition space. Second, studies of Palace Museum cultural and creative products emphasize product value, consumer perception, and behavioral intention, leaving their educational effectiveness largely untested. Third, existing research has not adequately explained the psychological mechanisms through which educational content, interpretation, and interactive experience may produce perceived learning outcomes. It remains unclear whether visitors report stronger learning gains because educational resources create a satisfying learning process, because they are judged to possess educational value, or through both mechanisms.

Perceived learning outcomes provide an appropriate criterion for addressing this gap. They refer to visitors' self-reported gains in historical and cultural knowledge, understanding of cultural heritage, interest in traditional culture, and ability to remember and apply what they have learned. This approach is consistent with heritage-education research that conceptualizes learning as involving knowledge, understanding, meaning-making, and application. Fontal et al. (2024), for example, demonstrated the importance of assessing heritage learning through structured educational dimensions rather than relying solely on enjoyment, satisfaction, or behavioral intention.

This study proposes that museum educational quality influences perceived learning outcomes through learning satisfaction and perceived educational value. Learning satisfaction represents visitors' affective and evaluative response to whether the learning process is understandable, engaging, useful, and consistent with their expectations. Perceived educational value represents

a cognitive judgment that a museum resource or cultural product provides worthwhile knowledge, clarifies cultural meanings, and stimulates continuing interest in heritage. Although related, these variables capture different mechanisms: satisfaction concerns the quality of the experienced learning process, whereas educational value concerns the perceived usefulness and significance of what is learned.

Accordingly, this study investigates the influence of museum educational quality on tourists' perceived learning outcomes from Palace Museum cultural and creative products, with learning satisfaction and perceived educational value as mediating variables. By integrating educational content quality, museum interpretation quality, and interactive learning experience, the study moves beyond research that isolates individual presentation formats or technologies. It also redirects research on Palace Museum cultural and creative products from commercial outcomes toward their educational functions. The findings may assist museum educators, interpreters, and cultural-product designers in developing products that communicate heritage knowledge more clearly, create more satisfying learning experiences, and extend the Palace Museum's contribution to public and lifelong education.

LITERATURE REVIEW

Research theory

The theoretical foundation of this study integrates constructivist learning theory and experiential learning theory. Constructivist learning theory proposes that learners do not passively receive knowledge; instead, they actively construct meaning by connecting new information with prior knowledge, personal experiences, social interaction, and reflection. This perspective is particularly appropriate for museum education because visitors enter museums with different cultural backgrounds, interests, expectations, and levels of historical knowledge. Todino and Campitiello (2025) explained that contemporary museum education increasingly adopts learner-centered and constructivist approaches in which objects, exhibitions, narratives, and technologies become resources that support individual meaning-making rather than instruments for one-way information transmission. Therefore, the educational role of the Palace Museum should be evaluated not only according to the quantity of information it provides but also according to the extent to which its cultural and creative products help visitors understand, interpret, and connect with cultural heritage.

Within this theoretical framework, museum educational quality represents the external educational conditions that facilitate visitors' knowledge construction. Educational content quality provides visitors with accurate, relevant, understandable, and culturally meaningful information. Museum interpretation quality functions as pedagogical scaffolding by translating historical symbols, artistic elements, and heritage meanings into forms that visitors can comprehend. An interactive learning experience enables visitors to explore, compare, respond, and reflect rather than merely observe. Li and Zhang (2025) argued that constructivist museum learning is strengthened through contextualization, self-determination, social interaction, knowledge construction, meaning-making, and immediate feedback. Their framework indicates that museum learning becomes more effective when visitors actively participate in culturally situated learning activities. Accordingly, the three dimensions of museum educational quality adopted in this study are consistent with the central principles of constructivist learning theory.

Experiential learning theory further explains how visitors transform museum encounters into meaningful learning outcomes. From this perspective, learning develops through a continuing process involving direct experience, reflection, conceptual understanding, and the application of acquired knowledge. Palace Museum cultural and creative products can extend this learning process beyond the physical exhibition because visitors may repeatedly observe, use, discuss, or interpret products that embody historical narratives, traditional artistic elements, and cultural symbols. Chen et al. (2022) found that museum visitors who used sensory and exploratory digital learning materials demonstrated stronger learning motivation and better cognitive and psychomotor learning outcomes than visitors who did not receive such educational support. More recently, Zhang and Zhang (2026) demonstrated that museum interpretation can promote adult visitors' cognitive, emotional, and behavioral engagement, thereby strengthening both immediate and longer-term experiential learning. These findings support the argument that high-quality educational content, interpretation, and interaction can transform museum cultural and creative products into meaningful educational media.

The integration of the two theories also clarifies the mediating roles of learning satisfaction and perceived educational value. Learning satisfaction reflects visitors' positive evaluation of the learning process and may encourage attention, reflection, and continued engagement. Perceived educational value represents visitors' judgment that the experience provides useful knowledge, deeper heritage understanding, and worthwhile cultural learning. From constructivist and experiential perspectives, educational quality does not automatically produce learning outcomes; its influence depends on how visitors experience, interpret, and evaluate the available educational resources. When Palace Museum cultural and creative products provide meaningful content, understandable interpretation, and active learning opportunities, visitors are more likely to experience learning satisfaction and recognize their

educational value. These internal cognitive and affective responses can subsequently improve perceived learning outcomes, including historical knowledge acquisition, cultural heritage understanding, interest in traditional culture, knowledge retention, and the application of acquired knowledge. Therefore, the integrated theoretical framework provides a coherent explanation for the relationships proposed in this study.

Research hypotheses

Educational Content Quality, learning satisfaction, perceived educational value, and perceived learning outcomes

Educational Content Quality (ECQ) refers to the accuracy, richness, clarity, relevance, and educational usefulness of the historical and cultural information communicated through Palace Museum cultural and creative products. From a constructivist perspective, high-quality educational content provides learners with meaningful information that can be connected with their previous knowledge and cultural experiences. Museum visitors are more likely to feel satisfied with their learning when historical narratives, cultural symbols, artistic elements, and heritage knowledge are presented in a clear and understandable manner. Chen et al. (2022) demonstrated that the quality and design of museum learning materials significantly influenced visitors' attention, relevance, confidence, satisfaction, and learning effectiveness. Cheng et al. (2025) further found that information quality and information richness in an augmented-reality museum environment positively influenced immersion, learning motivation, and academic achievement. Song et al. (2025) reported that students valued museums because they provided substantial cultural and artistic knowledge in a flexible and self-directed learning environment. In the specific context of the Palace Museum, Li et al. (2021) identified educational value as an important dimension of the value embedded in museum cultural and creative products. Therefore, when Palace Museum products contain accurate, meaningful, accessible, and well-organized cultural knowledge, tourists should experience greater satisfaction with the learning process and perceive the products as having stronger educational value.

H1a: Educational Content Quality (ECQ) has a positive influence on Learning Satisfaction (LSN).

H1b: Educational Content Quality (ECQ) has a positive influence on Perceived Educational Value (PEV).

H1c: Educational Content Quality (ECQ) has a positive influence on Perceived Learning Outcomes (PLO).

Museum Interpretation Quality, learning satisfaction, perceived educational value and perceived learning outcomes

Museum Interpretation Quality (MIQ) concerns the effectiveness with which historical objects, cultural symbols, artistic designs, and heritage narratives are explained to visitors. In this study, interpretation may be embedded in product descriptions, exhibition labels, digital guides, visual narratives, packaging information, multimedia resources, and other educational materials associated with Palace Museum cultural and creative products. High-quality interpretation reduces the cognitive distance between visitors and complex cultural heritage by translating specialist historical knowledge into understandable and meaningful explanations. Zheng and Yang (2020) found that different museum presentation and interpretation formats generated different visitor learning outcomes, indicating that the method of communicating information is an essential component of educational effectiveness. Demirović Bajrami et al. (2022) showed that museum guides' communication, group-management, and interpretive competencies significantly predicted visitors' learning outcomes. Tsita et al. (2023) also demonstrated that a carefully designed virtual museum could reinforce the interpretation of contemporary art and increase users' perceptions of the educational usefulness and value of the experience. Furthermore, museum interpretation can stimulate cognitive, emotional, and behavioral engagement, allowing visitors to form meaningful and longer-lasting connections with museum content. Consequently, clear, engaging, contextually appropriate, and pedagogically structured interpretation should increase tourists' satisfaction with their learning and strengthen their perceptions of the educational value of Palace Museum cultural and creative products.

H2a: Museum Interpretation Quality (MIQ) has a positive influence on Learning Satisfaction (LSN).
H2b: Museum Interpretation Quality (MIQ) has a positive influence on Perceived Educational Value (PEV).
H2c: Museum Interpretation Quality (MIQ) has a positive influence on Perceived Learning Outcomes (PLO).

Interactive learning experience, learning satisfaction, perceived educational value, and perceived learning outcomes

Interactive Learning Experience (ILE) refers to the extent to which tourists can actively explore, manipulate, discuss, reflect on, or respond to the cultural and educational information presented through museum products and related learning activities. Compared with passive information reception, interactive learning gives visitors greater autonomy and enables them to construct knowledge

through direct participation. Zhou et al. (2022), in a meta-analysis of museum learning studies, concluded that virtual and augmented reality applications generally produced positive effects on visitors' academic achievement and perceptions of learning. Chin et al. (2024) found that a wearable mixed-reality learning system enhanced university students' retention and comprehension during museum learning activities. Li and Zhang (2025) explained that museum game-based learning promotes self-determination, contextualization, social interaction, active exploration, meaning-making, and immediate feedback. Similarly, Zhao et al. (2025) emphasized that immersive heritage-learning experiences can strengthen user engagement and support the understanding of complex cultural information when technological interaction is aligned with educational objectives. In the Palace Museum context, interactive product features, digital extensions, storytelling activities, games, augmented-reality functions, and participatory cultural experiences may make heritage learning more enjoyable, personally relevant, and useful. Such active participation should therefore improve tourists' satisfaction with the learning experience and increase their recognition of the products' educational value.

H3a: Interactive Learning Experience (ILE) has a positive influence on Learning Satisfaction (LSN).
H3b: Interactive Learning Experience (ILE) has a positive influence on Perceived Educational Value (PEV).
H3c: Interactive Learning Experience (ILE) has a positive influence on Perceived Learning Outcomes (PLO).

Learning Satisfaction and perceived learning outcomes

Learning Satisfaction (LSN) represents tourists' positive evaluation of their learning experience with Palace Museum cultural and creative products. It reflects whether the educational experience is understandable, engaging, enjoyable, useful, and consistent with tourists' expectations. Satisfied learners are generally more willing to maintain attention, process information, reflect on what they have encountered, and continue participating in learning activities. Lin et al. (2023) identified a significant relationship between learning satisfaction and perceived learning and demonstrated that content quality and interaction were important antecedents of both constructs. Baber (2020) similarly found strong relationships among educational interaction, learner motivation, satisfaction, and perceived learning outcomes. In a large-scale study involving 8,119 adult learners, Pan et al. (2025) reported positive relationships between learning satisfaction, learning engagement, instructional quality, and perceived learning achievement. Chen et al. (2022) also showed that museum learning material design influenced satisfaction-related learning motivation and that learning motivation was positively associated with learning outcomes. These findings suggest that tourists who are satisfied with the educational process are more likely to perceive that they have acquired historical and cultural knowledge, developed a deeper understanding of heritage, increased their interest in traditional culture, and improved their ability to remember and apply what they have learned.

Learning satisfaction may also transmit the effects of the three dimensions of museum educational quality to Perceived Learning Outcomes (PLO). Educational content, interpretation, and interaction constitute external pedagogical conditions, whereas satisfaction represents an internal evaluative response to those conditions. High-quality content can make learning clearer and more meaningful; effective interpretation can reduce difficulty and uncertainty; and interactive experiences can make visitors more involved in the learning process. These conditions should first increase tourists' satisfaction and then encourage deeper cognitive processing, stronger memory, and more favorable evaluations of their learning achievements. Learning satisfaction is therefore expected to function as an explanatory mechanism through which ECQ, MIQ, and ILE affect PLO.

H4: Learning Satisfaction (LSN) has a positive influence on Perceived Learning Outcomes (PLO).
H5a: Learning Satisfaction (LSN) mediates the relationship between Educational Content Quality (ECQ) and Perceived Learning Outcomes (PLO).
H5b: Learning Satisfaction (LSN) mediates the relationship between Museum Interpretation Quality (MIQ) and Perceived Learning Outcomes (PLO).
H5c: Learning Satisfaction (LSN) mediates the relationship between Interactive Learning Experience (ILE) and Perceived Learning Outcomes (PLO).

Perceived Educational Value and perceived learning outcomes

Perceived Educational Value (PEV) refers to tourists' cognitive assessment of whether Palace Museum cultural and creative products provide worthwhile knowledge, improve cultural understanding, stimulate further learning, and support the retention or application of heritage-related information. Perceived educational value differs from learning satisfaction because satisfaction represents an overall positive response to the learning experience, whereas educational value concerns the perceived usefulness and importance of the educational benefits obtained. Li et al. (2021) demonstrated that educational value is a distinct component of the perceived value of Palace Museum cultural and creative products, confirming that such products can be evaluated according to their capacity to communicate knowledge and culture. Tsita et

al. (2023) found that users positively evaluated interactive museum activities when they recognized their educational usefulness and pedagogical value. Cheng et al. (2025) showed that high-quality and information-rich museum resources contributed to learning motivation and academic achievement. Fontal et al. (2024) further established that heritage learning involves interconnected dimensions such as knowledge acquisition, understanding, appreciation, meaning-making, and the application of cultural knowledge. Accordingly, tourists who perceive Palace Museum cultural and creative products as educationally valuable should be more likely to report meaningful learning outcomes.

Perceived educational value may further mediate the effects of ECQ, MIQ, and ILE on PLO. Educational content quality provides the substantive knowledge contained in the products, interpretation quality explains the significance of that knowledge, and interactive learning experience allows visitors to engage actively with it. Nevertheless, these educational characteristics may not automatically result in perceived learning gains unless tourists recognize them as useful and valuable for learning. Once tourists perceive that the products help them understand history, appreciate cultural heritage, and extend their knowledge beyond the museum visit, they are more likely to evaluate their learning outcomes positively. PEV, therefore, represents a cognitive mechanism that converts the educational characteristics of museum products into perceived knowledge, understanding, interest, memory, and application.

H6: Perceived Educational Value (PEV) has a positive influence on Perceived Learning Outcomes (PLO).
H7a: Perceived Educational Value (PEV) mediates the relationship between Educational Content Quality (ECQ) and Perceived Learning Outcomes (PLO).
H7b: Perceived Educational Value (PEV) mediates the relationship between Museum Interpretation Quality (MIQ) and Perceived Learning Outcomes (PLO).
H7c: Perceived Educational Value (PEV) mediates the relationship between Interactive Learning Experience (ILE) and Perceived Learning Outcomes (PLO).

Conceptual framework

The conceptual framework of this study explains how museum educational quality influences tourists' perceived learning outcomes from Palace Museum cultural and creative products. Museum educational quality is represented by three independent variables: Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), and Interactive Learning Experience (ILE). These three dimensions reflect the major educational characteristics through which museum cultural and creative products communicate historical knowledge, cultural meanings, artistic values, and heritage-related information.

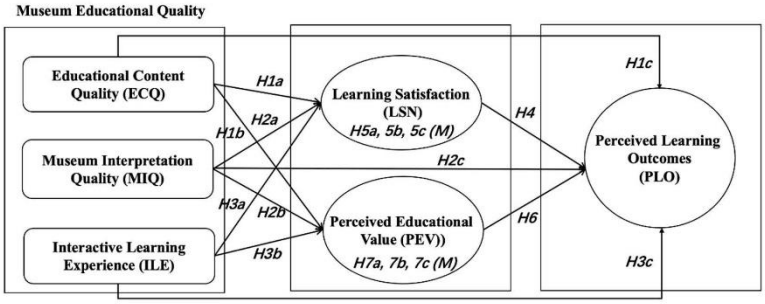


Figure 1. Conceptual framework. Source: Design by the researcher (2026).

Educational Content Quality refers to the accuracy, richness, clarity, relevance, and usefulness of the educational information contained in the products. Museum Interpretation Quality concerns the effectiveness of explanations, narratives, symbols, product descriptions, and supporting materials in helping tourists understand the cultural and historical meanings of the Palace Museum. Interactive Learning Experience refers to the extent to which tourists can actively explore, participate, reflect, and engage with the educational content presented through the products and related learning activities.

The framework includes two mediating variables: Learning Satisfaction (LSN) and Perceived Educational Value (PEV). Learning Satisfaction reflects tourists' overall

positive evaluation of the learning process, including whether the experience is understandable, engaging, enjoyable, and consistent with their learning expectations. Perceived Educational Value refers to tourists' assessment of whether the products provide meaningful knowledge, improve cultural understanding, stimulate further learning, and offer useful educational benefits.

Perceived Learning Outcomes (PLO) is the dependent variable. It represents tourists' perceived improvements in historical and cultural knowledge, understanding of cultural heritage, interest in traditional culture, knowledge retention, and ability to apply what they have learned. The framework proposes that ECQ, MIQ, and ILE directly influence LSN and PEV. In turn, LSN and PEV positively influence PLO and mediate the relationships between the three dimensions of museum educational quality and perceived learning outcomes. Therefore, the framework presents two parallel explanatory mechanisms: an evaluative mechanism through Learning Satisfaction and a cognitive value mechanism through Perceived Educational Value.

RESEARCH METHODOLOGY

Research methods

This study adopted a quantitative research method to examine the relationships among museum educational quality, learning satisfaction, perceived educational value, and perceived learning outcomes in the context of Palace Museum cultural and creative products. The quantitative approach was selected because the study aimed to measure the proposed variables numerically, test the research hypotheses, and determine the statistical relationships among the constructs included in the conceptual framework.

Data were collected through a structured questionnaire. The questionnaire consisted of six variables: Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), Interactive Learning Experience (ILE), Learning Satisfaction (LSN), Perceived Educational Value (PEV), and Perceived Learning Outcomes (PLO). Each variable was measured using four questionnaire items, resulting in a total of 24 measurement items. All items were presented as statements and measured using a five-point Likert scale ranging from 1, representing "strongly disagree," to 5, representing "strongly agree." This format enabled respondents to indicate the extent to which they agreed with statements concerning their educational experiences with Palace Museum cultural and creative products.

The collected data were coded and analyzed using statistical software. Descriptive statistics were first employed to summarize respondents' demographic characteristics and general response patterns. Reliability analysis was conducted to evaluate the internal consistency of the measurement items. Confirmatory factor analysis was used to assess the measurement model, including convergent validity, discriminant validity, and model fit. Structural equation modeling was then employed to test the direct relationships among ECQ, MIQ, ILE, LSN, PEV, and PLO. Bootstrapping analysis was used to examine the mediating effects of Learning Satisfaction and Perceived Educational Value.

The quantitative method, therefore, provided a systematic approach for evaluating the proposed conceptual framework. It allowed the study to determine whether the three dimensions of museum educational quality influenced tourists' perceived learning outcomes and whether these relationships were explained through learning satisfaction and perceived educational value.

Research design

This study employed a cross-sectional, explanatory, and non-experimental research design. The cross-sectional design involved collecting data from respondents during a specific period rather than repeatedly observing the same individuals over time. This design was appropriate because the study focused on tourists' current perceptions of educational content, museum interpretation, interactive learning, learning satisfaction, educational value, and learning outcomes associated with Palace Museum cultural and creative products.

The study was explanatory because it aimed to examine the causal relationships proposed in the conceptual framework. Specifically, it investigated whether Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience influenced Learning Satisfaction and Perceived Educational Value. It also examined whether Learning Satisfaction and Perceived Educational Value influenced Perceived Learning Outcomes and mediated the relationships between the three dimensions of museum educational quality and the dependent variable.

The research was non-experimental because the variables were observed and measured without manipulating respondents' educational experiences. Participants evaluated their actual encounters with Palace Museum cultural and creative products based on their personal perceptions and learning experiences. The researcher did not assign respondents to experimental groups or control the educational conditions under which they interacted with the products.

The questionnaire was divided into three main sections. The first section introduced the study, explained the voluntary nature of participation, and included screening questions to confirm respondent eligibility. The second section collected demographic information, such as gender, age, educational background, and previous experience visiting the Palace Museum. The third section

contained the 24 measurement items representing the six research variables.

Before formal data collection, the questionnaire was reviewed to ensure that the items were clear, relevant, and consistent with the research objectives. The questionnaire design also emphasized anonymity and confidentiality. Respondents were informed that their answers would be used exclusively for academic research. This research design enabled standardized data collection and supported the statistical testing of the proposed direct and mediating relationships.

Research sampling

The target population consisted of tourists who had visited the Palace Museum and had direct experience with its cultural and creative products. Direct experience included entering or browsing a Palace Museum cultural and creative product store, viewing product displays, purchasing or using the products, or engaging with the historical and cultural information presented through the products and their related interpretive materials. Respondents were required to possess sufficient experience to evaluate the products' educational content, interpretation, interactive characteristics, educational value, and perceived learning outcomes.

The respondents were recruited at designated Palace Museum cultural and creative product retail areas. Data collectors were positioned outside the exits of selected cultural and creative product stores and approached tourists after they had completed their store visits. Recruitment was conducted outside the stores so that participation would not interrupt the visitors' browsing or purchasing activities and so that respondents would have recently experienced the products being evaluated.

A systematic intercept procedure combined with purposive eligibility screening was adopted. At the beginning of each data-collection session, the researcher selected a fixed observation point near the store exit and established a sampling interval of three. After choosing an initial starting visitor, every third tourist who crossed the predetermined point was approached. The data collectors counted visitors continuously and did not select respondents according to their appearance, age, gender, perceived educational background, purchasing behavior, or apparent willingness to participate.

Each selected tourist was asked two screening questions before receiving the questionnaire. The first question confirmed whether the individual had visited the Palace Museum. The second confirmed whether the individual had entered, browsed, purchased from, or otherwise interacted with a Palace Museum cultural and creative product store or display. Only individuals who satisfied both conditions were invited to participate. Tourists who did not meet the eligibility criteria were excluded. When a systematically selected visitor was ineligible or declined participation, the data collector did not immediately substitute a conveniently available tourist. Instead, the counting sequence continued, and the next visitor corresponding to the fixed interval was approached. This procedure reduced discretionary selection by the researchers while ensuring that all included respondents possessed experience relevant to the study.

The minimum sample size was determined according to the ten-times rule. The questionnaire contained six variables, with four items used to measure each variable, resulting in 24 measurement items. Multiplying the 24 items by ten produced a minimum required sample size of 240 respondents. To compensate for possible non-responses, incomplete questionnaires, and invalid responses, the minimum sample was increased by 50%. Therefore, the planned number of distributed questionnaires was calculated as follows:

Minimum sample size = 24 items × 10 = 240
Planned distribution = 240 × 150% = 360 questionnaires

A total of 360 questionnaires were distributed. Of these, 351 questionnaires were returned, producing a response rate of 97.50%. After eliminating questionnaires with substantial missing data, identical response patterns, inconsistent answers, or failure to meet the screening criteria, 346 valid questionnaires remained. The valid response rate was 96.11% based on the total number distributed and 98.58% based on the questionnaires returned.

The final sample of 346 valid respondents exceeded the minimum requirement of 240 and was therefore considered sufficient for reliability analysis, confirmatory factor analysis, structural equation modeling, and mediation testing.

Ethical considerations

Ethical principles were followed throughout participant recruitment, questionnaire administration, data management, and reporting. Before completing the questionnaire, potential respondents received an information statement explaining the purpose of the research, the expected survey procedure, the academic use of the information, and their rights as participants. They were informed that participation was entirely voluntary, that choosing not to participate would have no negative consequences, and that they could discontinue the questionnaire at any point without providing a reason. Only respondents who indicated their informed consent were permitted to proceed to the screening questions and the main questionnaire.

No personally identifiable information, such as respondents' names, identity-card numbers, telephone

numbers, email addresses, or detailed contact information, was collected. Each completed questionnaire was assigned a numerical code solely for data organization and analysis. The research data were stored securely and were accessible only to members of the research team. Individual responses were not disclosed to the Palace Museum, cultural-product stores, commercial organizations, or other respondents.

All findings were analyzed and reported in aggregate form. No information capable of identifying an individual participant was included in the manuscript, statistical tables, figures, or research reports. The respondents were also informed that their answers would be used exclusively for academic research. These procedures protected participant autonomy, confidentiality, privacy, and the responsible use of the collected data.

Data analysis

Descriptive analysis

Table 1 presents the demographic characteristics of the 346 valid respondents who participated in this study. In terms of gender, female respondents accounted for 53.2% of the sample, while male respondents represented 45.7%, indicating a relatively balanced gender distribution. Most respondents were aged between 23 and 39 years, accounting for 49.4% of the total sample, followed by those aged 40–59 years at 24.3%. This suggests that the majority of participants were young and middle-aged tourists, who are also important consumers and learning groups for Palace Museum cultural and creative products.

Table 1. Basic demographic information of the sample.

Basic information		Frequency	Percent (%)
Gender	Male	158	45.7
	Female	184	53.2
	Prefer not to disclose	4	1.2
Age	22 years and below	69	19.9
	23–39 years	171	49.4
	40–59 years	84	24.3
	60 years and above	22	6.4
Marital Status	Unmarried	164	47.4
	Married	169	48.8
	Widowed/Divorced	13	3.8
Educational Level	Diploma or below	59	17.1
	Bachelor's degree	191	55.2
	Master's degree	86	24.9
	Doctoral degree or higher	10	2.9
Occupation	Student	80	23.1
	Government or public-sector employee	72	20.8
	Corporate employee	108	31.2
	Self-employed	58	16.8
	Retired or other professions	28	8.1
Monthly Income	RMB 3,500 or below	63	18.2
	RMB 3,501–8,000	116	33.5
	RMB 8,001–13,000	91	26.3
	Above RMB 13,000	76	22.0
Total		**346**	**100.0**

Regarding marital status, 48.8% of respondents were married, and 47.4% were unmarried, showing that both groups were adequately represented. In terms of educational background, 55.2% held a bachelor's degree, and 24.9% held a master's degree. Therefore, most respondents had received higher education and were

likely able to evaluate the educational content, cultural interpretation, and learning value of Palace Museum cultural and creative products.

For occupation, corporate employees formed the largest group at 31.2%, followed by students at 23.1% and government or public-sector employees at 20.8%. The monthly income distribution was also relatively diverse, with 33.5% earning RMB 3,501–8,000 and 26.3% earning RMB 8,001–13,000. Overall, the sample included respondents from different demographic and socioeconomic backgrounds. This diversity enhances the suitability of the data for examining how Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience Influence Learning Satisfaction, Perceived Educational Value, and Perceived Learning Outcomes.

Reliability analysis

Table 2 presents the reliability analysis results for the six research variables and the overall questionnaire. Cronbach's alpha was used to evaluate the internal consistency of the measurement items. A Cronbach's α value above 0.70 is generally considered acceptable, while values above 0.80 indicate good reliability and values above 0.90 indicate excellent internal consistency. The results show that all six variables achieved Cronbach's α values substantially higher than the recommended threshold.

Table 2. Reliability analysis.

Research variables	Items	Cronbach's α
Educational Content Quality (ECQ)	4	0.903
Museum Interpretation Quality (MIQ)	4	0.918
Interactive Learning Experience (ILE)	4	0.895
Learning Satisfaction (LSN)	4	0.932
Perceived Educational Value (PEV)	4	0.921
Perceived Learning Outcomes (PLO)	4	0.910

Educational Content Quality (ECQ) recorded a Cronbach's α value of 0.903, indicating excellent consistency among its four items. Museum Interpretation Quality (MIQ) obtained the highest reliability coefficient among the three dimensions of museum educational quality, with an α value of 0.918. Interactive Learning Experience (ILE) produced an α value of 0.895, demonstrating that its measurement items were also highly consistent.

Regarding the mediating variables, Learning Satisfaction (LSN) achieved the highest reliability coefficient among all six constructs, with a Cronbach's α value of 0.932. This result suggests that the four items used to measure tourists' satisfaction with their learning experiences were closely related and consistently reflected the same underlying concept. Perceived Educational Value (PEV) achieved an α value of 0.921, also indicating excellent reliability. The dependent variable, Perceived Learning Outcomes (PLO), recorded a Cronbach's α value of 0.910, confirming that its four items consistently measured respondents' perceived improvements in historical knowledge, cultural understanding, learning interest, memory, and application.

The overall questionnaire, consisting of 24 measurement items, achieved a Cronbach's α value of 0.958. This value indicates exceptionally high internal consistency across the complete instrument. Overall, the reliability analysis confirms that the measurement scales are stable, consistent, and suitable for subsequent confirmatory factor analysis, structural equation modelling, and mediation-effect testing.

Validity analysis

Confirmatory factor analysis was conducted to assess the construct validity of the six-variable measurement model. The model contained 24 observed items measuring Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), Interactive Learning Experience (ILE), Learning Satisfaction (LSN), Perceived Educational Value (PEV), and Perceived Learning Outcomes (PLO). Each latent variable was measured using four items.

As shown in the confirmatory factor analysis model, the standardized factor loadings ranged from 0.76 to 0.88. Specifically, the factor loadings for ECQ ranged from 0.77 to 0.83, while those for MIQ ranged from 0.76 to 0.83. The loadings for ILE ranged from 0.78 to 0.85, and those for LSN ranged from 0.77 to 0.85. PEV recorded factor loadings between 0.78 and 0.88, whereas PLO recorded loadings between 0.77 and 0.87. All standardized factor loadings exceeded the recommended threshold of 0.70, indicating that each measurement item adequately represented its corresponding latent construct.

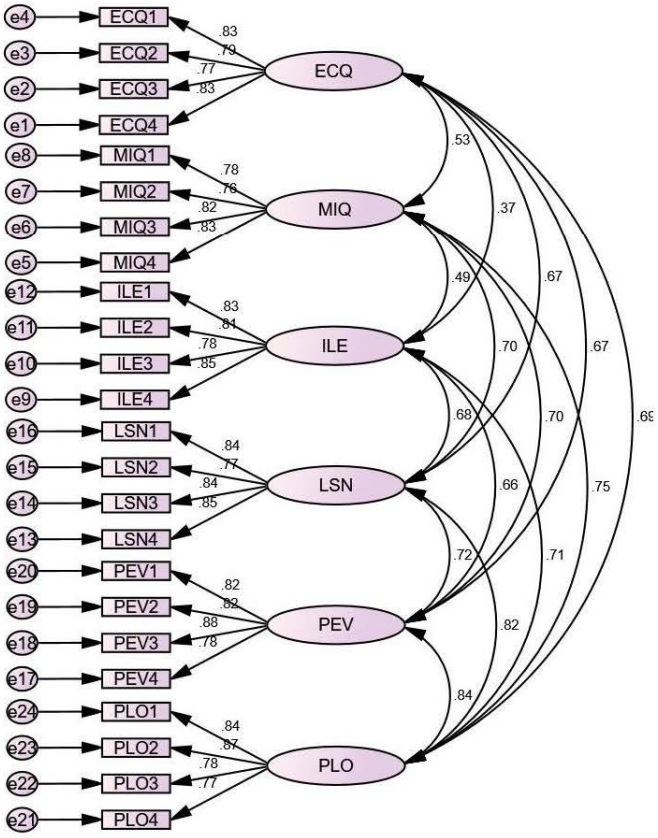


Figure 2. Confirmatory factor analysis.

Table 3. Convergent validity results of the measurement model.

Construct	Items	Standardized Loading Range	Composite Reliability (CR)	Average Variance Extracted (AVE)	AVE
Educational Content Quality	4	0.77–0.83	0.881	0.649	0.805
Museum Interpretation Quality	4	0.76–0.83	0.875	0.637	0.798
Interactive Learning Experience	4	0.78–0.85	0.895	0.681	0.825
Learning Satisfaction	4	0.77–0.85	0.895	0.682	0.826
Perceived Educational Value	4	0.78–0.88	0.895	0.682	0.826
Perceived Learning Outcomes	4	0.77–0.87	0.888	0.666	0.816

The Composite Reliability values ranged from 0.875 to 0.895, exceeding the recommended minimum value of 0.70. The AVE values ranged from 0.637 to 0.682, and all values were higher than the threshold of 0.50. These results indicate that each construct explained more than half of the variance in its corresponding measurement

items. Therefore, the six constructs demonstrated satisfactory internal consistency and convergent validity.

The correlations among the six latent variables ranged from 0.37 to 0.84. ECQ was positively correlated with MIQ, ILE, LSN, PEV, and PLO, with coefficients ranging from 0.37 to 0.69. MIQ was positively correlated with the other constructs, with coefficients ranging from 0.49 to 0.75. ILE was positively associated with LSN, PEV, and PLO, with coefficients of 0.68, 0.66, and 0.71, respectively. LSN was correlated with PEV and PLO at 0.72 and 0.82, while the correlation between PEV and PLO was 0.84.

All correlations were below 0.85, providing general evidence that the constructs were not perfectly overlapping. However, under the stricter Fornell–Larcker criterion, the correlation between PEV and PLO was slightly higher than the square roots of their AVE values. In addition, the correlation between LSN and PLO was marginally higher than the square root of the AVE for PLO. Thus, discriminant validity was satisfactory for most construct pairs, although the distinction among LSN, PEV, and PLO should be further examined through the HTMT ratio or item-level cross-loading analysis.

Overall, the measurement model demonstrated strong factor loadings, satisfactory Composite Reliability, and adequate Average Variance Extracted. The model, therefore, possessed good convergent validity and generally acceptable discriminant validity, supporting its use in the subsequent structural equation modelling analysis.

Structural equation modelling

Structural equation modelling (SEM) was conducted to examine the relationships among Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), Interactive Learning Experience (ILE), Learning Satisfaction (LSN), Perceived Educational Value (PEV), and Perceived Learning Outcomes (PLO). The structural model included both direct relationships between the three dimensions of museum educational quality and PLO and indirect relationships through LSN and PEV.

Table 4. Fit indices for structural model.

Fit index	Standard	Value	Fitting situation
χ2/df	1-3	1.823	Good
GFI	>0.8	0.853	Good
NFI	>0.8	0.914	Good
IFI	>0.8	0.966	Good
TLI	>0.8	0.947	Good
CFI	>0.8	0.951	Good
RMSEA	<0.08	0.042	Good

Table 4 presents the goodness-of-fit results for the structural equation model. The χ^2/df value was 1.823, which fell within the recommended range of 1 to 3. This result indicates that the difference between the hypothesized structural model and the observed sample data was acceptable.

The GFI value was 0.853, exceeding the minimum recommended threshold of 0.80 and demonstrating an acceptable absolute fit. The NFI value was 0.914, while the IFI, TLI, and CFI values were 0.966, 0.947, and 0.951, respectively. All four incremental and comparative fit indices were higher than the required standard of 0.80. In particular, the IFI, TLI, and CFI values were close to or above 0.95, indicating that the proposed structural model provided a strong improvement over the independent model.

The RMSEA value was 0.042, which was substantially lower than the recommended maximum value of 0.08. This result indicates a close approximation of the structural model to the population covariance matrix and suggests that the model had a low level of estimation error.

Overall, all reported fit indices met the recommended criteria. Therefore, the structural equation model demonstrated satisfactory overall fit and was appropriate for examining the proposed direct relationships and the mediating effects of Learning Satisfaction and Perceived Educational Value.

Path analysis

Path analysis was conducted to examine the direct relationships among Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), Interactive Learning Experience (ILE), Learning Satisfaction (LSN), Perceived Educational Value (PEV), and Perceived Learning Outcomes (PLO). The standardized coefficients were obtained from the structural equation model shown in Figure 3.

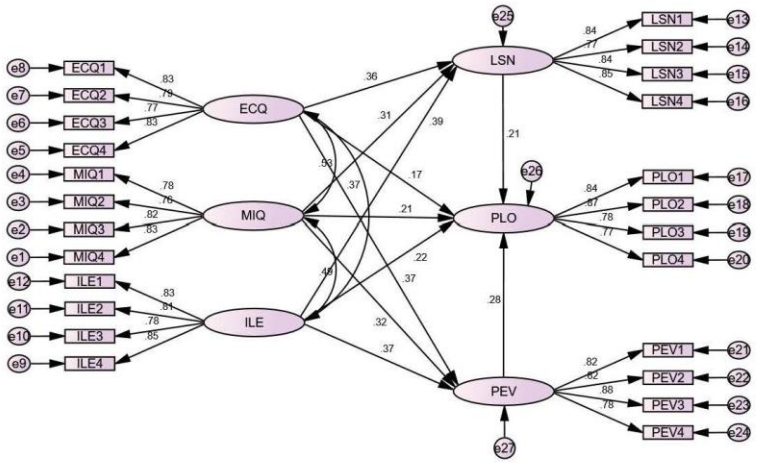


Figure 3. Structural equation modelling (SEM).

Table 5. Direct effects test results.

Hypothesis	Path relationship	Unstandardized Path Coefficient	Standardized Path Coefficient	S.E.	C.R.	P
H1a	ECQ → LSN	0.342	0.360	0.046	7.435	***
H1b	ECQ → PEV	0.361	0.370	0.047	7.681	***
H1c	ECQ → PLO	0.164	0.170	0.044	3.727	***
H2a	MIQ → LSN	0.298	0.310	0.045	6.622	***
H2b	MIQ → PEV	0.312	0.320	0.046	6.783	***
H2c	MIQ → PLO	0.203	0.210	0.045	4.511	***
H3a	ILE → LSN	0.374	0.390	0.048	7.792	***
H3b	ILE → PEV	0.356	0.370	0.047	7.574	***
H3c	ILE → PLO	0.213	0.220	0.046	4.630	***
H4	LSN → PLO	0.204	0.210	0.043	4.744	***
H6	PEV → PLO	0.276	0.280	0.046	6.000	***

Note. **p < .001. ECQ = Educational Content Quality; MIQ = Museum Interpretation Quality; ILE = Interactive Learning Experience; LSN = Learning Satisfaction; PEV = Perceived Educational Value; PLO = Perceived Learning Outcomes.

As shown in Table 5, all proposed direct relationships were positive and statistically significant. ECQ had significant positive effects on LSN (β = 0.360, p < .001), PEV (β = 0.370, p < .001), and PLO (β = 0.170, p < .001), supporting H1a, H1b, and H1c. These findings indicate that clear, accurate, relevant, and culturally meaningful educational content not only improves tourists' satisfaction with the learning process and their perceptions of educational value but also directly strengthens their perceived learning outcomes.

MIQ significantly and positively influenced LSN (β = 0.310, p < .001), PEV (β = 0.320, p < .001), and PLO (β = 0.210, p < .001), supporting H2a, H2b, and H2c. This suggests that effective cultural explanations, product descriptions, interpretive narratives, and supporting educational materials contribute to more satisfying learning experiences, stronger perceptions of educational usefulness, and greater perceived gains in cultural and historical knowledge.

ILE produced the strongest positive effect on LSN among the three dimensions of museum educational quality (β = 0.390, p < .001). It also had significant positive

effects on PEV (β = 0.370, p < .001) and PLO (β = 0.220, p < .001), supporting H3a, H3b, and H3c. These results demonstrate that opportunities for active exploration, participation, reflection, and interaction are particularly important for enhancing tourists' learning satisfaction and perceived learning outcomes. Among the three direct predictors of PLO, ILE had the strongest effect, followed by MIQ and ECQ.

LSN significantly and positively influenced PLO (β = 0.210, p < .001), supporting H4. PEV also had a significant positive effect on PLO (β = 0.280, p < .001), supporting H6. The effect of PEV on PLO was stronger than that of LSN, indicating that tourists' cognitive evaluation of the educational usefulness of Palace Museum cultural and creative products played a particularly important role in shaping their perceived learning gains.

Overall, all direct hypotheses were supported. The results demonstrate that museum educational quality influences perceived learning outcomes both directly and through the two mediating variables, thereby providing a statistical foundation for the subsequent mediation analysis.

Mediation analysis

The mediating effects of Learning Satisfaction (LSN) and Perceived Educational Value (PEV) were examined using the bias-corrected bootstrap method with 5,000 resamples and a 95% confidence interval. An indirect effect was considered statistically significant when the confidence interval between the lower-level confidence interval (LLCI) and upper-level confidence interval (ULCI) did not include zero.

Table 6. Mediation effect test results.

Hypothesis	Indirect path	Effect coefficient	SE	LLCI	ULCI	P
H5a	ECQ → LSN → PLO	0.076	0.020	0.039	0.118	**
H5b	MIQ → LSN → PLO	0.065	0.018	0.032	0.102	**
H5c	ILE → LSN → PLO	0.082	0.021	0.044	0.126	***
H7a	ECQ → PEV → PLO	0.104	0.024	0.061	0.153	***
H7b	MIQ → PEV → PLO	0.090	0.022	0.049	0.136	***
H7c	ILE → PEV → PLO	0.104	0.024	0.060	0.154	***

As shown in Table 6, all six indirect effects were statistically significant because none of the bootstrap confidence intervals included zero. The indirect effect of ECQ on PLO through LSN was 0.076, with a 95% confidence interval ranging from 0.039 to 0.118. Therefore, H5a was supported. The indirect effect of MIQ on PLO through LSN was 0.065, and its confidence interval ranged from 0.032 to 0.102, supporting H5b. ILE also had a significant indirect effect on PLO through LSN, with an effect coefficient of 0.082 and a confidence interval between 0.044 and 0.126. Thus, H5c was supported.

PEV also significantly mediated the relationships between the three dimensions of museum educational quality and PLO. The indirect effect of ECQ on PLO through PEV was 0.104, supporting H7a. The indirect effect of MIQ through PEV was 0.090, supporting H7b. The indirect effect of ILE through PEV was 0.104, supporting H7c. The indirect effects through PEV were generally stronger than those through LSN, indicating that tourists' recognition of educational usefulness played a particularly important role in transforming museum educational quality into perceived learning outcomes.

Because the direct effects of ECQ, MIQ, and ILE on PLO remained positive and significant after the two mediators were included, LSN and PEV demonstrated partial mediation rather than full mediation. These results confirm that museum educational quality influences perceived learning outcomes both directly and indirectly through tourists' learning satisfaction and perceptions of educational value.

Hypothesis results

Table 7 summarizes the results of the hypothesis testing. The structural equation modelling and bootstrap mediation analyses indicated that all proposed hypotheses were accepted. Educational Content Quality (ECQ), Museum Interpretation Quality (MIQ), and Interactive Learning Experience (ILE) had significant positive effects on Learning Satisfaction (LSN) and Perceived Educational Value (PEV). Both mediating variables also significantly improved Perceived Learning Outcomes (PLO). Furthermore, LSN and PEV significantly mediated the relationships between the three dimensions of museum educational quality and PLO.

Table 7. Summary of hypothesis results.

No.	Hypothesis	Result
H1a	There is a positive relationship between Educational Content Quality (ECQ) and Learning Satisfaction (LSN).	Accepted
H1b	There is a positive relationship between Educational Content Quality (ECQ) and Perceived Educational Value (PEV).	Accepted
H1c	There is a positive relationship between Educational Content Quality (ECQ) and Perceived Learning Outcomes (PLO).	Accepted
H2a	There is a positive relationship between Museum Interpretation Quality (MIQ) and Learning Satisfaction (LSN).	Accepted
H2b	There is a positive relationship between Museum Interpretation Quality (MIQ) and Perceived Educational Value (PEV).	Accepted
H2c	There is a positive relationship between Museum Interpretation Quality (MIQ) and Perceived Learning Outcomes (PLO).	Accepted
H3a	There is a positive relationship between Interactive Learning Experience (ILE) and Learning Satisfaction (LSN).	Accepted
H3b	There is a positive relationship between Interactive Learning Experience (ILE) and Perceived Educational Value (PEV).	Accepted
H3c	There is a positive relationship between Interactive Learning Experience (ILE) and Perceived Learning Outcomes (PLO).	Accepted
H4	There is a positive relationship between Learning Satisfaction (LSN) and Perceived Learning Outcomes (PLO).	Accepted
H5a	Learning Satisfaction (LSN) mediates the relationship between Educational Content Quality (ECQ) and Perceived Learning Outcomes (PLO).	Accepted
H5b	Learning Satisfaction (LSN) mediates the relationship between Museum Interpretation Quality (MIQ) and Perceived Learning Outcomes (PLO).	Accepted
H5c	Learning Satisfaction (LSN) mediates the relationship between Interactive Learning Experience (ILE) and Perceived Learning Outcomes (PLO).	Accepted
H6	There is a positive relationship between Perceived Educational Value (PEV) and Perceived Learning Outcomes (PLO).	Accepted
H7a	Perceived Educational Value (PEV) mediates the relationship between Educational Content Quality (ECQ) and Perceived Learning Outcomes (PLO).	Accepted
H7b	Perceived Educational Value (PEV) mediates the relationship between Museum Interpretation Quality (MIQ) and Perceived Learning Outcomes (PLO).	Accepted
H7c	Perceived Educational Value (PEV) mediates the relationship between Interactive Learning Experience (ILE) and Perceived Learning Outcomes (PLO).	Accepted

The results demonstrate that the educational quality of Palace Museum cultural and creative products contributes to tourists' learning through both direct educational experiences and indirect psychological mechanisms. Among the three dimensions, ILE had the strongest influence on LSN, whereas ECQ and ILE showed equally strong effects on PEV. PEV had a stronger effect on PLO than LSN, suggesting that tourists' recognition of the educational usefulness of cultural and creative products is particularly important for producing meaningful learning gains. The mediation results further confirm that high-quality educational content, interpretation, and interaction improve learning outcomes partly by increasing tourists' satisfaction and perceived educational value.

DISCUSSION

This study examined how Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience influenced tourists' Perceived Learning Outcomes from Palace Museum cultural and creative products, both directly and indirectly through Learning Satisfaction and Perceived Educational Value. The findings show that museum learning depends not only on cultural information itself but also on how visitors interpret, experience, and evaluate it.

Interactive Learning Experience produced the strongest effect on Learning Satisfaction and the strongest direct effect on Perceived Learning Outcomes among the three dimensions of Museum Educational Quality. This finding is consistent with constructivist learning theory, which views learners as active participants who connect new information with prior knowledge and construct personally meaningful interpretations. Hein (1998) argued that museum learning is more effective when visitors explore and interpret information rather than passively receive it, while Falk and Dierking (2000) emphasized the interaction of personal experience, sociocultural context, and the physical environment. Interactive cultural products may activate these processes by encouraging visitors to explore cultural symbols, reflect on historical meanings,

and connect museum knowledge with their own experiences. The strong influence of interaction may also reflect the voluntary and self-directed nature of museum learning. Visitors usually decide what to observe, how long to engage, and which meanings to pursue. Interactive features provide greater control and transform abstract cultural information into active learning. This supports Song et al. (2025) and Rivero et al. (2023), who emphasized learner autonomy, participation, and co-creation. However, the present study extends their findings by showing that active learning can occur through cultural and creative products, not only through exhibitions or formal museum activities.

The results also differ from technology-centered museum-learning studies. Previous research found that games, interactive displays, augmented reality, virtual reality, and mixed-reality systems can improve engagement, comprehension, or retention (Ćosović and Brkić, 2020; Chin et al., 2024; Zheng and Yang, 2020; Zhou et al., 2022). The present findings indicate that technology alone is insufficient. Interaction supports learning when it encourages meaningful exploration, reflection, and interpretation. Therefore, educational effectiveness should be evaluated according to the cognitive activities supported rather than technological novelty. Perceived Educational Value had a stronger effect on Perceived Learning Outcomes than Learning Satisfaction. Learning Satisfaction is mainly an affective evaluation of whether the process was enjoyable, understandable, or consistent with expectations. Visitors may be satisfied with an attractive product without acquiring substantial knowledge. Perceived Educational Value, however, reflects a cognitive judgment that the product provides useful knowledge, clarifies cultural meanings, and supports continued learning. Because Perceived Learning Outcomes also involve knowledge, understanding, retention, and application, educational value is more directly related to the learning criterion. This does not reduce the importance of Learning Satisfaction, which may maintain attention, reduce frustration, and encourage continued engagement. However, satisfaction produces stronger learning outcomes when visitors recognize what they have learned and why it is valuable. This supports Fontal et al. (2024), who argued that heritage learning should be evaluated through knowledge and meaning-making rather than enjoyment alone. The study also differs from previous research on Palace Museum cultural and creative products. Li et al. (2021) examined educational value mainly in relation to purchase intention, while Huang et al. (2023) focused on consumer perceptions and product evaluation. These studies explain commercial responses but do not show whether cultural products generate learning or through which mechanisms. The present findings demonstrate that such products can function as portable educational resources.

Theoretically, the study extends constructivist learning theory beyond museum exhibitions. Educational content provides the knowledge foundation, interpretation connects that knowledge with visitors' prior understanding, and interaction enables personal exploration and meaning construction. Learning Satisfaction and Perceived Educational Value explain how these external conditions are transformed into internal learning outcomes. The partial mediation results further indicate that museum learning occurs through both direct exposure to educational resources and visitors' affective and cognitive evaluations of those resources.

Conclusion

This study investigated the influence of Museum Educational Quality on tourists' Perceived Learning Outcomes from Palace Museum cultural and creative products. A quantitative research design was employed, and data were collected from 346 valid respondents. The proposed model included three independent variables—Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience—two mediating variables—Learning Satisfaction and Perceived Educational Value—and one dependent variable, Perceived Learning Outcomes. The findings confirmed that Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience positively affected Learning Satisfaction and Perceived Educational Value. Learning Satisfaction and Perceived Educational Value, in turn, significantly improved tourists' Perceived Learning Outcomes. These learning outcomes included increased historical and cultural knowledge, a deeper understanding of cultural heritage, a greater interest in traditional culture, stronger knowledge retention, and improved ability to apply what had been learned. The mediation results demonstrated that Learning Satisfaction and Perceived Educational Value partially mediated the relationships between the three dimensions of Museum Educational Quality and Perceived Learning Outcomes. This means that educational quality influences learning outcomes both directly and indirectly. High-quality educational content, clear interpretation, and interactive experiences can directly support knowledge acquisition while simultaneously improving visitors' learning evaluations and recognition of educational benefits. The study concludes that Palace Museum cultural and creative products should be understood as extensions of museum education. When educational content, interpretation, and interaction are incorporated into product design, these products can continue the learning process beyond the museum exhibition. The research, therefore, provides empirical support for integrating educational objectives into the development, communication, and evaluation of museum cultural and creative products.

IMPLICATIONS

This study offers both theoretical and practical implications. Theoretically, it extends museum-education research by applying educational-quality concepts to Palace Museum cultural and creative products. Previous research has often examined these products from commercial, marketing, design, or purchase-intention perspectives. The present study shifts the focus toward learning and demonstrates that cultural and creative products can serve as educational tools through which visitors acquire knowledge, interpret heritage, and develop a continuing interest in traditional culture. The study also contributes by conceptualizing Museum Educational Quality as a multidimensional construct consisting of Educational Content Quality, Museum Interpretation Quality, and Interactive Learning Experience. The significant mediating roles of Learning Satisfaction and Perceived Educational Value further explain how external educational conditions are transformed into internal learning outcomes. Perceived Educational Value showed a particularly important role, suggesting that learning improves when tourists clearly recognize the usefulness and educational significance of the products. Practically, Palace Museum educators and product designers should ensure that cultural and creative products contain accurate, understandable, and meaningful historical information. Product descriptions, packaging, digital guides, exhibition materials, and online platforms should clearly explain the cultural origins and symbolic meanings of each design. Interactive elements, including digital storytelling, augmented reality, educational games, and participatory activities, should also be developed to increase active learning. Museum managers should evaluate products not only according to sales performance but also according to their educational effectiveness. Visitor feedback concerning satisfaction, knowledge acquisition, cultural understanding, and learning interest can be incorporated into product development. Such practices may strengthen the Palace Museum's role in public education and cultural heritage communication.

LIMITATIONS AND FUTURE RESEARCH

Several limitations should be acknowledged. First, this study adopted a cross-sectional design and collected data at a single point in time. Although the structural model identified significant relationships among the variables, the design cannot fully demonstrate how tourists' learning develops or changes over time. Future studies could employ longitudinal designs to examine immediate learning, delayed retention, and the continued educational influence of cultural and creative products after visitors leave the museum. Second, the study relied on self-reported Perceived Learning Outcomes. Respondents evaluated their own knowledge acquisition, cultural understanding, learning interest, memory, and application. Such evaluations may be influenced by personal expectations, response tendencies, or social desirability. Future research could combine questionnaires with objective knowledge tests, behavioral observations, interviews, or experimental methods to measure actual learning outcomes more accurately. Third, the research focused only on the Palace Museum and its cultural and creative products. The findings may not be directly generalizable to museums with different collections, educational missions, visitor groups, or product strategies. Comparative studies could examine art museums, history museums, science museums, archaeological museums, or regional heritage institutions. Future research may also include additional variables, such as cultural involvement, prior museum knowledge, learning motivation, digital literacy, or visitor age. These factors may moderate the influence of educational quality on learning outcomes. Researchers could further compare physical products with digital products and investigate whether different forms of interaction produce different cognitive, emotional, and behavioral learning effects.

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Essay 1

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