Study on the Attractiveness Enhancement of Industrial Cultural Heritage Based on Visitors' Perceived Value

Na Zhang[a], Li Li[b*],Yongchao Ma[c] and Jiajun Dai[d]

Xi'an University of Science and Technology, Xian, China

[a]103171472@qq.com, [b*]1020018210@qq.com
[c]2466373137@qq.com, [d]1286239414@qq.com

Abstract. Taking Xi'an Old Steel Factory Creative Park as an example, through exploring the relationship between visitors' perceived value, satisfaction and visitors' intention in industrial cultural heritage sites, accurately grasping the needs of visitors to the Old Steel Factory, constructing a theoretical model of visitors' perceived value on behavioral intention based on the theory of visitors' perceived value and its dimensions, and using exploratory factor analysis and structural equation model to conduct practical research on the theoretical model. On this basis for the old steel factory creative park attraction enhancement strategy, to promote the inheritance and sustainable development of industrial cultural heritage.

Keywords: Industrial cultural heritage; Tourists' perceived value; Behavioral intentions; Structural equation model.

1 Introduction

Industrial heritage is the witness of China's industrial society and carries the historical lineage of industrial civilization. The cultural and creative industrial parks formed in its renewal practice integrate the cultural and creative tourism industry and are rich in heritage connotations, thus becoming the choice of many tourists for cultural and industrial tourism[1]. With the continuous development of urban renewal and social economy, the number of industrial and cultural heritage sites in Xi'an has increased, such as Dahua 1935, Xiying Park, etc., in which there exists a convergence of modes, low differentiation, a single image of the tourism of the industrial heritage sites, the weakening of the characteristics of the industrial heritage itself, the lack of authenticity and utility, and the monotonous and homogeneous nature of the industrial tourism products, which results in the decrease of the tourists' perceived value and satisfaction[2].As the experiencers of tourist activities and the main body of industrial cultural heritage inheritance and protection, the improvement of tourists' satisfaction and behavioral intention is an effective way to promote the sustainable development of industrial cultural heritage sites[3]. Therefore, this study follows the logic of “tourists' perceived value-satisfaction-intention to revisit”, and analyzes the factors that drive the formation of the unique

Z. Zhan et al. (eds.), *Proceedings of the 2024 10th International Conference on Humanities and Social Science Research (ICHSSR 2024)*, Advances in Social Science, Education and Humanities Research 858,
https://doi.org/10.2991/978-2-38476-277-4_143

image of industrial heritage sites, to provide countermeasures to improve the attractiveness of its tourists for reference.

2 Research Hypotheses and Modeling

2.1 Tourist Perceived Value and Satisfaction

Perceived value is proposed by Sheth[4] and usually used in business field, which emphasizes that perceived value is divided into five dimensions: functional value, social value, emotional value, cognitive value and conditional value.In the 1990s scholars cited customer perceived value to the field of tourism, the perception of tourists for the destination tourism value as the tourists' perceived value, and scholars divided the perceived value from different fields.The scholars divided the perceived value from different fields. Different fields have the same dimension.Therefore, the uniqueness of industrial and cultural heritage sites is that they have cultural history and heritage image. Hunt[5]proposed the concept of tourism image for the first time, and the research of tourism destination image has attracted much attention from scholars at home and abroad. Tourists' quality perception originates from the comparison between expectation and real experience, and research shows that positive perception of the image of a tourist destination increases the likelihood of tourists going there. Based on the above research analysis, six dimensions are summarized and divided: heritage image value, heritage cultural value, functional value, cost value, social value, and emotional value. In summary, the following hypotheses are proposed:

H1: Functional value is positively correlated with tourist satisfaction.;
H2: Cost value is positively correlated with tourist satisfaction.;
H3: Social value is positively correlated with tourist satisfaction.;
H4: Emotional value is positively correlated with tourist satisfaction.;
H5: Heritage image value is positively correlated with tourist satisfaction.;
H6: Heritage cultural value is positively correlated with tourist satisfaction.

2.2 Tourist Perceived Value and Tourist Behavioral Intentions

Tourist behavioral intention (intention to revisit/recommendation behavior) refers to tourists' judgments about the likelihood of behaving again at a destination and recommending the destination to their friends and relatives. Tourists' perceived value is the antecedent variable of tourists' behavioral intention, and the higher the perceived value, the higher the positive behavior of tourists' revisit and recommendation. Liu Qiaohui's research shows that in addition to emotional value, the experience value, cost value and service value of forest park tourism perceived value have a significant positive impact on behavioral intention [6]. Through the analysis of theoretical research, the influence of different dimensions of tourists' perceived value on tourists' behavioral intention is also different. Therefore, the following hypotheses are proposed:

H7: Functional value is positively correlated with tourists' behavioral intention;
H8: Cost value is positively correlated with tourists' behavioral intention;
H9: Social value is positively correlated with tourists' behavioral intention;

H10: Emotional value is positively correlated with tourists' behavioral intention;

H11: Heritage image value is positively correlated with tourists' behavioral intention;

H12: Heritage cultural value is positively correlated with tourists' behavioral intentions.

2.3 Satisfaction and Tourists' Behavioral Intentions

Satisfaction arises depending on the experience of using a product or service. Tourist satisfaction is the emotional state of tourists in comparison with the expected value and the actual perceived value of the experience of the tourist destination, as well as the evaluation of the functions and services of the tourist destination [7] . He Qimin's research shows that the improvement of travel experience will strengthen the influence of tourist satisfaction on tourist loyalty, and the possibility of re-consumption and re-experience will also increase [8]; Studies have shown that tourists' attitudes, subjective norms, and perceived behavioral control have a significant positive impact on their willingness to use smart tourism technologies in an exploratory and exploitative manner. [9]. The background and findings of the above studies are different, but most of the studies show that tourist satisfaction is an important factor in tourists' behavioral intention. In summary, the following hypotheses are proposed:

H13: Satisfaction is positively correlated with tourists' behavioral intention

3 Research Area and Data Collection

3.1 Research Area

Shaanxi Steel Factory is one of the country's eight special steel enterprises, was established in 1958, the 80's reached the production of brilliant and heyday. 1999 transition to shut down, the memory of the steel generation came to an abrupt end; half a century has passed up and down, bearing the memories of a generation of people. With the development of urban renewal, industrial heritage transformation ushered in a wave of industrial heritage space such as spring, the old steel mill creative park to maintain its historical uniqueness and attractiveness is very important, while protecting the city's iron and steel industry historical lineage has a positive role.

3.2 Questionnaire Design and Data Collection

In this study, the perceived value, satisfaction and revisit intention of tourists in industrial heritage tourism sites are taken as variables, and the research is conducted for tourists in the Old Steel Factory Cultural and Creative Park. The questionnaire was designed with reference to the mature scale, and after the pre-survey adjustment, the questionnaire contained 8 dimensions and 27 measurement items. Finally, 352 questionnaires were distributed and 326 were validly collected, with a recovery rate of 92.6%. This is shown in Table 1.

The first part of the questionnaire contains the respondents' basic personal information, and the second part is the latent variable measurement questions, which are asked on a five-point Likert scale, where 1 means “very dissatisfied” and 5 means “very satisfied”.

Table 1. Sample analysis. (Source: the authors.)

Demographic characteristics		Proportion %	Demographic characteristics		Proportion %
Sex	male	53.99	Occupation	schoolchildren	20.86
	women	46.01		business employee	23.93
Age	Under 19	7.36		professional staff	16.26
	20-29	36.5		Government employees	11.04
	30-39	41.1		self-employed	13.5
	40-49	10.12		freelancer	9.51
	Over 50	4.91		retirees	2.76
Monthly income	<1000	7.67		else	2.15
	1000-1500	7.06	Educational level	Junior high school or below	8.28
	3000-5000	26.99		Secondary/high school	31.9
	5000-8000	24.54		College/specialization	33.44
	8000-10000	18.1		Graduate student or above	26.38
	＞10000	4.91			

3.3 Research Results

3.3.1 Reliability and Validity Tests. Based on SPSS26.0 software for statistical analysis, the results show that the Cronbach's α values of heritage cultural value ,heritage image value , functional value, cost value, social value, emotional value, satisfaction, and behavioral intention perceived by tourists are 0.828, 0.843, 0.859, 0.815, and 0.819 respectively, 0.822, 0.840, 0.902 are higher than 0.8, the reliability of the questionnaire is good. The KMO value of the sample data is 0.876, and the significant difference value of Bartlett's sphere test is 0.000, so the scale has high reliability and structural validity.

Table 2 shows that the factor loadings of each variable are between 0.705-0.899 (value greater than 0.6) and AVE are between 0.606-0.763 (value greater than 0.5), and the combined reliability CR values are between 0.822-0.906 (value greater than 0.7), which is in line with the standard, so the measurement model has good convergent validity.

Table 2. Reliability and validity analysis(Source: the authors.)

Item		Std.	CR	AVE
FV	FV1 Functional zoning is reasonable	0.808	0.862	0.611
	FV2 Good policing and services	0.766		
	FV3 Rest facilities to meet needs	0.758		
	FV4 Artistic landscape atmosphere	0.793		
CV	CV1 the money spent on the tour was worth it	0.798	0.822	0.606
	CV2 the time spent on the tour was worth it!	0.795		
	CV3 the physical effort and energy expended on the tour was worth it!	0.742		
SV	SV1 I can be recognized by others by touring the old steel mill.	0.770	0.828	0.617
	SV2 made me more popular among my friends	0.737		
	SV3 I was able to make more friends by touring the old steel mill.	0.845		
EV	EV1 relaxes me with excursions.	0.806	0.830	0.620
	EV2 has infected me with art through its tours	0.720		
	EV3 Feeling the spirit of the times and a sense of belonging	0.831		
HIV	HIV1 Old steel mills set a good image	0.767	0.844	0.574
	HIV2 The old steel mill is known for its long steel history and reputation	0.742		
	HIV3 Feeling the spirit and the continuity of the city's memory	0.773		
	HIV4 Feel its Xi'an geographical representation and iconography	0.749		
HCV	HCV1 the historical and cultural process of the old steel mill is clear.	0.768	0.831	0.551
	HCV2 the cultural exhibitions and events held in the park very satisfying	0.757		
	HCV3 Feel the originality of the industrial architectural landscape	0.705		
	HCV4 Feel the unique and deep industrial history and culture atmosphere.	0.738		
S	S1 I really enjoyed the tour of the old steel mill	0.842	0.847	0.649
	S2 I found the old steel mill landscape generally satisfactory	0.779		
	S3 I think the old steel mill tour experience was worth it	0.793		
TI	TI1 I will revisit the old steel mill	0.899	0.906	0.763
	TI2 I would recommend Old Steel to others!	0.851		
	TI3 I'd rather tour the old steel mills than anything else.	0.870		

3.3.2 Model Fit Test. The overall fitness index should be tested when the model is evaluated, so Amos26.0 software was applied to analyze the model fit,CMID =385.101, DF=296, as shown in Table 3, all the fit indexes reach the judgment standard, and the overall fit is very good, indicating that the model has a good fit.

Table 3. Fit-model Indicators. (Source: the authors.)

	absolute fit index (AFI)						Value-added fit index		
Fitness index	CMID	DF	CMID/DF	GFI	AGFI	RMSEA	NFI	CFI	TLI
standard			1-3	>0.90	>0.90	<0.08	>0.90	>0.90	>0.90
model	385.101	296.000	1.301	0.922	0.901	0.030	0.918	0.980	0.976

3.3.3 Model Test Results. Based on the SEM validation results, there is a significant positive relationship between all dimensions of perceived value (except social value) and satisfaction, so hypotheses H1, H2, H4, H5, and H6 are valid, and Where social value 0.02 (<0.05), has no significant effect, so hypothesis H3 is not valid. In the measurement of the impact of perceived value on tourists' behavioral intention, hypotheses H7, H8, H9, H10, H11, and H12 are valid. Finally, in the measure of the effect of satisfaction on tourists' behavioral intention, the path coefficient is 0.21, so H13 holds(Fig. 1).

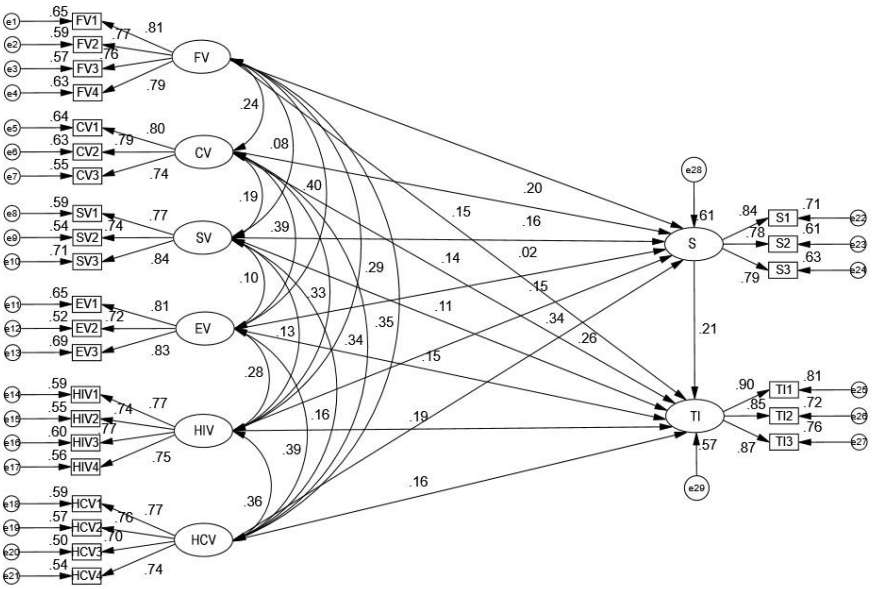

Fig. 1. Results of structural equation modeling. (Source: the authors.)

4 Conclusion and Disscussion

4.1 Conclusions

This paper explores the relationship between tourists' perceived value, satisfaction and behavioral intention in industrial and cultural heritage sites, and concludes that: (1) all dimensions of tourists' perceived value, except for social value, have a significant positive impact on satisfaction, with heritage image and cultural value having the greatest impact. (2) Tourist satisfaction has a significant positive effect on their behavioral intention. (3) All dimensions of tourists' perceived value also have a significant positive influence on behavioral intention, with heritage image value, cultural value, functional value, emotional value, cost value and social value in descending order of influence.

4.2 Discussion

Old Steel Factory is both a concentrated presentation and expression of iron and steel culture, and also has the dual attributes of a cultural heritage site and a tourist destination, so tourists' perception of its value is mainly reflected in its image value and cultural value is reasonable. Therefore, the industrial cultural heritage must pay attention to the shaping and protection of its unique image value and historical and cultural value when developing. Based on the above, the following suggestions are put forward for the enhancement of the attractiveness of the park:

The old steel factory should deeply excavate the connotation of steel culture, improve the quality and characteristics of tourism products, and utilize the cultural and creative products and the IP image of "Factory Flower" to enhance the brand value and popularity. At the same time, it should build a diversified structure of tourism products, accelerate research and development and updating, expand the market and promote the economic development of the park. In addition, it should also arouse tourists' unique emotional memories of the old iron and steel factory, transform industrial resources into cultural tourism resources, provide immersive experiences by combining the buildings and living slogans left over from that time, enhance the thematic and technological nature of the site, and attract tourists to visit the site[10].Taking the old steel mill creative park in Xi'an, Shaanxi as an example, this paper explores the behavioral intentions of industrial cultural heritage tourists based on tourists' perceived value and satisfaction, providing a reference for the development of heritage sites. However, the image of the steel heritage site is affected by technical and environmental factors, which need to be explored in depth and comprehensive strategies put forward to promote the development of steel cultural tourism.

References

1. Yu Kongjian, Fang Wanli: A Preliminary Study on China’s Industrial Heritage, Journal of Architecture, No.8, 2006, pp. 13–15.
2. Zhang J, Cenci J, Becue V, et al. Stewardship of Industrial Heritage Protection in Typical Western European and Chinese Regions: Values and Dilemmas[J]. Land, 2022, 11(6): 772.
3. Tian D, Wang Q, Law R, et al. Influence of cultural identity on tourists’ authenticity perception, tourist satisfaction, and traveler loyalty[J]. Sustainability, 2020, 12(16): 6344.
4. Sheth J N,Newman B I,Gross B L.Why we buy what we buy:A theory of consumption values[J].Journal of Business Research,1991,22(2):159-170.
5. Hunt J D.IMAGE--A FACTOR IN TOURISM.[D].Colorado State University.1971.
6. LIU Qiaohui,WANG Xiaoping,LIU Jinglan. A study on the relationship between tourists' perceived value, satisfaction and environmentally responsible behavior in forest parks[J]. Ecological Economy,2022,38(02):137-141.
7. Li F, Shang Y, Su Q. The influence of immersion on tourists’ satisfaction via perceived attractiveness and happiness[J]. Tourism Review, 2023, 78(1): 122-141.
8. He Qimin, Tan Guoxin. Research on the influence mechanism of tourists' intangible cultural heritage prior knowledge, perceived value and behavior [J]. Tourism Science, 2019,37(05):98-119.

9. Torabi Z A, Shalbafian A A, Allam Z, et al. Enhancing memorable experiences, tourist satisfaction, and revisit intention through smart tourism technologies[J]. Sustainability, 2022, 14(5): 2721.
10. Guo Q, Yang X. The impacts of mountain campsite attributes on tourists' satisfaction and behavioral intentions: The mediating role of experience quality[J]. Journal of Destination Marketing & Management, 2024, 32: 100873.