



# The Impact of Tourism Destination Image and Service Innovation on Tourist Loyalty through Perceived Value

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## Abstract

In the backdrop of China's robust economic growth and the concurrent rise in living standards, the tourism industry has emerged as a pivotal driver of economic development. Within this sector, the tourist destination's image and service innovation represent integral components of the industry's core competitiveness, wielding a substantial influence on the cultivation and augmentation of tourist loyalty. This study delves into the interplay among the tourist destination image, service innovation, and tourist loyalty in the context of Guilin. To facilitate this exploration, the variable of perceived value is introduced. Employing a questionnaire survey methodology, we gathered and analyzed 417 valid responses using structural equation modeling. Our research findings underscore that the image of the tourist destination, service innovation, and perceived value all exert a profoundly positive impact on tourist loyalty. Notably, perceived value serves as a mediating factor, bridging the relationship between the tourist destination image and tourist loyalty, as well as between service innovation and tourist loyalty. These outcomes furnish a theoretical foundation and practical guidance for the strategic development of tourist destinations, the promotion of service innovation, and the augmentation of perceived value within the evolving landscape of China's tourism industry. Guided by tourist needs, focusing on tourist experiences, starting from innovative service content, forms, and means, tourist satisfaction can be improved, thereby increasing tourist loyalty. Specific measures include introducing intelligent service technologies such as big data analysis and artificial intelligence to improve service efficiency; strengthening staff training to enhance service levels; and focusing on personalized services to meet the individual needs of tourists.

**Keywords:** tourist loyalty, destination image, service innovation, perceived value.

## Introduction

With the rapid development of China's economy and the continuous improvement of people's living standards, the tourism industry has gradually emerged as a vital pillar industry



driving China's economic growth Hu, M., & Ye, Y. (2023). The image of tourist destinations and service innovation, as significant components of the core competitiveness of the tourism industry, have a profound impact on the cultivation and enhancement of tourist loyalty. However, there are still many problems in the current Chinese tourist destinations in terms of image shaping and service innovation, such as insufficient mining of destination characteristic resources (Chi, C. G. Q., & Qu, H. (2008).serious homogenization of tourism products (Wang, 2020), and large gaps in service levels and quality. These problems, to some extent, affect tourists' satisfaction and loyalty, thereby limiting the competitiveness and sustainable development of tourist destinations.

Guilin, a treasure of Chinese tourism, is renowned worldwide for its magnificent natural landscapes and profound historical and cultural heritage. The tourism industry makes a significant contribution to Guilin's economy. However, official data for 2022 shows that the value added of the tertiary industry in Guilin grew by only 0.6%, reaching 1288.00 billion yuan, which accounts for 52.9% of the regional GDP. Concurrently, the city hosted 10,693,140 domestic tourists, with a total domestic tourism consumption of 1277.39 billion yuan, marking a decrease of 12.6% and 14.9% respectively (Guangxi Guilin Statistics Bureau,2023), indicating the severe challenges faced by Guilin's tourism industry.

These challenges highlight the urgency of studying Guilin's tourism industry. Therefore, this study selects Guilin as a case study to explore how destination image and service innovation affect tourist loyalty, as well as the mediating role of perceived value in this process. The research findings will provide valuable theoretical guidance for Guilin and other tourism destinations, helping them to stand out in the fiercely competitive tourism market and enhance tourist loyalty. By deeply understanding the needs and expectations of tourists, this study will offer practical references for shaping the image of tourism destinations and service innovation, injecting new vitality into the recovery and growth of Guilin's tourism industry.

To analyze the relationship between the image of the tourist destination, service innovation, and tourist loyalty, this study introduces perceived value as a mediating variable for discussion. The study aims to examine the key factors affecting tourist loyalty in Guilin, explore the relationship between tourist destination image, service innovation, and tourist loyalty, as well as study the mediating role of perceived value in this relationship.

## Objective of Research

1.To study delves into the interplay among the tourist destination image, service innovation, and tourist loyalty in the context of Guilin. To facilitate this exploration, the variable of perceived value is introduced.

## Hypothesis of Research

1. Tourist destination image has a significant impact on tourist loyalty.
2. Tourist destination image has a significant impact on tourist perceived value.



3. Service innovation has a significant impact on tourist loyalty.
4. Service innovation has a significant impact on tourist perceived value.
5. Tourist perceived value has a significant impact on tourist loyalty.
6. Tourist destination image significantly influences tourist loyalty through tourist perceived value.
7. Service innovation significantly influences tourist loyalty through tourist perceived value.

## Literature Review

### *Destination Image and Tourist Loyalty*

Considerable research has extensively explored the nexus between destination image and tourist loyalty, consistently revealing the profound impact of destination image on the allegiance of tourists. For instance, a study by Chi and Qu (2008) illuminates that destination image wields a significant influence on tourist satisfaction, suggesting that alluring and well-regarded tourist destinations tend to evoke higher levels of tourist contentment. In turn, heightened tourist satisfaction correlates with enhanced loyalty, as tourists are more inclined to revisit and advocate for such destinations. In summary, destination image manifests a direct and positive effect on both tourist satisfaction and loyalty, thereby amplifying their proclivity to revisit and endorse the destination to others. Similarly, a study by Zhang, H., et al. (2014) dissected the multifaceted dimensions of destination image, encompassing overall image, emotional image, and cognitive image, and assessed their respective impacts on tourist loyalty. The findings underscore the paramount influence of the overall image of a destination on tourist loyalty, followed by the emotional and cognitive dimensions. This underscores the pivotal role that tourists' overarching impressions and perceptions of a destination play in shaping their loyalty.

Iordanova's comprehensive study in 2017 crafted a holistic loyalty index to scrutinize both the behavioral and attitudinal facets of tourist loyalty. The results unveiled a positive correlation between destination image and comprehensive tourist loyalty, further substantiating the proposition that an appealing destination image substantively bolsters tourist loyalty. Furthermore, a study by Kanwel et al. (2019) scrutinized the connection between the image of Pakistani tourist destinations and tourist loyalty, as well as the willingness to revisit. The research outcomes illuminated a positive relationship between destination image and tourist loyalty, coupled with an inclination to revisit. This accentuates that tourist destinations with a favorable image not only tend to accrue acclaim but also nurture a cadre of loyal patrons predisposed to revisit. Drawing upon the profound insights distilled from the aforementioned literature, this research advances the following hypotheses for rigorous scrutiny and exploration.

H1: Tourist destination image has a significant impact on tourist loyalty.

### *Destination Image and Perceived Value*



Tourists' evaluation of the soft factors in the destination image is ultimately presented through the concept of perceived value, which is manifested as the balance of perceived benefits and perceived losses ( Li, M. & Angusan. (2008).. This indicates that the better the destination image, the higher the tourists' perception of its value, and accordingly, the higher their satisfaction with the tourist destination. Regarding the impact of destination image on tourists' perceived value, existing studies have confirmed that this relationship is significant and positive. For example, Cheng, T. M., & Lu, C. C. (2013). focused on tourists' experiences in island tourism and explored the relationships between destination image, novelty, enjoyment, perceived value, and tourists' willingness to revisit. The study found that the destination image has a significant positive impact on novelty, enjoyment, and perceived value. Similarly,

Jin, N., Lee, H., & Lee, S. (2013). Proposed a conceptual model to study the effects of tourists' perceived value and destination image on the perceived quality of sports events and tourists' behavioral intentions in the context of large-scale sports events. The research results showed that perceived value has a direct impact on tourists' behavioral intentions, and destination image plays a decisive role in tourists' value perception. Chen, C. F., & Tsai, D. (2007). introduced the concepts of destination image and perceived value to construct a structural model involving destination image, evaluation factors, and tourists' behavioral intentions. The research results showed that the destination image has a significant positive impact on tourists' behavioral intentions through their perceived value.

Based on the content of the above literature research, this research proposes the following hypothesis:

H2: Tourist destination image has a significant impact on tourist perceived value.

#### *Service Innovation and Tourist Loyalty*

The impact of service innovation on customer loyalty has been confirmed by existing research to be significant and positive. Seesaiprai, S. (2016) explored the role of service innovation and service quality in enhancing customer loyalty for small service enterprises through a case analysis of the car care industry in Bangkok. The study found that in order to improve customer loyalty, car care service providers should enhance service quality through the implementation of service innovation. In other words, this study emphasizes the importance of service innovation and service quality to customer loyalty in small service enterprises. Liu, Y., et al.(2018). Investigated the influence of perceived product innovation on brand loyalty. The research confirmed that both perceived product functional innovation and product appearance innovation have a positive impact on brand loyalty. This implies that when customers believe a product has unique or newly added functions, and consider its appearance to be unique and distinct, they are more likely to maintain loyalty to the brand. Xie, C., et al.(2009) conducted an empirical study on the relationship between service innovation and service loyalty in the catering industry. The study found that in the catering industry, the performance of employees during the service process and tangible displays are crucial to enhancing customer service loyalty. This suggests that the catering industry should pay attention to employee training to ensure they can provide quality service, thereby increasing



customer loyalty. Based on the content of the above literature research, this research proposes the following hypothesis:

H3: Service innovation has a significant impact on tourist loyalty.

#### *Service Innovation and Perceived Value*

Existing research consistently affirms the significant and positive impact of service innovation on customer-perceived value. For instance, Liu, Y., et al.(2018) a field investigation of service innovation projects in budget hotels, revealing that customers' perception of hotel service innovation had a positive effect on their perceived value and brand attitude. This implies that hotels can enhance customer-perceived value and foster positive brand attitudes through continuous innovation in service processes, facilities, participation systems, and content, subsequently boosting customer satisfaction and loyalty. Additionally, Luo. W., et al.(2019). Aimed to explore the impact of innovations provided by various suppliers in the tourism value chain on tourists' overall experience perceived value. Their study found that when assessing the overall travel experience value, tourists may adopt either a retrospective tense, memorable moment heuristic method, or a normative method by evaluating the total benefits gained throughout the entire travel process. Simultaneously, innovations that enhance convenience and promote learning can improve tourists' overall perceived value through both normative and heuristic methods, while innovations that generate immersion can only enhance tourists' overall perceived value through the heuristic method. Based on the content of the above literature research, this study posits the following hypothesis for further exploration.

H4: Service innovation has a significant impact on tourist perceived value.

#### *Perceived Value and Tourist Loyalty*

Existing research consistently affirms the significant and positive influence of perceived value on customer loyalty. For instance, Wang,M., et al.(2014) analyzed the relationship between nostalgia, perceived value, satisfaction, and loyalty and found that perceived value had a favorable impact on customer satisfaction and loyalty. Similarly, Boonchunone, S., et al(2021).constructed a framework for assessing the impact of airport service quality, image, and perceived value on passenger loyalty, specifically for Suvarnabhumi Airport passengers. The study revealed that airport service quality, image, and perceived value all had a positive effect on passenger loyalty. Additionally, Harris and Goode (2004) observed that when customers perceived higher value in products sold online, they were more likely to continue browsing, make repeat purchases, and recommend the brand to others. Thus, enhancing customer-perceived product value could effectively enhance brand loyalty. Based on the content of the above literature research, this study posits the following hypothesis for further exploration.

H5: Tourist perceived value has a significant impact on tourist loyalty.

Perceived Value and Destination Image, Tourist Loyalty





Existing literature consistently suggests that perceived value plays a significant mediating role in the relationship between destination image, perceived value, and tourist loyalty. For instance, Wang, B., et al. (2016) conducted research involving 300 self-driving tourists at the Tianchi World Natural Heritage Site in China and found that perceived value and satisfaction directly influenced destination loyalty, with perceived value and tourist satisfaction acting as mediators between destination image and loyalty. Similarly, Ramseook-Munhurrin, P., et al. (2015) examined the relationship among destination image, perceived value, and destination loyalty for first-time visitors and discovered that a positive perception of the destination image significantly enhanced their perceived value and destination loyalty, with perceived value partially mediating between destination image and loyalty. Furthermore, Lu, L., et al. (2023) conducted empirical research on first-time visitors, revealing that a positive perception of the destination image significantly improved their perceived value and destination loyalty, with perceived value playing a mediating role to some extent between the first-time visitors' views of the destination image and destination loyalty. Building upon this literature, this study posits hypotheses to further explore these relationships.

H6: Tourist destination image significantly influences tourist loyalty through tourist perceived value.

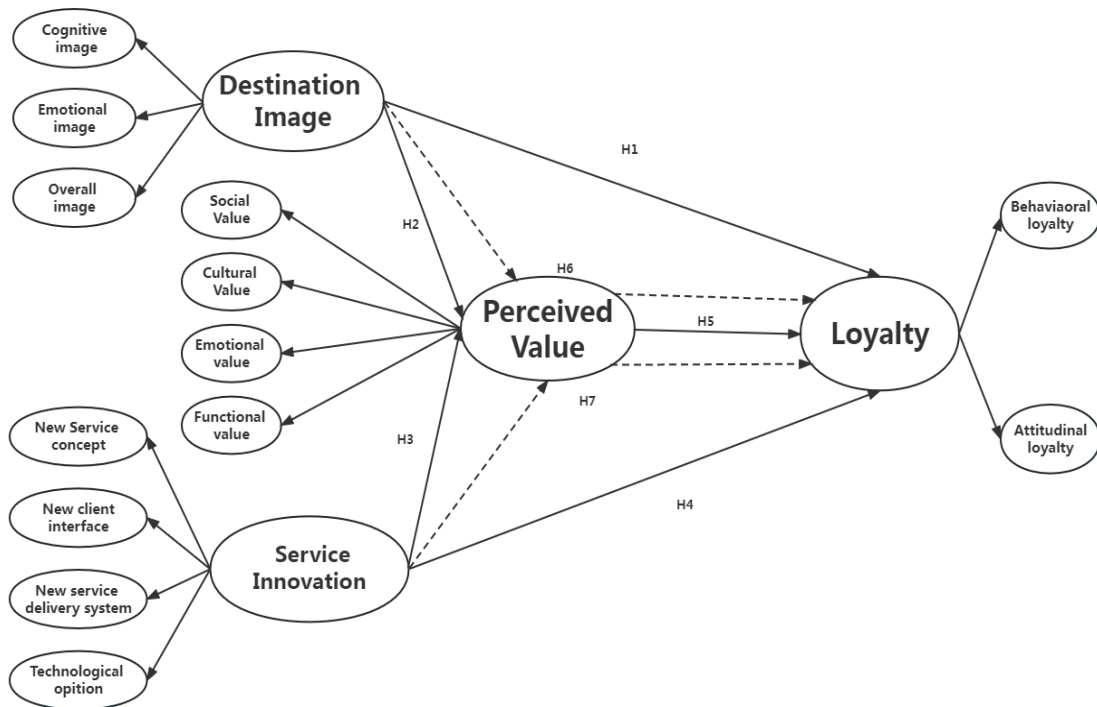
#### *Perceived Value and Service Innovation, Tourist Loyalty*

In the examination of the relationship between service innovation, service quality, and tourist loyalty, existing literature consistently indicates the significant mediating role of perceived value. Xie, C., et al. (2009) conducted an empirical study within the catering industry, employing structural equation modeling to analyze the connection between service innovation and service loyalty. Their findings revealed that personnel service processes and tangible presentations played pivotal roles in establishing service loyalty. The influence of service innovation on service loyalty was mediated through service quality and perceived value. Similarly, in a study by Liu, Y., et al. (2018) on customer-perceived product innovation's impact on brand loyalty, it was observed that customer-perceived value served as a mediating factor between perceived product innovation and brand loyalty. Drawing upon the insights from this literature, this research formulates the following hypotheses to further investigate these relationships.

H7: Service innovation significantly influences tourist loyalty through tourist perceived value.

#### **Research Framework**

The purpose of this study is to explore the relationship between Guilin's tourist destination image, service innovation, perceived value, and tourist loyalty. Additionally, it aims to investigate how perceived value affects the interaction between independent and dependent variables. Based on the seven hypotheses proposed above, this study establishes a conceptual model, which is shown in the figure 1 below:



**Figure 1** Conceptual Model

## Research Methodology

### *Participants*

This research examines tourist loyalty in Guilin, China. Data on tourist destination, service innovation, perceived value, and loyalty were collected through online survey platforms using purposive sampling techniques. Given that tourists in Guilin come from all over the country, online survey platforms were chosen as an ideal method to gather comprehensive and representative data on tourists.

To ensure the statistical significance and accuracy of the research results, a minimum sample size of 204 people was determined based on the number of variables and sample size calculation formula. However, to enhance the validity of the questionnaire data, a minimum sample size of more than 250 was preferable. Ultimately, 438 questionnaire responses were collected through online survey platforms. After excluding 21 invalid questionnaires, 417 valid survey samples remained, resulting in an effective rate of 95.2%. This high ratio indicates a strong interest and willingness among the target population to participate in the study.

This research specifically focuses on domestic tourists who have visited Guilin. The 417 valid survey samples cover participants with diverse occupations, educational backgrounds, and income levels, spanning various age groups, including young, middle-aged, and elderly individuals. Regarding tourism experience, some respondents visited Guilin for the first time, showing curiosity and excitement about Guilin's attractions and cultural characteristics. Others had visited Guilin multiple times, possessing a deep understanding and extensive experience



with Guilin's tourism resources and services.

**Table 1** *Participant Profile*

	Characteristics	n	%
Gender	Male	204	48.9
	Female	213	51.1
Age	Lower than 20	34	8.2
	21–30	141	33.8
	31–40	122	29.3
	41–50	95	22.8
	51 or above	25	6.0
Education	High school or below	22	5.3
	Junior college education	113	27.1
	Bachelor's	194	46.5
	Master's	51	12.2
	PhD or above	37	8.9
Profession	Public official	32	7.7
	Company staff	227	54.4
	Freelancer	121	29.0
	Other	37	8.9
Monthly Salary (RMB)	Lower than 2000	61	14.6
	2001–5000	100	24.0
	5001–10000	142	34.1
	10001–20000	87	20.9
	20001 or above	27	6.5
Tour times	Lower than 0	0	0.0
	1	73	17.5
	2	149	35.7
	3	140	33.6
	4 or above	55	13.2

According to the survey data in Table 1, we can learn about some basic information about the tourists. In terms of gender, the ratio of male to female tourists is nearly equal. In terms of age, tourists aged 21–40 represent the majority, exceeding 60% of the total. In terms of education level, tourists with undergraduate and associate degrees dominate, making up over 70% of the sample. In terms of occupation, company employees and freelancers represent the majority, exceeding 80% of the respondents. In terms of income, tourists earning over 5000 yuan per month represent the majority, accounting for more than 60% of the sample. As for the number of visits to Guilin, most tourists have visited two or three times, representing over 60% of the total.

The number of valid samples far exceeds the minimum sample size, providing sufficient





data for subsequent statistical analysis. The accuracy of parameter estimation will be affected by the sample size, and a larger sample means more accurate and reliable estimates.

### ***Instruments***

The tourist loyalty scale encompasses two dimensions: behavioral loyalty and attitudinal loyalty, comprising a total of 6 items. Its construction is based on the research conducted by Zhang and Chen (2022). The alpha value for the overall tourist loyalty scale is 0.863, with behavioral loyalty and attitudinal loyalty dimensions having alpha values of 0.868 and 0.859, respectively.

The tourism destination image scale comprises three levels: cognitive image, affective image, and overall image, totaling 12 items. The scale's design draws from the work of McCleary (1999) and Seyma B.(2022). The alpha value for the tourist destination image scale is 0.892, with cognitive image, affective image, and overall image dimensions having alpha values of 0.876, 0.850, and 0.837, respectively.

The service innovation scale focuses on the innovation of tourism service products and includes four dimensions: new service concept, new customer interface, new delivery system, and new technology, encompassing a total of 23 items. The item design is sourced from Cao's (2018) research. The alpha value for the service innovation scale is 0.942, with new service concept, new customer interface, new delivery system, and new technology dimensions having alpha values of 0.931, 0.908, 0.837, and 0.880, respectively.

The perceived value scale measures the difference between tourist investment and return, comprising four dimensions: functional value, emotional value, cultural value, and social value, totaling 14 items. The item design refers to the research conducted by Ren, J., & Gao ,X.. (2023). The alpha value for the perceived value scale is 0.917, with functional value, emotional value, cultural value, and social value dimensions having alpha values of 0.892, 0.891, 0.847, and 0.857, respectively.

All the alpha values for the scales and dimensions mentioned above exceed 0.8. Regarding the 'alpha coefficient with items deleted,' the reliability coefficient does not significantly increase after the deletion of any item, indicating that the items should not be removed. In terms of the 'CITC value' (Corrected Item-Total Correlation), the CITC value for the analyzed items is all greater than 0.4, suggesting a strong correlation between the analyzed items. Based on this analysis result, it confirms the reliability of the survey questionnaire designed in this paper, meeting the design standards of the survey questionnaire, and demonstrating that these scales are reliable measurement tools. All of these scales employ a 5-point Likert scale, with evaluation levels ranging from 1 (strongly disagree) to 5 (strongly agree).

### ***Data Collection***

This study adopts an online questionnaire survey method to widely contact and collect data. This method not only facilitates participants but also covers audiences from different regions across the country(Ball, 2019). The questionnaire can be completed through computers or mobile devices, allowing respondents to participate at anytime and anywhere, thereby



improving the convenience and response rate of the survey. Before the survey implementation, the questionnaire undergoes a small-scale pre-test to ensure its effectiveness and appropriateness.

During the study, great importance is attached to ethical issues, ensuring that all participants voluntarily participate with full informed consent. To this end, the research team has established a complete ethical process and obtained ethical approval from the Institutional Review Board (IRB), ensuring the protection of ethical standards and participants' rights. For the collected mental health-related data, the research team implements strict privacy protection and data security measures to ensure the secure storage and processing of information.

At the same time, considering the potential impact of the survey on participants' mental health, the research team provides corresponding mental health support resources or recommendations, demonstrating care for participants' well-being. These comprehensive ethical measures not only protect participants' rights but also strengthen the rigor of the research and the effectiveness of the findings.

### ***Data Analysis***

This study focuses on exploring the relationships between tourist destination image, service innovation, perceived value, and tourist loyalty, with a particular emphasis on the mediating role of perceived value. A series of advanced statistical techniques were employed to rigorously test the hypothetical model. To accurately evaluate the analysis results, IBM SPSS Amos 26 software was utilized to perform data analysis through structural equation modeling (SEM). The purpose of the study is to systematically examine the impact of tourist destination image, service innovation, and perceived value on tourist loyalty, as well as how perceived value acts as a mediating variable. This study adopted a quantitative research method (Bloomfield & Fisher, 2019) and integrated the research variables into the hypothetical model for investigation.

The preliminary phase of the study included analyzing the validity of each variable scale to ensure the reliability of the scales and the rationality of item design. Subsequently, the fit of the structural equation model was tested, and an overall structural equation model diagram was constructed based on this. Then, the researcher analyzed the direct impact of tourist destination image, service innovation, and perceived value on tourist loyalty. Ultimately, the study focused on exploring the mediating effect of perceived value between tourist destination image and tourist loyalty, as well as between service innovation and tourist loyalty.

## **Research Results**

This research explores the relationship between tourist destination image, service innovation, tourist perceived value, and tourist loyalty. By constructing a structural equation model and using IBM SPSS AMOS 26 software for model fitting and Bootstrap method for mediation effect analysis, it is found that tourist destination image, service innovation, and tourist perceived value all have significant positive impacts on tourist loyalty. In addition, tourist destination image and service innovation also have significant positive impacts on tourist



perceived value. Mediation effect analysis shows that tourist perceived value plays a mediating role between tourist destination image and tourist loyalty, as well as between service innovation and tourist loyalty. These research findings provide useful references for the tourism industry, helping destination managers better understand tourist needs, improve tourist loyalty, and thus promote the development of the tourism industry.

### Model Fitting Test

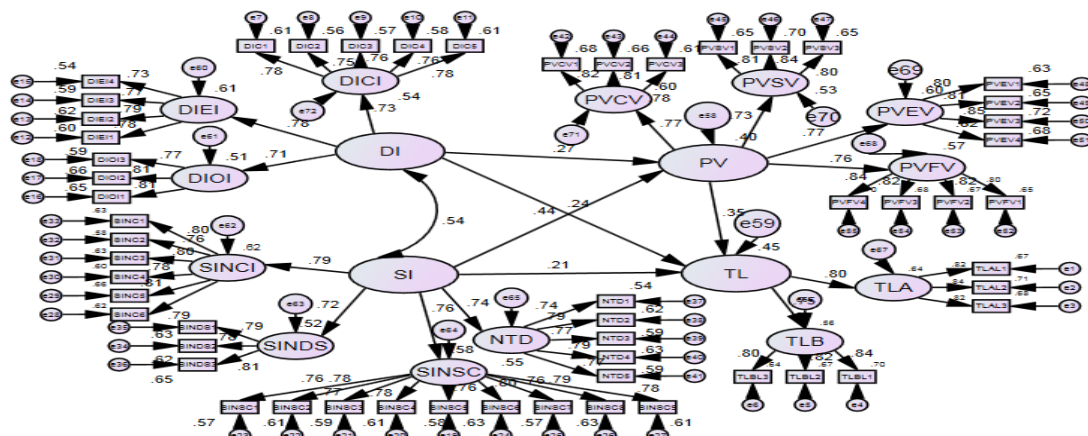
The fitting of the model is tested by comparing the numerical results of various fitting indicators with the judgment criteria. Based on the introduction of structural equation model adaptability indicators in the previous section, this article selects 5 fitting indicators: CMIN/DF, GFI, IFI, RMSEA, and TLI to test the model. The specific results are shown in the table below:  $\chi^2/df = 1.121$ , IFI = .987, TLI = .987, CFI = .987, RMSEA = .017. The overall fitting index of the model is acceptable, because they are within the commonly accepted values. The research model meets the adaptability requirements, fits well, and can proceed with subsequent path analysis.

**Table 2** Model Fit Indices

Model	$\chi^2/df$	RMSEA	CFI	IFI	TLI
Standard	<3	<.10	>.9	>.9	>.9
Fitted	1.121	.017	.987	.987	.987
Results	Good	Good	Good	Good	Good

### Model results

The overall structural equation model diagram was constructed using AMOS 26.0 .With a satisfactory fit, the standardized model data analysis results are displayed in the figure below:



**Figure 2** Model Analysis

### Direct Effect Analysis



With the help of AMOS 26.0, the correlation coefficients between variables can be directly output. The author has organized the data results of each direct effect in the model and summarized them in the table below. It can be intuitively seen that the non-standardized coefficients, standardized coefficients, significance, and other related information of each path in the study model assumptions are provided.

**Table 3** *Direct Path Coefficients Between Latent Variables And Hypothesis Testing Results*

X	→	Y	b	SE	z (CR)	p	β
DI	→	PV	.272	.076	3.595	<.001	.270
SI	→	PV	.493	.088	5.615	<.001	.445
DI	→	TL	.256	.088	2.923	.003	.244
SI	→	TL	.243	.099	2.467	.014	.211
PV	→	TL	.363	.090	4.047	<.001	.349

Based on the results in the table above, we further analyze and judge whether the hypotheses proposed in this study can be verified.

The standardized path coefficient of the image of the tourism destination to tourist loyalty is .244, and it is significant ( $p < .01$ ). This indicates that the image of the tourism destination has a significant positive impact on tourist loyalty. Therefore, the hypothesis H1 proposed in this study is verified.

The standardized path coefficient of the image of the tourism destination to the perceived value of tourists is .270, and it is significant ( $p < .01$ ). This indicates that the image of the tourism destination has a significant positive impact on the perceived value of tourists. Therefore, the hypothesis H2 proposed in this study is verified.

The standardized path coefficient of service innovation to tourist loyalty is .211, and it is significant ( $p < .05$ ). This indicates that service innovation has a significant positive impact on tourist loyalty. Therefore, the hypothesis H3 proposed in this study is verified.

The standardized path coefficient of service innovation to the perceived value of tourists is .445, and it is significant ( $p < .01$ ). This indicates that service innovation has a significant positive impact on the perceived value of tourists. Therefore, the hypothesis H4 proposed in this study is verified.

The standardized path coefficient of perceived value to tourist loyalty is .349, and it is significant ( $p < .01$ ). This indicates that the perceived value of tourists has a significant positive impact on tourist loyalty. Therefore, the hypothesis H5 proposed in this study is verified.

### **Mediation Effect Analysis**

From the table below, it can be seen that the mediation effect analysis, as follows:



**Table 4 Mediating Effect Model**

	TL	PV	TL
C	1.958** (10.887)	2.208** (13.865)	1.098** (5.371)
DI	0.425** (8.277)	.390** (8.564)	.274** (5.223)
PV			.389** (7.475)
N	417	417	417
R2	.142	.150	.244
Adj_R2	.140	.148	.240
F	68.517	73.343,	66.722

Note. \*  $p < .05$  \*\*  $p < .01$

The results of the data analysis show that the explanatory power of Model 3 for tourist loyalty is 24.4% ( $F=66.722$ ,  $p < .001$ ), which has been significantly improved compared to Model 1. This indicates that the image of the tourism destination and the perceived value of tourists have a good explanatory effect on tourist loyalty. After introducing the perceived value of tourists into the model, the positive impact of the image of the tourism destination on tourist loyalty has decreased, but it is still significant (Before adding perceived value,  $\beta = .425$ ; after adding perceived value,  $\beta = .274$ ,  $p < .001$ . and the positive impact of the perceived value of tourists is significant,  $\beta = .389$ ,  $p < .001$ ,  $t < 7.475$ ). This indicates that the perceived value of tourists plays a mediating role in the positive effect of the image of the tourism destination on tourist loyalty, which is consistent with H6.

Using the percentile Bootstrap sampling test method for mediating effect research, the results show: regarding the mediating path of “image of tourism destination → perceived value of tourists → tourist loyalty”, the 95% interval does not include the number 0 (95% CI: .091-.181), thus indicating that this mediating effect path exists.

**Table 5 Path Coefficient**

Path	Effect	95% CI		z	p
		Lower	Upper		
DI → PV → TL	.152	.091	.181	6.584	.000
DI → TL	.274	.171	.376	5.223	.000
DI → TL	.425	.325	.526	8.277	.000

From the table below, we can see that the mediation effect analysis, as follows:



**Table 6** the mediating effect model

	TL	PV	TL
C	1.769** (9.517)	1.827** (11.471)	1.112** (5.474)
SI	.479** (9.027)	.501** (11.008)	.299** (5.206)
PV			.360** (6.588)
N	417	417	417
R <sup>2</sup>	.164	.226	.243
Adj R <sup>2</sup>	.162	.224	.240
F	81.495,	121.178	66.613

Note. \*  $p < .05$  \*\*  $p < .01$  \*  $p < .001$

The results of the data analysis show that the explanatory power of Model 3 for tourist loyalty is 24.3%,  $F = 66.613$ ,  $p < .001$ . which has been significantly improved compared to Model 1. This indicates that service innovation and perceived value of tourists have a good explanatory effect on tourist loyalty. After introducing the perceived value of tourists into the model, the positive impact of service innovation on tourist loyalty has decreased, but it is still significant (before adding perceived value,  $\beta = .425$ ; after adding perceived value,  $\beta = .274$ ,  $p < .001$ . and the positive impact of perceived value of tourists is significant ( $\beta = .360$ ,  $p < .001$ ,  $t < 6.588$ ). This indicates that the perceived value of tourists plays a mediating role in the positive effect of service innovation on tourist loyalty.

Using the percentile Bootstrap sampling test method for mediation effect research, the results show: regarding the mediation path of “service innovation→perceived value of tourists → tourist loyalty”, the 95% interval does not include the number 0 (95% CI: .102~ .204), thus indicating the existence of this mediation effect path. This is in line with H7.

**Table 7** Path Coefficient

Path	Effect	95% CI		Z	p
		Lower	Lower		
SI → PV → TL	.180	.102	.204	6.851	.000
SI → TL	.299	.187	.412	5.206	.000
SI → TL	.479	.375	.583	9.027	.000

## Discussion





In this research, structural equation modeling was employed to investigate the direct effects among tourist destination image, service innovation, and perceived value. The findings revealed significant standardized path coefficients: the path coefficient of tourist destination image on tourist loyalty was .244, and on perceived value was .270; the coefficient of service innovation on tourist loyalty was .211, and on perceived value was .445; the coefficient of perceived value on tourist loyalty was .349. All of these path coefficients were statistically significant ( $p < .01$ ), thereby providing support for all hypotheses proposed in this study. These results align with the conclusions of other studies such as Chi, C. G. Q., & Qu, H. (2008). Chen, C. F., & Tsai, D. (2007). Seesaiprai, S. (2016), Xu et al. (2017), Wang, B. et al. (2014), Boonchunone et al. (2021).

Further analysis revealed that perceived value played a significant mediating role in the positive influence of tourist destination image on tourist loyalty, confirming hypothesis H6. This finding is consistent with the conclusions of scholars like Wang et al. (2016) and Ramseook-Munhurrun et al. (2015). Similarly, perceived value also played a significant mediating role in the positive influence of service innovation on tourist loyalty, supporting hypothesis H7. This result aligns with the conclusions of scholars such as Xie et al. (2009) and Liu, Y., et al. (2018).

Based on the above analysis, the research tested the seven proposed hypotheses and obtained confirmations. The research findings indicate that the tourism destination image, innovative services provided, and tourists' perceived value have significant impacts on tourist loyalty. Furthermore, perceived value not only plays a mediating role between the image of the tourism destination and tourist loyalty but also exhibits the same function between service innovation and tourist loyalty.

### **Suggestions for Implications for Practice**

By optimizing the destination image, the cognition and favorability of the destination among tourists can be enhanced, thereby increasing tourist loyalty. Specific measures include improving the level of tourism infrastructure, enhancing tourism service quality, enriching tourism products and activities, strengthening destination characteristics and cultural connotations, and making full use of various media for promotion.

By improving the cost effectiveness of tourism products and services, tourists can feel that they are getting what they pay for during the tourism process, thereby increasing tourist loyalty. Specific practices include optimizing tourism pricing strategies, rationally allocating tourism resources, improving the quality of tourism products, enhancing tourism service levels, and strengthening tourism safety.

Through online and offline activities, communication and interaction with tourists can be strengthened to understand tourist needs and enhance the destination's brand image. For example, organizing tourist participation in destination cultural activities and conducting social media interactions.

By using psychological principles, the psychological needs and behavioural



characteristics of tourists can be understood, providing targeted marketing strategies for tourism enterprises and destinations. For example, formulating differentiated marketing plans for tourists of different ages, occupations, and interests to improve their loyalty to the destination.

In the development of tourism, attention should be paid to the physical and mental health of tourists to enhance tourist welfare, thereby increasing tourist loyalty. Specific measures include strengthening the ecological protection of tourism environments, ensuring tourist personal safety, paying attention to tourist mental health, and providing convenient tourism public services.

Through the above practical suggestions, it is helpful for China's tourism industry to improve tourist loyalty in destination image, service innovation, and other aspects, achieving sustainable development.

### **Implications for Future Research**

In subsequent studies, consider expanding the research scope to include more types and levels of destinations and service innovations, to enrich existing research findings and provide more targeted guidance for different types and levels of tourist destinations.

When studying the relationship between destination image, service innovation, and tourist loyalty, more relevant influencing factors can be included, such as destination atmosphere and tourist satisfaction, to enhance the explanatory power and practicality of the research model.

Longitudinal tracking surveys or cross-time studies can be conducted to explore the evolution trends of the relationship between destination image, service innovation, and tourist loyalty over different time periods, providing more timely advice for destinations and tourism enterprises.

Considering the cultural differences between different countries and regions, cross-cultural research can be conducted to explore the relationship between destination image, service innovation, and tourist loyalty in different cultural contexts, providing more universal and valuable conclusions for tourist destinations.

Further explore the participation of tourists in the destination image and service innovation process, as well as the impact of tourist participation on tourist loyalty, in order to provide effective strategies for enhancing tourist participation and loyalty.

Combine the research findings on destination image, service innovation, and tourist loyalty to explore the optimization path of tourism industry development strategy, providing beneficial references for the development of China's tourism industry.

Through the above suggestions, it is expected that further research will deepen the understanding of the relationship between destination image, service innovation, and tourist loyalty, providing more beneficial insights for the development of the tourism industry.

### **References**

Ball, H. L. (2019). Conducting online surveys. *Journal of Human Lactation : Official*



- Journal of International Lactation Consultant Association*, 35(3), 413–417.
- Baloglu, S., & McCleary, K. W. (1999). A model of destination image formation. *Annals of tourism research*, 26(4), 868–897.  
[https://doi.org/10.1016/S0160-7383\(99\)00030-4](https://doi.org/10.1016/S0160-7383(99)00030-4)
- Boonchunone, S., et al(2021). Impact of airport service quality, image, and perceived value on loyalty of passengers in Suvarnabhumi airport service of Thailand. *Acta Logistica*, 8(3), 237–257.
- Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, 22(2), 27–30.
- Cao, J. (2018). An empirical analysis of service innovation ability of small and medium-sized travel agencies in Xinyang City [Master's thesis]. Xinyang Normal College.
- Chen, C. F., & Tsai, D. (2007). How destination image and evaluative factors affect behavioral intentions?. *Tourism management*, 28(4), 1115–1122.  
<https://doi.org/10.1016/j.tourman.2006.07.007>
- Cheng, T. M., & Lu, C. C. (2013). Destination image, novelty, hedonics, perceived value, and revisiting behavioral intention for island tourism. *Asia Pacific Journal of Tourism Research*, 18(7), 766–783. <https://doi.org/10.1080/10941665.2012.697906>
- Chi, C. G. Q., & Qu, H. (2008). Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: An integrated approach. *Tourism management*, 29(4), 624–636. <https://doi.org/10.1016/j.tourman.2007.06.007>
- Guangxi Guilin Statistics Bureau.(2023, April 6). *Statistical Communiqué on the National Economic and Social Development of Guilin in 2022*.  
[https://www.guilin.gov.cn/glsj/sjfb/tjgb/202304/t20230411\\_2477030.shtml](https://www.guilin.gov.cn/glsj/sjfb/tjgb/202304/t20230411_2477030.shtml)
- Harris, L. C., & Goode, M. M. (2004). The four levels of loyalty and the pivotal role of trust: A study of online service dynamics. *Journal of retailing*, 80(2), 139–158.  
<https://doi.org/10.1016/j.jretai.2004.04.002>
- Hu, M., & Ye, Y. (2023). Characteristics analysis and development trend research of Chinese tourism patents. In *Tourism science*, 1–21.  
<https://doi.org/10.16323/j.cnki.lykx.20230921.001>
- Jin, N., Lee, H., & Lee, S. (2013). Event quality, perceived value, destination image, and behavioral intention of sports events: the case of the IAAF world championship, Daegu, 2011. *Asia Pacific Journal of Tourism Research*, 18(8), 849–864.  
<https://doi.org/10.1080/10941665.2012.711336>
- Kanwel, S., et al. (2019). The influence of destination image on tourist loyalty and intention to visit: Testing a multiple mediation approach. *Sustainability*, 11(22), 6401.
- Li, M. & Angusan. (2008). A brief analysis of the relationship between customer perceived value and perceived quality, brand image, and customer experience. *Productivity Studies*, 22, 149–150.
- Liu, Y., et al.(2018). A study on the configuration of tourism product innovation affecting the perceived value of the experience. *Economic Management*, 40(11), 157–173.  
<https://doi.org/10.19616/j.cnki.bmj.2018.11.010>



- Lu, L., et al.(2023). Influence of first-time visitors' perceptions of destination image on perceived value and destination loyalty: A case study of grand canal forest park, Beijing. *Forests*, 14(3), 504. <https://doi.org/10.3390/f14030504>
- Luo. W., et al.(2019). Development of saline-alkali soilcharacteristic leisure agriculture tourism in Weinan city based on RMP analysis. *Chinese Agricultural Resources and Regional Planning*, 40(01), 210–216.
- Ramseook-Munhurrun, P., et al.(2015). Examining the structural relationships of destination image, perceived value, tourist satisfaction and loyalty: Case of Mauritius. *Procedia-Social and Behavioral Sciences*, 175, 252–259.  
<https://doi.org/10.1016/j.sbspro.2015.01.1198>
- Ren, J., & Gao ,X.. (2023). Study on the perceived value of red tourism tourists in Shaanxi, Gansu and Ningxia. *Ningxia Social Science*, 02, 207–216.
- Seesaiprai, S. (2016). The effects of service innovation and service quality on customer's loyalty in small service enterprise: A case study on car care business in Bangkok. *Review of Integrative Business and Economics Research*, 5(1), 296–305.
- Seyma,B. (2022). A study on the relationship between tourist destination image and tourists' behavior intention in coastal cities—Based on the intermediary effect of emotional evaluation and tourist word-of-mouth.[Master's thesis]. Shandong University..
- Wang,B., et al.(2016). Car tourism in Xinjiang: the mediation effect of perceived value and tourist satisfaction on the relationship between destination image and loyalty. *Sustainability*, 9(1), 22. <https://doi.org/10.20944/preprints201611.0050.v3>
- Wang, L.(2020). Research on the selection and development of rural leisure tourism projects based on the needs of urban and rural residents. *Agricultural Economy*, 03, 42–44.
- Wang,M., et al.(2014). Nostalgia, perceived value, satisfaction, and loyalty of cruise travel. *International Journal of Organizational Innovation*, 6(4).
- Xie, C., et al.(2009). A model of the relationship between service innovation and service loyalty—an empirical study based on the restaurant industry. *In Finance and Trade Research*,20(06), 110–116. <https://doi.org/10.19337/j.cnki.34-1093/f.2009.06.019>
- Zhang,H., et al.(2014). Destination image and tourist loyalty: A meta-analysis. *Tourism Management*, 40, 213–223. <https://doi.org/10.1016/j.tourman.2013.06.006>