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Road trip in China: The mediation effect of perceived value and tourist satisfaction on the relationship between destination image and loyalty

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Abstract: This study aims to test a model linking destination image, perceived value, tourist satisfaction, and tourist loyalty. Based on a sample of 300 tourists travelling by car from the World Natural Heritage Site of Tianchi, China, a new model of destination image was explored and data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results revealed that perceived value and satisfaction are the direct antecedents of destination loyalty. Above all, the perceived value and tourist satisfaction mediate the relationship between destination image and loyalty. Finally, this study discusses the theoretical and management implications to boost the tourism industry in the car trip context.

Keywords: Road trip; Destination image; Perceived value; Tourist satisfaction; Destination loyalty; China

1. Introduction

Automobiles create recreational and leisure opportunities [1]. Owning a car plays a significant role in daily lives [2]. In China, car tourism has increased with society development and has become a key driver of the country's economic development. The number of tourists travelling by car has reached 2.35 billion, accounting for 58.5 % of the total number of domestic tourists in China in 2015. Furthermore, tourists travelling by car are the largest tourist group within the background of the sustainable growth of China's tourism industry according to China's Driving Tourism Development: Analysis and Forecast (2015-2016).

Xinjiang, the western province of China, is equivalent to one-sixth of the total area of the country. Xinjiang is close to Europe, at the heart of Silk Roads, the Routes Network of the Chang'an-Tianshan Corridor. The area has abundant natural resources (snow mountains, forest, desert, and meadow) and cultural attractions (ruins, beacon towers, ancient graves) [3]. For example, Tianshan was listed on the World Nature Heritage Site List by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), World Heritage Centre, in 2013 [4], for the spectacular snow-capped mountains and glacier-capped peaks, beautiful forests and meadows, clear river and lakes, and grand red bed canyons. This confirms that this region possesses vast land resources, crucial location, and unique tourist resources in the world. Therefore, drive tourism is highly developed in this area.

Car trips are becoming increasingly popular. The area offers not only scenic spots and byways, and high-quality roads, but also tourist distribution centers, campgrounds, and service stations. In addition, the slogan of "Xinjiang in Great Beauty, Paradise for Car Trip" has been introduced to establish the destination image. These features suggest that car tour has the most promising growth prospects and potential in the tourism industry.

Current research on car trip has discussed the concept and classification, the behavioral characteristics of tourists, travel routes characteristics, impacts and management of the phenomenon, and tourist satisfaction.

Many studies focused on the relationship among destination image, perceived value, tourist satisfaction, and tourist loyalty from different perspectives [5,6]. However, very few studies explain

these relationships from a different perspective, specifically focusing on car trip. Therefore, to fill the gap in the existing literature, this study focuses on the relationship among destination image, perceived value, tourist satisfaction, and tourist loyalty in the drive tourism context. In addition, the mediation effect of perceived value and satisfaction on the relationship between destination image and tourist loyalty are tested by targeting tourists travelling by car.

1.1 Destination image

Destination image can be defined as the series of impressions or perceptions of a tourist destination. It is a significant concept that plays an important role in a tourist's decisions. Previous studies have shown that destination image has been a significantly important topic in the field of travel studies, and scholars have tried to develop a conceptual framework for destination image through different methods. According to the study of Echtner and Ritchie, destination image is composed of attribute and holistic aspects [7]. For example, Gallarza and Saura evaluated destination image by using cognitive and affective aspects [8]. However, there was no agreement on the conception of destination image.

Sanz, Blas, and Carvajal-Trujillo showed that destination image was estimated along four dimensions: tourist resources, urban environment, infrastructure and atmosphere of the city, and socioeconomic environment [9]. In addition, Toudert and Bringas-Rábago used three dimensions: tourism resources, urban environment, and infrastructure and atmosphere [10]. According to the tourism system model, transport system is an important component in the functional tourism system model. Accessibility has a great influence on the tourism industry. This study suggests that the main elements considered by tourists travelling by car include tourist resources, accessibility, infrastructure, and travel environment [11].

As universally acknowledged, subjective perception, tourist experience, and destination familiarity are affected by destination image. In turn, destination image will affect tourists in the process of choosing a destination, in their subsequent evaluation, and future visit intentions. Destination image also has a significant impact on perceived value, tourist satisfaction, and tourist loyalty [12].

1.2 Perceived value

Perceived value is described as the overall assessment made by tourists on the basis of their comparison between the utilities or benefits and the perceived costs or sacrifices associated with a destination. From the utilitarian perspective, value scales embody both monetary costs [13] and non-monetary costs (such as effort or time) [14]. Duman and Mattila found that perceived quality and monetary value are two main antecedents of perceived value [15]. Chen and Tsai measured perceived value using a three-item scale (money, time, and effort) [16]. Clemes and Brush used a single item for perceived value [17]. Sun and Geng-Qing Chi proposed a two-item scale for perceived value, including functional value and overall value [11].

Perceived value is an important antecedent to satisfaction and loyalty. Some researchers have shown that perceived value influences loyalty both directly and indirectly [18]. The relationship among perceived value, satisfaction, and loyalty has been examined by researchers who focused on the relating paths between perceived value and satisfaction [6], and between perceived value and loyalty [19].

1.3 Satisfaction

Satisfaction is defined as an overall judgment on products and services in a destination, and it is one of the most significant concepts of modern marketing competitiveness. Tourist satisfaction has been extensively researched in the tourism field [20]. There is a wide consensus on the fact that tourists' satisfaction has a crucial influence on tourists' loyalty or future behavioral intentions [21]. For example, satisfied tourists may give positive feedback about the destination, recommend it to relatives and friends, and revisit the same destination in the future. On the contrary, dissatisfied

tourists may not recommend the destination to others, and may not return. In addition, dissatisfied tourists may demolish the brand image of a destination, so that its market suffers an adverse impact [22].

In contrast with past studies that included a single item, “overall satisfaction,” to analyse the links described above [13], more recent researches used a combination of items [23]. However, to the best of our knowledge, no study has looked into the relationships between satisfaction and loyalty in the context of Chinese drive tourism.

1.4 Loyalty

Loyalty is described as a key element to acquire success in marketing and in tourism. Oliver defined loyalty as the highest level of commitment [24]. In the most recent literature, scholars proposed that loyalty is more complex and may include both attitudinal and behavioral loyalty [25].

In the literature on marketing and tourism, tourist loyalty is fully interchangeable with behavioral intentions. Loyalty, or behavioral intention, has been measured by positive word-of-mouth, recommendation to others, and purchase or revisit intention [26].

Therefore, more recent studies focus on the antecedents of loyalty, such as image, value, quality, trust, and satisfaction. For the theoretical framework, three antecedents are chosen as crucial factors in this study, including destination image, perceived value and tourist satisfaction.

According to this theoretical framework, the following hypotheses were proposed in the context of drive tourism:

- H1:** The destination image is positively associated with perceived value;
- H2:** The destination image is positively associated with tourist satisfaction;
- H3:** The destination image is positively associated with loyalty;
- H4:** The perceived value is positively associated with tourist satisfaction;
- H5:** The perceived value is positively associated with loyalty;
- H6:** The tourist satisfaction is positively associated with loyalty;
- H7:** The perceived value and tourist satisfaction mediate the relationship between destination image and loyalty.

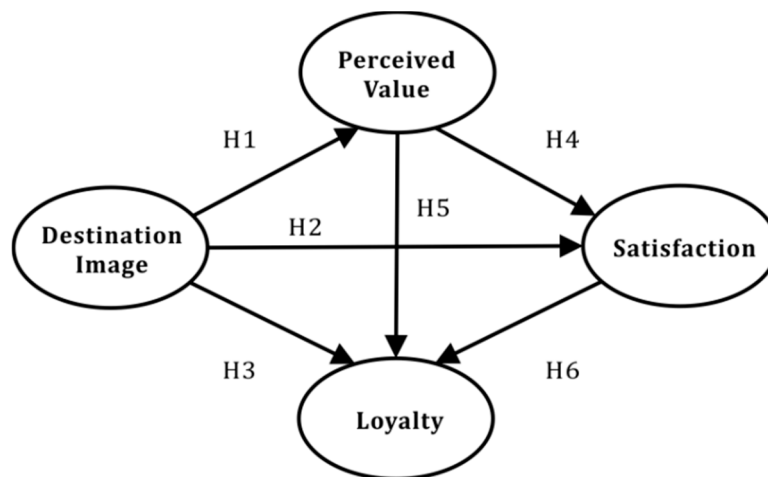


Figure 1. Conceptual model and research hypotheses

2. Materials and methods

2.1 Questionnaire design

A self-administrated questionnaire survey was designed to collect empirical data on drive tourism (See **Table 1**). The questionnaire was pre-tested using 89 respondents' information and it has been constantly revised to ensure content validity. In addition, several irrelevant or ambiguous items were cancelled to ensure clarity. The questionnaire consisted of five parts. Part 1 measured the

destination image, with 20 items. Part 2 assessed the perceived value using 2 items. Part 3 evaluated the satisfaction measurement, with 3 items. Part 4 dealt, with the measurement of tourist loyalty, with 3 items. The first four parts were measured on a 5-point Likert-type scale: from 1-strongly disagree to 5-strongly agree. Finally, Part 5 collected respondent information, with 6 items including gender, age, monthly income, education level, place of origin, and marital status.

Table 1. Constructs, items, labels, and sources

Constructs	Items & Labels	Sources
<i>Destination image (DEI)</i>		
<i>Infrastructure (INF)</i>	Convenient wireless network (INF1)	
	Good mobile phone communication (INF2)	
	Excellent travel websites (INF3)	
	Tidy restrooms (INF4)	
	High-class information centers (INF5)	
	Standardized servicing stations (INF6)	
	Wide variety of shop facilities (INF7)	
	Wide choice of accommodations (INF8)	
	Variety of entertainment (INF9)	
<i>Environment (ENV)</i>	Orderly administration (ENV1)	[10, 19]
	Good service (ENV2)	
	Clean and unpolluted environment (ENV3)	
	Tranquil and restful atmosphere (ENV4)	
<i>Accessibility (ACC)</i>	Moderate traffic flow (ACC1)	
	Spacious freeways (ACC2)	
	Identified road signs and indicators (ACC3)	
	Ample parking spaces (ACC4)	
<i>Attractions (ATT)</i>	Unique ethnic culture (ATT1)	
	Fabulous scenic drive (ATT2)	
	Historic landmarks and sites (ATT3)	
<i>Perceived Value (PEV)</i>	Value for time (PEV1)	[6, 14]
	Value for money (PEV2)	
<i>Satisfaction (SAT)</i>	Overall satisfaction (SAT1)	
	Expectancy-Satisfaction (SAT2)	[11, 27]
	Right decision (SAT3)	
<i>Loyalty (LOY)</i>	Positive comment (LOY1)	
	Recommendations (LOY2)	[23, 28]
	Revisit intention (LOY3)	

2.2 Data collection

Data were collected from Tianchi, Xinjiang Tianshan, which is a World Natural Heritage Site in China, using an intercept approach. Investigators submitted a questionnaire to tourists travelling by car, individual travelers, or community residents until the sampling goal was achieved. Data from 300 respondents were tested with the proposed model.

2.3 Data analysis

Descriptive statistics, including frequencies and distributions, were used to represent the demographic profile of the respondents. Exploratory factor analysis (EFA) with varimax rotation was performed for the underlying dimensions of destination image. In the present study, structural models were analyzed with the use of Partial Least Squares Structural Equation Modeling (PLS-SEM), rather than the Covariance-Based Structural Equation Model (CB-SEM), since PLS-SEM has runs computations more efficiently and faster than CB-SEM [29]. Both the measurement and structural models were tested using the *SmartPLS 3.0* in this study.

3. Results

3.1 Descriptive analysis

The respondents' profile shows an equal distribution in terms of gender: male (49.7%) and female (50.3%). There were two dominant age groups: between 31 and 50 years old (51.3%) and 30 years old or younger (46%). Nearly half of the respondents (47.0%) had a monthly income between 3001 and 6000 China Yuan (CNY) and approximately one third of the respondents (31.3%) had a monthly income of less than 3000 CNY. With the only exception of 4.7% of respondents, almost everybody in the sample held a high school degree, or higher. The majority of tourists concentrated within the Xinjiang Province (68.7%). Last, more than half of all respondents is married (60.3%) (See Table 2).

Table 2. Demographic profile of respondents (n = 300)

Items	Frequency	Percentage (%)
Gender		
Male	149	49.7
Female	151	50.3
Age		
Under 31	138	46.0
31-40	73	24.3
41-50	81	27.0
Over 50	8	2.7
Income (Monthly)		
Under CNY 3001	94	31.3
CNY 3001-6000	141	47.0
CNY 6001-9000	42	14.0
CNY 9001 or over	23	7.7
Education		
Middle school or below	14	4.7
High school	87	29.0
Undergraduate	142	47.3
Postgraduate	57	19.0
Province		
Within the province	206	68.7

Outside the province	94	31.3
Marital status		
Single	119	39.7
Married	181	60.3

3.2 Exploratory factor analysis

To explore the underlying dimensions of destination image, Exploratory Factor Analysis (EFA) was carried on with the use of SPSS 19.0 for windows. Four factors, with a cut-off factor loading of 0.5 and an eigenvalue greater than one, explained 67.173 % of the variance of the destination image scale through a principal components factor analysis with varimax rotation. The Cronbach's alpha was above the threshold value of 0.7, confirming the high reliability of the results [29]. **Table 3** presents the four factors mentioned above, labeled as infrastructure, environment, accessibility, and attractions.

Table 3. EFA Results on destination image

Factor/ Item	Factor Loading	Variance explained (%)	Eigenvalue	Cronbach's alpha
Factor 1: Infrastructure (INF)		49.762	9.952	0.928
INF1	0.824			
INF2	0.790			
INF3	0.714			
INF4	0.659			
INF5	0.641			
INF6	0.610			
INF7	0.549			
INF8	0.548			
INF9	0.515			
Factor 2: Environment (ENV)		6.733	1.347	0.836
ENV1	0.776			
ENV2	0.742			
ENV3	0.727			
ENV4	0.607			
Factor 3: Accessibility (ACC)		5.524	1.105	0.820
ACC1	0.770			
ACC2	0.748			
ACC3	0.699			
ACC4	0.559			
Factor 4: Attractions (ATT)		5.154	1.031	0.724
ATT1	0.815			
ATT2	0.721			

ATT3 0.575

Note: Total explained variance = 67.173%; KMO = 0.945.

3.3 Measurement model

To estimate the constructs, the reliability and construct validity of the conceptual model were tested using PLS. The internal consistency was examined using Composite Reliability (CR), whose recommended criterion should be above 0.70 [30]. All CRs of the measurement models range from 0.844 to 0.951. Convergent and discriminant validity were utilized to examine the construct validity [31]. Convergent validity required a factor loading of at least 0.50 and an Average Variance Extracted (AVE) above 0.50 [30], implying that more than half of the average variance of the indicators of a latent variable were explained. All factor loadings of the items were larger than 0.50, and the AVE of destination image was 0.498, close to 0.50, and was considered as acceptable [28]. **Table 4** reports the factor loadings, t-values, Average Variance Extracted (AVE), and Composite Reliability (CR), and it indicates an appropriate internal consistency.

Discriminant validity was essentially estimated by testing the correlations among the measures of potentially overlapping constructs. The square root of AVE from a construct needs to be higher than the variance shared between the construct and other constructs [29]. **Table 5** shows all the correlations and square roots of AVEs. The results indicate an adequate discriminant validity.

Table 4. Reliability coefficients for the constructs

Constructs and items	Factor loadings	T-value	AVE	CR
First-order				
Infrastructure			0.644	0.942
IN1	0.799	35.267		
IN2	0.803	35.615		
IN3	0.809	39.798		
IN4	0.770	27.844		
IN5	0.785	27.622		
IN6	0.834	35.978		
IN7	0.791	32.003		
IN8	0.836	47.984		
IN9	0.792	30.738		
Environment			0.673	0.891
EN1	0.865	45.734		
EN2	0.867	60.270		
EN3	0.772	26.684		
EN4	0.772	28.426		
Accessibility			0.651	0.882
AC1	0.827	25.727		
AC2	0.842	38.718		
AC3	0.774	26.456		
AC4	0.782	30.034		

Attractions			0.644	0.844
AT1	0.778	14.730		
AT2	0.769	26.227		
AT3	0.856	48.004		
Perceived Value			0.829	0.907
P1	0.903	71.355		
P2	0.918	85.223		
Satisfaction			0.805	0.925
S1	0.868	28.929		
S2	0.921	90.852		
S3	0.901	54.740		
Loyalty			0.815	0.930
L1	0.903	70.249		
L2	0.925	90.852		
L3	0.879	39.152		
Second-order				
Destination Image			0.498	0.951
Infrastructure	0.911	159.834		
Environment	0.708	41.246		
Accessibility	0.690	42.480		
Attractions	0.510	24.694		

Note: All loadings are significant at the 1% level ($p < 0.001$) with a 2000 sample bootstrapping.

Table 5. Discriminant validity

	1	2	3	4
Destination Image	0.848			
Loyalty	0.633	0.903		
Satisfaction	0.701	0.759	0.897	
Perceived Value	0.608	0.618	0.645	0.911

Note: The square roots of average variance extracted (AVE) is shown on the diagonal in bold.

3.4 Structure model and hypothesis testing

Standardized path coefficients (β), significance level (t-statistic), and R^2 estimates were utilized to estimate the structural model.

Table 6 illustrates standardized path coefficients, t-value, and the test results. The estimates of the structural coefficients provide the foundation for testing. H1 and H2 predict that destination image has a significant and positive effect on perceived value and tourist satisfaction ($\beta_1 = 0.618$, t-value = 17.840, $p < 0.001$ and $\beta_2 = 0.496$, t-value = 9.162, $p < 0.001$, respectively). Hence, H1 and H2 are supported. H3 predicts that destination image has no effect on tourist loyalty ($\beta_3 = 0.090$, t-value = 1.739, $p > 0.05$); therefore, H3 is not supported. H4 and H5 predict that perceived value has a direct and positive effect on satisfaction and loyalty ($\beta_4 = 0.339$, t-value = 5.764, $p < 0.001$ and $\beta_5 = 0.194$, t-

value = 3.106, $p < 0.05$, respectively). Therefore, H4 and H5 are supported. H6 predicts that satisfaction has a direct and positive effect on loyalty ($\beta_6 = 0.571$, t -value = 9.118, $p < 0.001$). Therefore, H6 is strongly supported.

R^2 value is used as an indicator of the overall predictive strength of the model. R^2 values are larger than the recommended criterion of 0.1 [28]. The R^2 s of destination image, perceived value, satisfaction, and loyalty were 0.498, 0.829, 0.801 and 0.815, respectively, which indicate that the exogenous variable of each construct explained 49.8%, 82.9%, 80.1% and 81.5% of the variance of each construct, approximately.

Q^2 value is described as an indicator of the model's predictive relevance. Q^2 values larger than zero mean that the model has sufficient predictive relevance in relation to the endogenous variables. The cross-validated redundancy approach, as a measure of Q^2 , was recommended by Hair, using blindfolding procedures [29]. Q^2 values for perceived value (0.307), satisfaction (0.430), and loyalty (0.489) were larger than zero, indicating substantial predictive relevance and explaining the endogenous latent variables. In addition, Q^2 values for the first-order destination image indicators were all above 0.320, suggesting the predictive relevance of the model to explain the first-order destination image variables.

Table 6. Results for the hypothesis model using PLS

Hypothesis	Path coefficient	t-value	Support?
Destination Image → Perceived Value	0.618	17.840***	Yes
Destination Image → Satisfaction	0.496	9.162***	Yes
Destination Image → Loyalty	0.090	1.739	No
Perceived Value → Satisfaction	0.339	5.764***	Yes
Perceived Value → Loyalty	0.194	3.106**	Yes
Satisfaction → Loyalty	0.571	9.118***	Yes

Note: A 2000 samples bootstrapping procedure was used. ** $p < 0.01$; *** $p < 0.001$

3.5 Direct, indirect, and total effects

Table 7 indicates the direct, indirect, and total effects among destination image, perceived value, satisfaction, and loyalty. The effect of destination image on perceived value was entirely direct (0.618). The destination image construct had the largest and positive effect on satisfaction (0.706), followed by perceived value (0.339). Moreover, the positive effect of destination image on satisfaction was more direct (0.496) than indirect (0.210), through perceived value. However, the effect of perceived value on satisfaction was entirely direct (0.339). The effect of satisfaction on loyalty was also entirely direct (0.571). In addition, the direct effect of perceived value on loyalty (0.194) was equivalent to its indirect effect (0.193). The path coefficient between destination image and loyalty was not significant, but the total and indirect effects were found using a bootstrapping procedure. These results provide evidence of a sound predictive ability for the estimated endogenous latent variables and their underlying indicators. The mediating effects were tested through the Sober test.

Table 7. Direct, indirect, and total effects

	Direct effects	Indirect effects	Total effects
Destination Image → Perceived Value	0.618	0.000	0.618
Destination Image → Satisfaction	0.496	0.210*	0.706
Destination Image → Loyalty	0.090	0.522*	0.612
Perceived Value → Satisfaction	0.339	0.000	0.339
Perceived Value → Loyalty	0.194	0.193*	0.387

Satisfaction → Loyalty	0.571	0.000	0.571
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Note: * $p < 0.05$ by Sober testing procedure

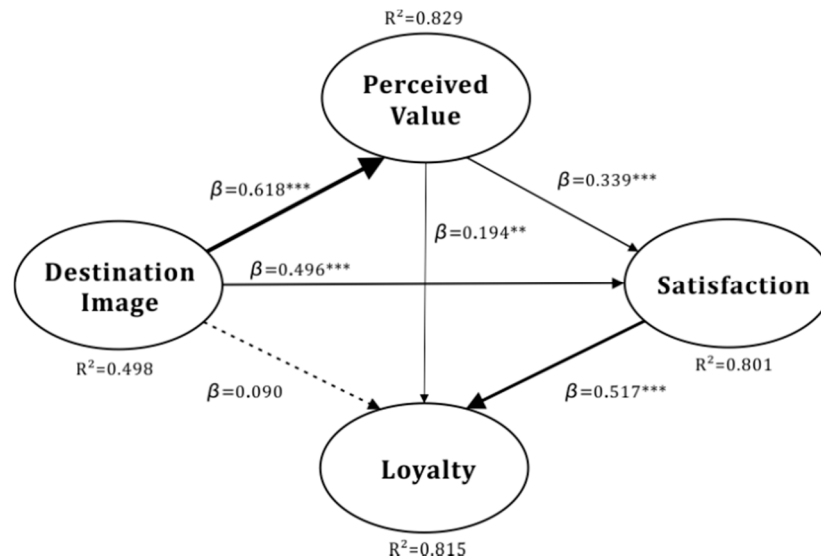


Figure 2. Results of destination loyalty model

Note: Direct influence uses solid line, and line width indicates the degree of influence; no influence uses broken line.

3.6 Mediating effect of perceived value and satisfaction

Table 7 shows that the indirect effect of destination image on tourist loyalty is 0.522, which implies a mediating effect of perceived value and satisfaction. The analysis of classic causal step approach was employed to assess the mediation effect, as in Baron and Kenny (1986). Four conditions must be met to establish mediation: (1) a direct link between the independent variable and dependent variable; (2) the independent variable must be related to mediating variables; (3) the mediator should be significantly related to the dependent variable when both independent and mediating variables are predictors of the dependent variable; (4) the relationship between the independent variable and dependent variable must be significantly reduced when the mediator is added.

Table 8 indicates that the relationship between destination image and tourist loyalty is significantly reduced when perceived value and satisfaction are controlled for, through the calculation of Step 4. The Beta coefficient between destination image and tourist loyalty was clearly reduced, from 0.612 ($p < 0.001$) in Step 1 to 0.032 ($p > 0.05$) in Step 4. Therefore, H7 is supported. Finally, the strength of this mediation needs to be determined by using the Variable Accounted For (VAF). VAF determines the size of the indirect effect with respect to the total effect. When VAF is above 80%, there is full mediation. A situation in which VAF is larger than 20% and less than 80% indicates a partial mediation. Otherwise, the mediation effect does not exist. As indicated in Table 7, VAF is 85.3%. Therefore, the findings of the mediation tests support the full mediating effect of perceived value and tourist satisfaction between destination image and tourist loyalty.

Table 8. Mediation tests using PLS

Steps of mediating effect	Beta	T-value
Step 1: Independent variable to outcome variable		
Destination Image-Loyalty	0.612	17.374***
Step 2: Independent variable to mediators		
Destination Image-Perceived Value	0.619	17.929***

Destination Image-Satisfaction	0.707	19.603***
Step 3 and Step 4: Independent variable and mediators to outcome variable		
Destination Image-Loyalty	0.032	0.787
Perceived Value-Loyalty	0.193	3.088**
Satisfaction-Loyalty	0.574	8.748***

** $p < 0.01$; *** $p < 0.001$

4. Discussion and conclusions

4.1 Theoretical implications

The focus of this article is a new perspective in road trip. More than 80% of Chinese tourists travel by cars or recreational vehicles, according to China's Driving Tourism Development, Analysis and Forecast (2015-2016); and this tourism form shows its own style that differs from others such as organized tours, hiking and so on. Therefore, this new form of tourism deserves to be researched. Consequently, a new questionnaire was designed so that it can reflect the content of road trip. The new theoretical framework of "destination image" was devised on the basis of tourism system models and practical experiences. Except for the basic elements (infrastructure, attractions, environment); vehicle, as a means of transportation, should be fully considered. The elements of "accessibility" underline traffic flows, freeways, road signs and indicators, parking spaces, which represent the typical features of a road trip.

This article with PLS-SEM method examines the relationships to enrich the literature on PLS-SEM method. Previous researches used the CB-SEM method to test the relationships among perceived value, satisfaction and loyalty [5, 21]. PLS-SEM approach possesses its own advantages compared with CB-SEM, especially [29].

This study contributes to the literature by investigating the factors that are likely to influence tourists' destination loyalty in road trip. The relationships among destination image, perceived value, tourist satisfaction, and tourist loyalty are analyzed on the basis of practical experience. The results showed that perceived value, destination image, and satisfaction are all antecedents of destination loyalty. Most importantly, the mediating role of perceived value and satisfaction can not be ignored.

A significant relationship between destination image and perceived value was found in this study, in line with the findings of previous studies [19]. Moreover, destination image and satisfaction are examined, and a positive relationship is found between the two items [32]. However, a statistically not significant relationship between destination image and loyalty was found in this study. A significant relationship between perceived value and satisfaction was found. Mixed results on this topic exist in the literature. For example, Kashyap and Bojanic found a significant relationship between perceived value and loyalty [33]. Chen found a significant direct relationship between perceived value and satisfaction for heritage tourists, which is consistent with our study's results [21]. Moreover, a significant relationship between perceived value and loyalty was found in our study. In contrast, Howat and Assaker did not find a significant direct relationship between perceived value and loyalty [34]. A significant relationship between satisfaction and loyalty was tested. This study has demonstrated that satisfaction has a positive effect on loyalty and the findings are consistent with past studies [34, 35].

The mediation effect of perceived value and tourist satisfaction on the relationship between destination image and loyalty was examined. For example, Wang and Zhang found that perceived value mediates the relationship between destination image and tourist satisfaction [36]. The findings of this study confirmed perceived value as a mediating variable between destination image and loyalty. In addition, the results of this study found that perceived value has both direct and indirect influences on tourist loyalty. The perceived value and tourist satisfaction mediate the relationship between destination image and loyalty [21].

Road trip is an organic combination of tourist and vehicle. Owing to the features of road trip, when tourists enjoy the scenery in the trip, they pay more attention to the vehicle, such as vehicle refueling, parking and maintenance. In addition, tourists focus on the distance to destinations and the length and rigorousness of the trip. Taking these factors into consideration, tourists make a final decision on their trip. As such, the results may be different from others.

4.2 Managerial implications

The results of this study have significant managerial implications. Firstly, this study found four underlying dimensions of destination image, which seem to be fundamental elements that contribute to tourists' satisfaction and loyalty. In particular, "Infrastructure" (factor 1) accounts for about 50 % of the variances explained in "destination image." The construction of infrastructure facilities (campgrounds, service stations, information centers) has been accelerated to elevate Xinjiang to a "world-class" international tourism destination. At the same time, environment (factor 2), accessibility (factor 3), and attractions (factor 4) are all important elements to develop tourism in China. Thus, the destination image should be developed by the destination managers. With planning, construction and management, destination image is built to satisfy tourists. Meanwhile, the managers should concentrate on perceived value and create new products and itineraries to reduce tourists' time and money. In addition, given that satisfied tourists will recommend these destinations to their friends and relatives and revisit them. So the marketers and managers should understand tourists' loyalty and take appropriate measures to deal with the complaints.

Secondly, tourism marketers and managers should develop promotional activities and events in order to appeal to tourists. For example, the central government has hosted or sponsored various events for tourism promotion purposes. For example, it has successfully held "the self-driving car and recreational vehicle industrial development conference," "the international special tourism festival," "the international tourism festival," and "the western China ice and snow tourism festival." These promotional activities matched the goal to develop Xinjiang into a "tourist distribution center of the Silk Road Economic Zone." Therefore, the managers should implement active promotion to attract more tourists.

With the country's rapidly growing economy, road trip in China has become a new trend. Meanwhile, China possesses abundant tourist resources in Xinjiang area, such as Tianshan (World Natural Heritage Site), Silk Road (World Cultural Heritage Site), Altai Mountains, and Taklimakan Desert. **Figure 3**, **Figure 4** and **Figure 5** show the beautiful scenery in Xinjiang. Further, highway, railway and civil aviation extend in all directions and travel websites are constructed to provide convenient travel information for tourists. These are the important factors to promote the development of road trip.

In summary, tourism administrators need to accelerate infrastructure construction to enhance destination image and focus on tourist satisfaction in order to establish tourist loyalty. At the same time, marketers should design new products and itineraries to reduce tourists' time and money and actively develop new markets and customers in the field of car trip. Finally, keeping a balance between developing tourism and conserving the unique natural and cultural heritage is key to achieve the sustainable development of the tourism industry.

4.3 Limitations and suggestions

Like other studies, this study has several limitations. Firstly, the data used in this study only cover a short period. Therefore, the findings of this study may not reflect seasonal variations. In addition, the small sample size does not allow the generalization of the results of this study. Consequently, the findings should be interpreted with caution. Secondly, there may exist other factors affecting tourist loyalty, beyond "destination image," "perceived value," and "tourist satisfaction." Other potential antecedents should be explored in future studies. Last, the number of research questions should be increased (or decreased) in future studies. Therefore, destination image may include other constructs, which should be analyzed by Exploratory Factor Analysis. In spite of

these limitations, this article supplies a new framework for investigating the causes and the results of tourist satisfaction and destination loyalty, especially with regard to destination image.



Figure 3. Karajun - World Natural Heritage



Figure 4. Luntai Populus Euphratica Forest

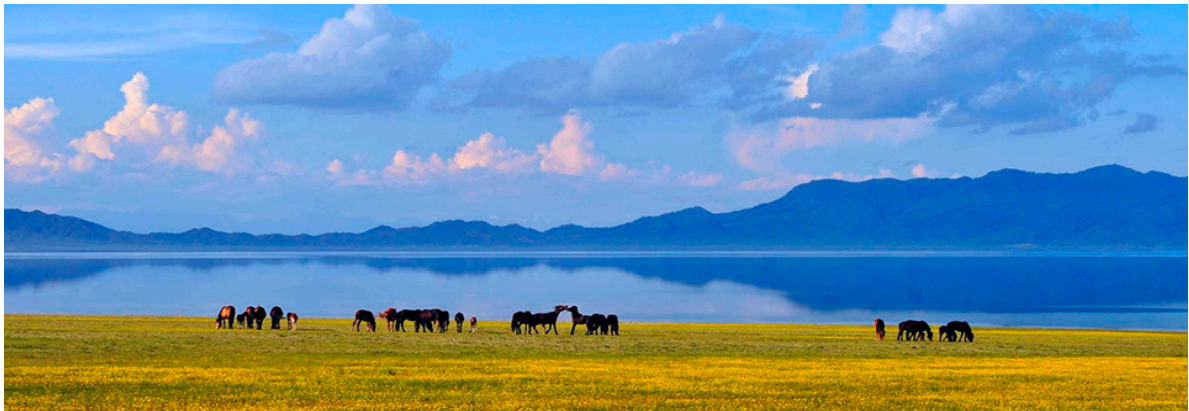


Figure 5. Koktokay

Note: The above photos are photographed by Zhangping Yang.

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References

1. Prideaux, B.; Carson, D. Drive tourism: trends and emerging markets. *Drive Tourism Trends & Emerging Markets*, **2010**. 33(5): p. 1288-1289.
2. Prideaux, B.; Carson, D. A framework for increasing understanding of self-drive tourism markets. *Journal of Vacation Marketing*, **2003**. 9(4): p. 307-313.
3. Guo, L. A new appraisal and exploitation strategy of Xinjiang tourism resources. *Yunnan Geographic Environment Research*, **1993**. 5(2): p. 17-21.
4. Xu, X.; Yang, Z.; Saiken, A.; Rui, S.; Liu, X. Natural Heritage value of Xinjiang Tianshan and global comparative analysis. *Journal of Mountain Science*, **2012**. 9(2): p. 262-273.
5. Lee, C.K.; Yoon, Y.S.; Lee, S.K. Investigating the relationships among perceived value, satisfaction, and recommendations: The case of the Korean DMZ. *Tourism Management*, **2007**. 28(1): p. 204-214.
6. Ryu, K.; Han, H.; Kim, T.H. The relationships among overall quick-casual restaurant image, perceived value, customer satisfaction, and behavioral intentions. *International Journal of Hospitality Management*, **2008**. 27(3): p. 459-469.
7. Echtner, C.M.; Ritchie, J.R.B. The measurement of destination image: an empirical assessment. *Journal of Travel Research*, **1993**. 31(4): p. 3-13.
8. Gallarza, M.G.; Saura, I.G.; GarcíA, H.C. Destination image: Towards a Conceptual Framework. *Annals of Tourism Research*, **2002**. 29(1): p. 56-78.
9. Sanz Blas, S.; Carvajal-Trujillo, E. Cruise passengers' experiences in a Mediterranean port of call. The case study of Valencia. *Ocean & Coastal Management*, **2014**. 102, Part A: p. 307-316.
10. Toudert, D.; Bringas-Rábago, N.L. Impact of the destination image on cruise repeater's experience and intention at the visited port of call. *Ocean & Coastal Management*, **2016**. 130: p. 239-249.
11. Sun, X.; Geng-Qing, C.; Xu, H. Developing destination loyalty: The case of Hainan island. *Annals of Tourism Research*, **2013**. 43: p. 547-577.
12. Stylos, N.; Vassiliadis, C.A.; Bellou, V.; Andronikidis, A. Destination images, holistic images and personal normative beliefs: Predictors of intention to revisit a destination. *Tourism Management*, **2016**. 53: p. 40-60.
13. Petrick, J.F. Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research*, **2002**. 34(2): p. 119-134.
14. Boksberger, P.E.; Melsen, L. Perceived value: a critical examination of definitions, concepts and measures for the service industry. *J Serv Mark. Journal of Services Marketing*, **2011**. 25(3): p. 229-240.
15. Duman, T.; Mattila, A.S. The role of affective factors on perceived cruise vacation value. *Tourism Management*, **2005**. 26(3): p. 311-323.
16. Chen, C.F.; Tsai, D.C. How destination image and evaluative factors affect behavioral intentions? *Tourism Management*, **2007**. 28(4): p. 1115-1122.
17. Clemes, M.D.; Brush, G.J.; Collins, M.J. Analysing the professional sport experience: A hierarchical approach. *Sport Management Review*, **2011**. 14(4): p. 370-388.
18. Li, X.; Petrick, J.F. Towards an integrative model of loyalty formation: the role of quality and value. *Leisure Sciences*, **2010**. 32(3): p. 201-221.
19. Kim, S.H.; Holland, S.; Han, H.S. A Structural Model for Examining how Destination Image, Perceived Value, and Service Quality Affect Destination Loyalty: a Case Study of Orlando. *International Journal of Tourism Research*, **2013**. 15(4): p. 313-328.
20. Song, H.; van der Veen, R.; Li, G.; Chen, J.L. The Hong Kong tourist satisfaction index. *Annals of Tourism Research*, **2012**. 39(1): p. 459-479.
21. Chen, C.F.; Chen, F.S. Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management*, **2010**. 31(1): p. 29-35.
22. Reisinger, Y.; Turner, L.W. Cross-cultural behaviour in tourism: concepts and analysis. *Tourism & Hospitality Research*, **2005**. 5(4): p. 372-373.
23. Rasoolimanesh, S.M.; Dahalan, N.; Jaafar, M. Tourists' perceived value and satisfaction in a community-based homestay in the Lenggong Valley World Heritage Site. *Journal of Hospitality and Tourism Management*, **2016**. 26: p. 72-81.
24. Oliver, R.L. Whence Consumer Loyalty? *Journal of Marketing*, **1999**. 34(1): p. 33-44.
25. Rundle-Thiele, S. Exploring loyal qualities: assessing survey-based loyalty measures. *Journal of Services Marketing*, **2013**. 19(7): p. 492-500.

26. Wendy-Gao, B.; Lai, I.K.W. The effects of transaction-specific satisfactions and integrated satisfaction on customer loyalty. *International Journal of Hospitality Management*, **2015**. 44: p. 38-47.
27. Forgas-Coll, S.; Palau-Saumell, R.; Sánchez-García, J.; Callarisa-Fiol, L.J. Urban destination loyalty drivers and cross-national moderator effects: The case of Barcelona. *Tourism Management*, **2012**. 33(6): p. 1309-1320.
28. Cevdet Altunel, M.; Erkut, B. Cultural tourism in Istanbul: The mediation effect of tourist experience and satisfaction on the relationship between involvement and recommendation intention. *Journal of Destination Marketing & Management*, **2015**. 4(4): p. 213-221.
29. Hair, J.F.; Hult, G.T.M.; Ringle, C.M.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (1st)*, **2014**. USA: Sage Publications.
30. Fornell, C.; Larcker, D.F. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, **1981**. 18(1): p. 39-50.
31. Chin, W.W.; Gopal, A.; Salisbury, W.D. Advancing the Theory of Adaptive Structuration: The Development of a Scale to Measure Faithfulness of Appropriation. *Information Systems Research*, **1997**. 8(4): p. 342-367.
32. Assaker, G.; V.E. Vinzi; O'Connor, P. Examining the effect of novelty seeking, satisfaction, and destination image on tourists' return pattern: A two factor, non-linear latent growth model. *Tourism Management*, **2011**. 32(4): p. 890-901.
33. Kashyap, R.; Bojanic, D.C. A Structural Analysis of Value, Quality, and Price Perceptions of Business and Leisure Travelers. *Journal of Travel Research*, **2000**. 39(1): p. 45-51.
34. Howat, G.; Assaker, G. The hierarchical effects of perceived quality on perceived value, satisfaction, and loyalty: Empirical results from public, outdoor aquatic centres in Australia. *Sport Management Review*, **2013**. 16(3): p. 268-284.
35. Vosta, L.N.; Pool, J.K.; Jalilvand, M.R.; Nafchali, J.S. The effect of marketing constructs and tourists' satisfaction on loyalty to a sport destination: A structural equation model and analysis. *Education Business & Society Contemporary Middle Eastern Issues*, **2014**. 7(4): p. 316-332.
36. Wang, X.; Zhang, J.; Gu, C.; Zhen, F. Examining Antecedents and Consequences of Tourist Satisfaction: A Structural Modeling Approach. *Tsinghua Science & Technology*, **2009**. 14(3): p. 397-406.
37. Baron, R.M.; Kenny, D.A. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, **1986**. 51(6): p. 1173-1182.



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