



Article

# The Perceptual Differences among Stakeholders in the Tourism Supply of Xi'an City, China

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**Abstract:** The stakeholders' perceptual evaluations of the supply structure of destination tourism play an important role in promoting the sustainable development of regional tourism. However, the research on the structural perceptions of destination tourism supply is relatively insufficient in current research on the perceptions of tourism stakeholders. This paper analyzes the perceptual differences among inbound tourists, community residents and tourism practitioners from the core and auxiliary tourism supply dimensions. After having applied the structural equation model in this paper, the advantages and disadvantages of the tourism supply of Xi'an, a famous tourist city in China, were identified. In addition, the findings of this paper are: the inbound tourists have high perceptual sensitivity over the factors of the urban core tourism supply; the community residents have high perceptual sensitivity over the auxiliary tourist supply factors; the tourism practitioners have similar perceptual sensitivity over the factors of urban core and auxiliary tourism supply. The advantageous factors involve tourist attractions, tourist shopping, tourist entertainment, hospitality environment and tourist information. Furthermore, the moderately stable supply factors of Xi'an include tourist transportation, tourist catering, tourist accommodation, marketing as well as safety and security, while the natural environment is the limiting factor. The results support sustainable development and the coordination of different stakeholders in the destinations.

Keywords: stakeholders; tourist supply; supply structure; perceptual differences; Xi'an City

#### 1. Introduction

With the development of China's tourist market, tourist consumption becomes diversified, personalized and precise; therefore, accurate response to the consumer demand for domestic and foreign tourists has become the key to sustainable development of regional tourism. Influenced by factors such as the changes of market demand, different endowments of tourist resources as well as periodicity of product development, construction and renewal, the supply of destination tourist products as well as services and facilities, etc., are insufficient or excessive. Then the imbalance of the supply and demand structure of the regional tourism has begun to emerge, and this has aroused the attention of the academic community [1]. Against this background, compared with studies rigidly adhering to researching the perceptions of the destination from the traditional view of tourists, it is better to provide a new perspective for understanding and examining the current situation of the supply structure of destination tourism by conducting a perceptual evaluation study focusing on the supply structure of destination tourism from different groups. Through perceptual evaluation studies on the tourism supply of a multi-group, advantages and disadvantages of the supply structure of urban tourism can be accurately studied and determined. Moreover, theoretical and practical support for the macro-control of the destination tourism supply can be provided.

The tourism industry has relatively salient characteristics of interconnectedness and comprehensiveness. The sustainable development of destination tourism cannot be separated from the

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participation of stakeholder groups. Among these groups, community residents, domestic and foreign tourists and tourism practitioners are the core stakeholder groups of the development of destination tourism [2,3]. These three major groups are closely linked with realizing sustainable development and promoting competitiveness of destination tourism. Although tourists are the consumption subjects of the destination tourism supply and also the key factor in the sustainable development of destination tourism, there is very little research on the stakeholders' perceptions of the structure of the destination tourism supply. Compared with domestic tourists, the inbound tourists, as foreign "outsiders", play a relatively singular role and their requirements for the supply of the destinations are also more stringent. Their assessment of the perceptions of the destination tourism supply is often made from an international perspective. Also, compared with domestic tourists, they are relatively more sensitive and accurate. Therefore, the inbound tourists' perceptions are often regarded as a key index in destination tourism research. Community residents are participants in the development of tourist destinations, and also the potential domestic tourist source market to support the sustainable development of destination tourism. The tourism practitioners are the executive subjects that maintain the operation of the destination tourism industry and achieve the supply of this industry [4,5]. This shows that the inbound tourists, community residents and tourism practitioners are participants in achieving the sustainable development of destination tourism and also evaluators of the status of the destination tourism supply. However, research on the structural perceptions of destination tourism supply is relatively insufficient in regards to the perceptions of tourism stakeholders. On the perceptual evaluation of the supply structure of destination tourism from a multi-group perspective, this category of studies can provide important reference for promoting the regulation of the destination tourism supply, improve its resource allocation, reduce blindness in developing and constructing destination tourism, optimize the supply structure of tourism, improve stakeholder satisfaction and ensure the sustainable development of regional tourism. At the same time, this study examines the tourism destinations from the perspective of the structure and of the multi-group, thus it has a certain theoretical significance in expanding the research dimensions and perspectives of the destination tourism supply and enriching the research on tourism stakeholders.

American scholar Asnoff took the lead in introducing the concept of stakeholders into the field of management [6]; Mitchell organized 27 definitions of stakeholders and considered the statements of Freeman and Clarkson to be the most representative. Freeman thought that the stakeholders were "people who could influence the realization of a goal of an organization, or could be influenced by the process that an organization achieved its objectives" [7,8]. For research on the perceptions of tourism stakeholders, Begum analyzed the stakeholders' perceptual evaluation of the sustainable development of tourism in Melaka, and found that the service quality was relatively important to the development of destination tourism [9]. Wells believed that the rapid development of tourism brought pressure on water usage in the destinations; also he investigated and assessed the application of wastewater treatment technology in the Belize area [10]. Chen classified the tourism stakeholders' perceptual differences of tourism in the Arctic region by using a qualitative research method, and found that the destinations had deficiencies in infrastructure, government management and tourist information [11]. Hardy analyzed the stakeholders' attitudes differences towards sustainable tourism using the Q-methodology, and found that people's attitudes do not align with other stakeholder groups [12]. Byrd analyzed the perceptions of the stakeholders' tourist influence on the rural tourism community, and found that there were significant perceptual differences between different stakeholders' positive effects and their negative ones on tourism [13]. Randle analyzed the stakeholders' perceptual differences of business management of the Victorian National Parks in Australia, and considered that it was necessary to strengthen the resource and ecological protection of the park in developing commercial operation so that its sustainable development could be achieved [14]. Trawöger analyzed the perceptual differences of climate change among the stakeholders of skiing tourism in the Tyrolean area and classified them into convinced planners, annoyed deniers, ambivalent optimists, and convinced wait-and-seers [15]. Juan, through the stakeholders' perceptual differences of the ecological

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service and protection in marine tourism, provided a reference for reducing the potential conflict of management of marine tourism destinations [16].

Tourism perceptions can be understood as an evaluation of the actual tourism supply at the destinations. For tourists, perceptions are the evaluations of the demand side of destination tourism supply; for the government, residents and enterprises at the destinations, however, perceptions are research and judgment of the supply side of destination tourism. Most of the existing research on the perceptions of tourism stakeholders focuses mainly on service quality, ecological environment, tourist impact, climate change, environmental protection and behaviors, etc.; they research mainly a single factor of a tourist attraction or scenic spot and lack an analysis of the perceptions of the whole tourism supply at these destinations. Therefore, it is difficult to carry out a comprehensive and accurate evaluation of the development of destination tourism; also, research contents need to be deepened. However, this analysis of tourism stakeholders' perceptual differences of destination tourism supply plays an important role in grasping the current situation of tourism supply, summarizing the problems in the development of destination tourism and ensuring the sustainable development of destination tourism.

Xi'an City is one of China's most popular tourist destinations. Historically, Xi'an was the capital of 13 dynasties over a period of 1077 years. The massive cultural accumulations make the city dignified and grand. The prosperous tourism industry also improves the residents' livelihoods in this populous city. Therefore, Xi'an City is chosen as a typical case in this study. According to the tourist system theory, based on first-hand survey data of three major stakeholder groups—inbound tourists, community residents and tourism practitioners—this study adopts the structural equation model for analyzing the perceptual evaluation of the tourist supply structure, and dissects the strengths and weaknesses in developing the tourism of Xi'an. Thus, it can accurately grasp the structural problems in the tourist supply of Xi'an City and provide theoretical reference for the macro-control and sustainable development of Xi'an's tourism.

## 2. Theoretical Framework

## 2.1. Tourist System Model

In 1972, Gunn proposed the tourist system model, which he outlined as being composed of market demand and destination supply. The supply system category can be further broken down into transportation, information, promotion, attractions, service and other subsystems [17]. Leiper proposed a relatively mature and complete model of the space tourism system, and the model includes two parts: the inner subsystem and external macro-environment. The internal system includes tourists, tourism, tourist sources, tourist channels and destinations, etc. The external macro-environment includes economy, society, culture, nature and other factors. The system highlights both the geographical spatial structure and the functional structure of supply and demand of the tourist system [18].

Chinese scholar Wu has constructed a model of the tourism supply and demand system [19] based on the models of Gunn and Leiper, also addressing tourism support policy; it is thus richer than the contents and systems of Gunn and Leiper. The model framework consists of four parts: the tourist market system, transportation system, destination system and support system. Among these parts, the destination system is composed of tourist attractions, tourist facilities, tourist services, tourist transportation and tourist environment. Specifically, it can be divided into the core tourism supply and the auxiliary tourism supply [19] (Figure 1). The six elements of the tourism industry, including transportation, accommodation, catering, tours, entertainment and shopping, are the core supply of the development of destination tourism, while the natural environment of the destinations, social and cultural environment, tourist information, marketing as well as safety and security are the auxiliary supply of the development of destination tourism.

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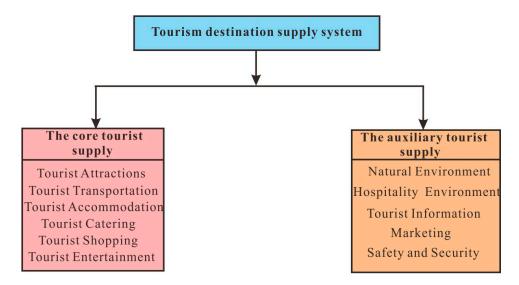


Figure 1. Tourism destination supply system [19].

#### 2.2. Research Hypotheses

Tourist attractions are the foundation and core of the sustainable development of destination tourism and also the material carrier for tourists' tours and experiences. The types and value of the tourist attractions, tourist guides of these scenic spots and their service quality are important indexes to measure the competitiveness of destinations. Chiu and other researchers have measured the local residents' perceptual degree of the tourist resources in Hong Kong, concluding that the residents have a relatively positive evaluation of the tourist facilities, tourist experiences and tourist services of Hong Kong [20]. Zhang has found that tourists have a relatively positive evaluation of beautiful tourist resources and see the tourist services in Hong Kong as highly efficient [21]. Obviously, the services of tourist guides, the types and quality of the destinations have an important role in maintaining the competitiveness of the destinations and the satisfaction of tourists. Also, they are important aspects in measuring the supply level of the destination tourism industry. Based on this, assumption H1 is proposed (Figure 2):

**Hypothesis 1 (H1).** *The stakeholders' perceptions of tourist attractions will have a significant impact on the destination tourism supply.* 

Transportation is the bridge between the destinations and the tourist-generating region, and also an important factor in the development of destination tourism [22]. Danaher has measured tourists' perceptions of the performance of the New Zealand traffic model and the conclusion has shown that the satisfaction of bus and car rentals has a strong correlation with the overall satisfaction of the transportation system [23]. Thompson's research demonstrates that the impact of comfort in using public transportation on the satisfaction of the destinations is more important than the impact of efficiency and safety [24]. Clearly, diverse means of transportation at the destination, perfect transportation facilities, as well as fast and safe transportation services are important supply factors contributing to the rapid distribution of tourists. Based on this, assumption H2 is proposed (Figure 2):

**Hypothesis 2 (H2).** The stakeholders' perceptions of tourist transportation will have a significant impact on the destination tourism supply.

The accommodation industry is an important industrial sector to support the development of destination tourism and is an important index for measuring the level of tourism supply. Diverse types of accommodation and the high quality of accommodation service at a destination are closely

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associated with the travel experiences of overnight tourists. Ekinci has found that accommodation facilities and accommodation services are important indexes for tourists to evaluate the accommodation industry of a destination [25]. Liu believes that the high quality of accommodation experiences will have a positive impact on the subsequent behaviors of tourists [26]. Based on this, assumption H3 is proposed (Figure 2):

**Hypothesis 3 (H3).** Stakeholders' perceptions of accommodation will have a significant impact on the destination tourism supply.

Food and beverage with unique local characteristics have an important role in improving the quality and satisfaction of the tourists' experiences. The scale development of the tourist catering industry has a positive influence on optimizing the industrial structure of destinations and enhancing the economic income of local tourism. Mynttinen has found that food quality and service levels are important indexes that can determine the satisfaction with catering of Russian tourists by analyzing the behaviors of these visitors [27]. Mak has discussed the characteristics of the consumption of tourist catering in light of globalization, and he considers that convenience and diversification are the key dimensions of catering [28]. Based on this, assumption H4 is proposed (Figure 2):

**Hypothesis 4 (H4).** Stakeholders' perceptions of tourist catering will have a significant impact on the destination tourism supply.

Tourist shopping and upgrading of tourist activities are not only important links in the tourists' experiences of destination tourism, but they also have an important role in increasing industrial revenue of . Atila believes that the quality and attractiveness of tourist commodities as well as the safety of the shopping environment are key indexes affecting tourists' shopping experiences, and they also influence the tourists' satisfaction and loyalty [29]. Barutçu thinks that shopping facilities and environment, as well as service level and quality are the main influencing factors for tourists to choose shopping destinations [30]. Based on this, assumption H5 is proposed (Figure 2):

**Hypothesis 5 (H5).** Stakeholders' perceptions of tourist shopping will have a significant impact on destination tourism supply.

Tourist entertainment, as non-essential consumption in tourism, plays an important role in enriching tourists' travel experiences and is receiving more and more tourist attention. The development of the tourist entertainment industry plays an important role in promoting the cultural exploration, activation and manifestation of the destinations, driving the transformation of the destination's culture industry. Ma believes that tourists achieve the re-understanding of the cultural value of the destinations through participating in tourist recreational activities [31]. Wu considers that the entertainment subjects, projects and services are the key factors to realize the deep tourist experiences of the tourists [32]. Based on this, assumption H6 is proposed (Figure 2):

**Hypothesis 6 (H6).** The stakeholders' perceptions of tourist entertainment will have a significant impact on the destination tourism supply.

From a macro-perspective, a beautiful natural environment is part of destination tourist resources; it is an important factor attracting tourists to visit and also a part of the destination tourism supply because the conditions of beautiful natural environment will have a positive impact on the decision-making behaviors of tourists. Su has found that the tourists' positive perceptions of a destination's natural environment will enhance the satisfaction of these tourist destinations, thereby promoting environmental responsibility for these scenic spots [33]. After conducting international tourist interviews, Gao believes that environmental pollution and health issues have become the key

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negative factors influencing inbound tourism to China [34]. Consequently, assumption H7 is proposed (Figure 2):

**Hypothesis 7 (H7).** *Stakeholders' perceptions of the natural environment will have a significant impact on the destination tourism supply.* 

The hospitality environment is also an indispensable part of the healthy development of tourist destinations and a necessary condition for host-guest interactions with local residents of the destinations. Warm and hospitable residents, hearty tourist services, a strong urban leisure atmosphere and cultural ambience, etc., will have a profoundly positive impact on tourists' behaviors after traveling [35,36]. Based on this, assumption H8 is proposed (Figure 2):

**Hypothesis 8 (H8).** The stakeholders' perceptions of the hospitality environment will have a significant impact on the destination tourism supply.

Tourism is an information-intensive industry; tourist information exerts a profound influence on tourists' choices of destinations before traveling, as well as their travel experiences and the evaluation of travel behaviors after traveling. Chung believes that the reliability, entertainment, complexity and usefulness of information are important factors influencing tourists' decisions about traveling [37]. Chang has analyzed the impact of WebGIS technology on tourists' seeking of travel information and considers that the usefulness and interest are the factors guiding the tourists' use of WebGIS [38]. Based on this, assumption H9 is proposed (Figure 2):

**Hypothesis 9 (H9).** The stakeholders' perceptions of tourist information will have a significant impact on the destination tourism supply.

Marketing is an important drawing force for tourist destinations to generate foreign-oriented publicity and attract tourists; it is also an important aspect that shows the competitiveness of tourist destinations. Good marketing strategies will have a positive impact on tourist travel behaviors. Tosun believes that a good market image has a positive effect on tourists' willingness to revisit. Zhang considers that promotional materials, marketing methods and the involvement degree of tourists are linked closely with the positive and negative perceptions of a destination's image [39,40]. Assumption H10 is thus proposed (Figure 2):

**Hypothesis 10 (H10).** The stakeholders' perceptions of the tourist marketing will have a significant impact on the destination tourism supply.

Safety and security are at the heart of tourists' visitations and also a necessary condition for the sustainable development of the destinations. Good physical security, safe tourist service facilities and well-functioning mechanisms for complaints are important factors for guaranteeing the safety and security of the destinations. Leppa believes that perceptions of the risk affect choice of destination, and has analyzed the differences in perceptual risk between first-time and repeat visitors. Brown argues that the increase of crime and risk of a destination causes a decline in the demand for that destination [41–43]. Based on this, assumption H11 is proposed (Figure 2):

**Hypothesis 11 (H11).** The stakeholders' perceptions of the tourist safety and security will have a significant impact on the destination tourism supply.

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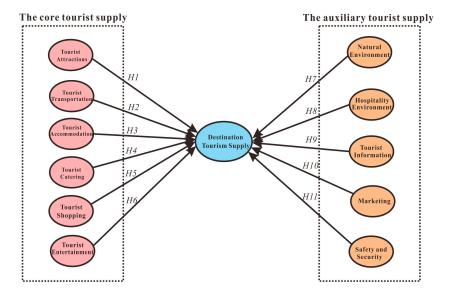
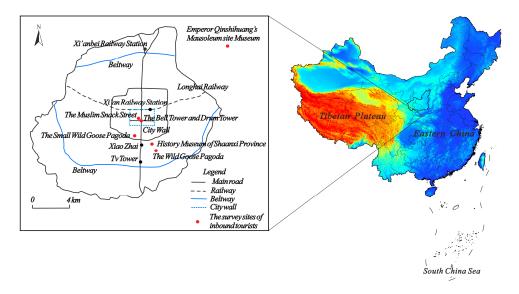


Figure 2. The hypothetical model of supply perception about tourism destination stakeholders.

#### 3. Materials and Methods

# 3.1. Study Area

Xi'an is the capital city of Shaanxi Province in China, and it is located in the central part of Shaanxi province, covering an area of 10,108 km² (33°42′–53°33′N, 107°40′–109°49′E) (Figure 3). Xi'an is the economic and cultural center of Shaanxi province; also, it is the key construction city in the strategy of "the Belt and Road" of China. Xi'an has a long history of more than 1077 years; as such, it was designated as an historical and cultural city, and has become an attractive tourist destination internationally and domestically.



**Figure 3.** Location of study area.

## 3.2. Questionnaire Design

This paper takes Wu Bihu's tourism system model [18] and the figure of the contents of the tourism supply in tourism economics as its theoretical basis [44]. This questionnaire designs the measurement indexes of the tourism supply structure from two aspects—the core and auxiliary supply—by referring to the existing research results [20–43,45–49] and using the seven-point sample

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table of Likert scale. The questionnaire is directed toward the three major groups: inbound tourists, community residents, and tourism practitioners. It includes 11 major aspects: tourist attractions, tourist transportation, tourist accommodation, tourist catering, tourist shopping, tourist entertainment, natural environment, hospitality environment, tourist information, marketing, as well as safety and security (Table 1). Moreover, the questionnaire involves a total of 47 measurement indexes. For demographic characteristics, the inbound tourists' list includes gender, age, nationality, education level, occupation, income; the community residents' includes gender, origin, age, education level, length of residence and occupation; the tourism practitioners' includes gender, nationality, age, education level, length of working, position and the nature of the institutions.

Table 1. Measurement indexes.

Factors	Number	Indexes	Index Sources
	X1	Cityscape	
т	X2	The value of the tourist attractions	
Tourist Attractions	X3	The types of tourist attractions	[20,21,45-49]
	X4	The service at tourist attractions	
	X5	Tourist guide services	
	X6	Diverse public transportation	
Tourist	X7	Convenient and quick city transportation	
	X8	Convenient and quick transportation to the tourist attractions	[22-24,45-49]
Transportation	X9	Convenient transportation among the local place and other tourist cities	
	X10	Perfect transportation facilities	
Tourist	X11	Accommodation service quality	[25,26,45–49]
Accommodation	X12	Multiple grades of accommodation service facilities	[23,26,43–49]
Tourist	X13	Catering service quality	[27 28 45 40]
Catering	X14	Multiple grades of catering service facilities	[27,28,45–49]
Tourist	X15	Tourist shopping service quality	
	X16	Overall tourist prices	[29,30,45-49]
Shopping	X17	Multiple grades of shopping places	
	X18	Attractive folk customs	
	X19	Attractive tourist festival activities	
Tourist Entertainment	X20	Rich and diverse cultural and performance activities	[01 00 45 40]
	X21	Rich and diverse international exhibitions	[31,32,45–49]
	X22	Tourist entertainment service quality	
	X23	Multiple grades of leisure and entertainment places	
N	X24	Good urban air quality	
	X25	High-quality and adequate urban water	
Natural	X26	Good status of urban public environmental hygiene	[33,34,45–49]
Environment	X27	High urban green coverage rate	
	X28	Beautiful environment of the tourist attractions	
	X29	Having provided visitors with chances to learn about local life	
	X30	Strong urban leisure atmosphere	
TT::1:	X31	Strong business atmosphere of modern city	
Hospitality	X32	Strong historical and cultural atmosphere	[35,36,45–49]
Environment	X33	Relatively high overall level of economic development	_
	X34	Relatively high level of service industry	
	X35	Relatively high hospitality of the residents	
	X36	Perfect internet service	
Tourist	X37	Perfect mobile communication service	
Tourist	X38	Easy access to English tourist information	[37,38,45–49]
Information	X39	Convenient and effective tourist logo, navigation information	
	X40	Perfect information-consulting service of the tourist attractions	
	X41	Vivid tourist image	
Marketing	X42	Strong tourist promotion	[39,40,45–49]
O	X43	Adequate free materials of tourist publicity	,
	X44	Good status of physical security	
Safety and	X45	Good security status of tourist service facilities	F41 40 4E 403
Security	X46	Tourist complaints can be resolved quickly and effectively	[41–43,45–49]
	X47	High overall safety of the local place	

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#### 3.3. Data Acquisition

The questionnaire was conducted from June to July 2013, using the Random Sampling Method for inbound tourists and community residents. For the tourism practitioners, a telephone appointment was made for conducting the questionnaire survey. The survey sites of the inbound tourists were: the Emperor Qinshihuang's Mausoleum Site Museum in Xi'an, the History Museum of Shaanxi Province, the Bell Tower, the Drum Tower, the Wild Goose Pagoda, the Small Wild Goose Pagoda, the Muslim Snack Street and other representative tourist attractions. This research was mainly carried out at the end of a tourist activity. The questionnaire adopted the random encounter method; its issuance included 673 questionnaires, of which 600 were valid, for a validity rate of 89.15%.

The survey sites for the tourism practitioners mainly involved Xi'an China International Travel Service Co., Ltd., Xi'an Tian ma Travel Agency, Xi'an Bell Tower Hotel, Hilton Hotel of Wanda, Xi'an Grand Park Hotel, Xi'an Tang Dynasty Co. Ltd., and Xi'an Overseas Tourist Co., Ltd. Its issuance involved 589 questionnaires, of which 538 were valid, for a validity rate of 91.34%.

The survey sites of the community residents were concentrated in the area surrounding the Social Road Community, Bell Tower Residential Area, Garden with Blue Greek Community, Tai Ping Bao Community, the Small Wild Goose Pagoda Community and Huan Cheng Xiyuan Community. Its issuance included 561 questionnaires, of which 520 were valid for a validity rate of 92.27%.

#### 3.4. Characteristics of the Samples

For the inbound tourists, there were both 50% males and females; 72.6% were between the ages of 15 to 44 years old; 63.3% of the tourists arrived from the United States, Canada, Australia, Korea, France and the United Kingdom; 78.8% had undergraduate or master's degrees; 78.8% were professional technical personnel, students, business people or retirees; 76.5% of the tourists had an annual income between 20,000 and 80,000 USD.

For the tourism practitioners, 76.3% were women; 79.7% were locals; 90.5% were between the ages of 15 and 44; 79.5% were graduates from high school, secondary technical school or college account; 68.8% have been employed in the field from 1 to 5 years; 52.6%; were tourist guides, dispatchers, salespeople, waiters or waitresses, and drivers; 89.1% worked at the scenic spots or a travel agency, or in catering, entertainment, accommodation and other related industries.

For the community residents, women account for 52.7%; local residents account for 60.3%; 83.7% were between the ages of 15 to 44 years old; 89.3%; had a bachelor degree or below; 81.8% have been residents between 10 and 20 years; and 76.3% were professional technical personnel, employees, waiters or waitresses, salespeople or students.

# 3.5. Method

The structural equation model, as a typical method for researching the causal relationship between research subjects, combines the advantages of factor analysis and regression analysis, and also becomes an important tool for multivariate analysis. This model can handle multiple dependent variables simultaneously and estimate the relationships between the factor structures and factors; also, it allows measurement errors between the independent variables and the dependent variables. Furthermore, through the adjustment and correction of the errors, the fitting degree of the whole hypothetical model can be estimated more accurately, thereby enhancing the scientificity of the model and conclusions [50]. The process of data analysis of this paper is as follows: first, according to the hypothetical model mentioned in this research, this paper evaluates the applicability of the model from the questionnaire data of the inbound tourists, community residents and tourism practitioners in order to evaluate the reliability and validity of the data and test its quality. Second, this paper, from three aspects—including the absolute consistency index, the value added consistency index and the parsimony consistency index—performs a verification test on this hypothetical model. Finally, the final path model of the three major groups' structural perceptions of the tourism supply in Xi'an City is obtained.

## 4. Methodology

#### 4.1. Model Applicability Test

The hypothetical model of the inbound tourists, community residents and practitioners is evaluated for applicability through the path coefficient, reliability coefficient, error variance, latent variable composite reliability (CR), and the average variance extraction of latent variables (AVE) (Table 2). Table 2 shows that in the perceptual model of the inbound tourists, index X35 does not pass the significance test; in the community residents' perceptual model, except for index X10 not passing the significance test, all other indexes of the three groups pass the significance test, with the path coefficients meeting the reliability standard [50]. For the error variance, except for the error variances of index X35 in the perceptual model of the inbound tourists and index X10 in the perceptual model of the community residents being of negative value, all other error variances have positive values [50]. Additionally, the composite reliability value of the latent variable extracted from the three major groups' values meet the 0.6 threshold level, with the mean variance extraction of latent variables satisfying the threshold level or being close to 0.5 [50]. On the whole, the hypothetical model of the three major groups all pass the applicability evaluation.

## 4.2. Model Verification Test

This paper uses the maximum likelihood estimation method for conducting the verification test on the equation model of the perceptual structure of the three groups' tourist destination supply. In addition, it modifies the relationship among residuals such as e48–e50, e53–e54, e86–e87, e67–e68 and e79–e81 in the hypothetical model of the perceptions of the inbound tourists' tourism supply; it also modifies the relationship among residuals such as e57–e85, e65–e73, e72–e78 and e88–e91 in the hypothetical model of the perceptions of the community residents' tourism supply; moreover, it modifies the relationship among residuals such as e51–e52, e61–e63, model e53–e54, e72–e74, e86–e88 and e91–e93 in the hypothetical model of the perceptions of the practitioners' tourism supply. Therefore, it obtains the fit index of the perceptions of the three major groups' tourism supply (Table 3) indicating that the absolute consistency index, value added consistency index and parsimony consistency index of the three major groups' perceptual model basically meet the verification standards. The results of the perceptual model of the inbound tourists' supply are: Chi-square value is 1384.686, df is 906, and the significance level is 0.000; the results of the perceptual model of practitioners are: Chi-square value is 1063.974, df is 889, and the significance level is 0.000; the results of the perceptual model of practitioners are: Chi-square value is 1105.691, df is 910, and the significance level is 0.000.

**Table 2.** The hypothetical model suitability assessment.

Factor					Inb	ound Tou	ırist			Comm	unity Res	sidents			Touris	sm Practit	ioners	
	Index	R	$R^2$	$1-R^{2}$	CR	AVE	R	$R^2$	$1 - R^2$	CR	AVE	R	$R^2$	$1 - R^2$	CR	AVE		
	X1	0.68	0.47	0.53		0.50	0.56	0.31	0.69		0.82 0.50	0.66	0.44	0.56	0.83	0.49		
	X2	0.59	0.35	0.65			0.32	0.10	0.90	0.82		0.42	0.18	0.82				
Tourist	X3	0.66	0.43	0.57	0.83		0.50	0.25	0.75			0.50	0.25	0.75				
Attractions	X4	0.65	0.42	0.58			0.56	0.31	0.69			0.56	0.31	0.69				
	X5	0.72	0.52	0.48			0.73	0.53	0.47			0.55	0.30	0.70				
	X6	0.75	0.56	0.44			0.73	0.53	0.47	0.83		0.68	0.46	0.54	0.83			
Tourist	X7	0.83	0.69	0.31		0.50	0.83	0.69	0.31		0.49	0.70	0.49	0.51		0.50		
	X8	0.85	0.72	0.28	0.83		0.81	0.66	0.34			0.69	0.48	0.52				
Transportation	X9	0.84	0.70	0.3			0.76	0.58	0.42			0.73	0.53	0.47				
	X10	0.78	0.61	0.39			0.84	0.71	0.29			0.79	0.62	0.38				
Tourist	X11	0.69	0.48	0.52	0.45	0.50	1.07	1.14	-0.14	0.65	0.51	0.69	0.48	0.52	0.67	0.40		
Accommodation	X12	0.77	0.59	0.41	0.67		0.57	0.32	0.68			0.64	0.41	0.59		0.49		
Taxwist Catavina	X13	0.68	0.47	0.53	0.67	0.50	0.76	0.58	0.42	0.66	0.50	0.69	0.48	0.52	0.67	0.50		
Tourist Catering	X14	0.72	0.51	0.49			0.60	0.36	0.64			0.67	0.45	0.55				
Tourist	X15	0.65	0.42	0.58	0.75	0.50	0.54	0.29	0.71	0.75	0.50	0.69	0.48	0.52	0.75	0.50		
	X16	0.62	0.38	0.62			0.57	0.32	0.68			0.62	0.38	0.62				
Shopping	X17	0.63	0.40	0.6			0.57	0.32	0.68			0.65	0.42	0.58				
	X18	0.68	0.46	0.54			0.78	0.61	0.39	0.85	0.50	0.70	0.49	0.51	0.86	0.50		
	X19	0.58	0.34	0.66			0.54	0.29	0.71			0.44	0.19	0.81				
Tourist	X20	0.63	0.40	0.6	0.06		0.56	0.31	0.69			0.49	0.24	0.76				
Entertainment	X21	0.62	0.38	0.62	0.86	0.50	0.56	0.31	0.69			0.55	0.30	0.70				
	X22	0.73	0.53	0.47			0.67	0.45	0.55			0.53	0.28	0.72				
	X23	0.68	0.46	0.54			0.55	0.30	0.70			0.52	0.27	0.73				
	X24	0.77	0.59	0.41			0.78	0.61	0.39			0.63	0.40	0.60	0.80			
NI - ( 1	X25	0.91	0.83	0.17		0.52	0.69	0.48	0.52	0.79	0.50	0.62	0.38	0.62				
Natural	X26	0.78	0.61	0.39	0.81		0.83	0.69	0.31			0.68	0.46	0.54		0.50		
Environment	X27	0.70	0.49	0.51			0.78	0.61	0.39			0.75	0.56	0.44				
	X28	<u>1.19</u>	1.42	-0.42			0.85	0.72	0.28			0.70	0.49	0.51				

Table 2. Cont.

			Inb	ound Tou	rist			Comm	unity Res	sidents			Touris	sm Practit	ioners	
Factor	Index -	R	$R^2$	$1 - R^2$	CR	AVE	R	$R^2$	$1 - R^2$	CR	AVE	R	$R^2$	$1 - R^2$	CR	AVE
	X29	0.46	0.21	0.79			0.46	0.21	0.79	0.87	0.0 0.50 0.50 0.0 0.0	0.41	0.17	0.83	0.87	
	X30	0.64	0.41	0.59		0.50	0.65	0.42	0.58			0.69	0.48	0.52		
TT . 11.	X31	0.57	0.32	0.68			0.69	0.48	0.52			0.58	0.34	0.66		
Hospitality	X32	0.62	0.38	0.62	0.87		0.47	0.22	0.78			0.51	0.26	0.74		0.50
Environment	X33	0.62	0.38	0.62			0.73	0.53	0.47			0.63	0.40	0.60		
	X34	0.71	0.50	0.5			0.75	0.56	0.44			0.62	0.38	0.62		
	X35	0.67	0.45	0.55			0.64	0.41	0.59			0.68	0.46	0.54		
	X36	0.46	0.21	0.79		0.50	0.65	0.42	0.58	0.83	0.50 0 0	0.60	0.36	0.64	0.83	0.50
Tr	X37	0.47	0.22	0.78	0.82		0.69	0.48	0.52			0.64	0.41	0.59		
Tourist	X38	0.71	0.50	0.5			0.69	0.48	0.52			0.64	0.41	0.59		
Information	X39	0.86	0.74	0.26			0.83	0.69	0.31			0.74	0.55	0.45		
	X40	0.84	0.71	0.29			0.83	0.69	0.31			0.74	0.55	0.45		
	X41	0.87	0.76	0.24			0.82	0.67	0.33	0.75	0.50	0.77	0.59	0.41	0.75	0.50
Marketing	X42	0.90	0.81	0.19	0.75	0.50	0.73	0.53	0.47			0.63	0.40	0.60		
0	X43	0.80	0.64	0.36			0.65	0.42	0.58			0.59	0.35	0.65		
	X44	0.69	0.48	0.52		0.50	0.53	0.28	0.72	0.80	0.50	0.75	0.56	0.44	0.80	0.50
Safety and	X45	0.84	0.71	0.29	0.80		0.76	0.58	0.42			0.77	0.59	0.41		
Security	X46	0.75	0.56	0.44			0.79	0.62	0.38			0.74	0.55	0.45		
•	X47	0.75	0.56	0.44			0.74	0.55	0.45			0.70	0.49	0.51		

Note: R represents the path coefficient,  $R^2$  represents the reliability coefficient,  $1-R^2$  represents the measurement error, the T value of the indexes are higher than 1.96, the underlined items indicate that they did not pass the significant test at the 0.05 level.

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Indexes	Factors	Standard	Inbound Tourists	Community Residents	Tourism Practitioners
	CMIN/DF	1.0-3.0	1.528	1.197	1.215
The absolute	RMSEA	$\leq 0.08$	0.030	0.019	0.020
	GFI	≥0.90	0.911	0.921	0.920
consistency index	AGFI	≥0.90	0.900	0.900	0.901
	PGFI	>0.5	0.731	0.726	0.743
	NFI	≥0.90	0.916	0.920	0.904
The value added	RFI	>0.90	0.900	0.903	0.887
	IFI	>0.90	0.969	0.986	0.982
consistency index	TLI	>0.90	0.963	0.983	0.978
	CFI	>0.90	0.969	0.986	0.981
The manaim ones	PRATIO	>0.50	0.838	0.822	0.842
The parsimony	PNFI	>0.50	0.758	0.756	0.761
consistency index	PCFI	>0.50	0.812	0.811	0.826

**Table 3.** The verification assessments of the hypothetical model.

#### 5. Results

## 5.1. The Perceptual Characteristics of the Inbound Tourists' Destination Tourism Supply

Through the evaluation and test of the hypothetical model of the perceptions of the inbound tourists' destination tourism supply, it is assumed that H1–H11 are verified, and the path coefficients and path model of the perceptions of the inbound tourists' destination tourism supply are obtained (Table 2, Figure 4).

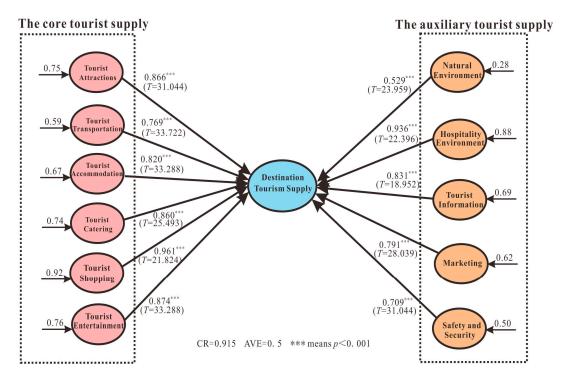


Figure 4. The path model of the inbound tourists' perceptions of the destination tourism supply.

From the path coefficients of the perceptions of the inbound tourists' specific indexes (Table 2), the path coefficients of two indexes including effective tourist marketing and adequate urban water usage are all above 0.9. The tourists have the deepest perceptions of these two indexes. The path coefficients of convenient and quick city transportation, convenient and quick transportation in tourist

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attractions, convenient transportation among the local place and other tourist cities, convenient and effective tourist logo as well as navigation information, perfect information-consulting service of tourist attractions, adequate free materials of tourist publicity, and good security status of tourist service facilities are between 0.8 to 0.9. This shows that tourists have relatively good perceptual degree of urban and scenic transportation, tourist information services and scenic publicity in Xi'an. The path coefficients of other indexes are below 0.7.

Tourist shopping in Xi'an is 0.961 and is the highest valued factor. This is due mainly to the fact that X'an is the key construction city in the "Development of the Western Regions" policy, and a crucial commercial and shopping center in the northwest, with relatively perfect shopping facilities and services. The perceptual coefficients of the inbound tourists to the factors, including tourist attractions, tourist entertainment, tourist catering, and tourist accommodation, are all above 0.8, while the lowest value is for tourist transportation and is still as high as 0.769.

For auxiliary tourism supply, the perceptual coefficient of the inbound tourists to the the cultural environment factor in Xi'an is relatively high at 0.936. This is mainly because Xi'an is China's ancient capital of 13 dynasties, and thus has abundant historical and cultural heritage, and has formed a relatively good humanistic atmosphere of city tourism. The tourists' path coefficients of tourist information, marketing as well as safety and security factors are the second lowest at between 0.71 and 0.83. The tourists' perceptual coefficient of the the natural environment factor in Xi'an is the lowest at 0.529. Although Xi'an in recent years has increased the construction of the urban natural environment, haze and air pollution are still relatively serious. Even though the perceptual coefficients of the auxiliary tourism factors are relatively low, overall, the inbound tourists hold a positive attitude towards the core tourism supply in Xi'an, as the perceptual coefficients of core tourism supply are relatively high and all above 0.76.

## 5.2. The Community Residents' Perceptions of the Destination Tourism Supply

Through the evaluation and test of the hypothetical model of the community residents' perceptions of the destination tourism supply, it is assumed that H1–H11 are verified, and the path coefficients and path perception model of the community residents' destination tourism supply are obtained (Table 2, Figure 5).

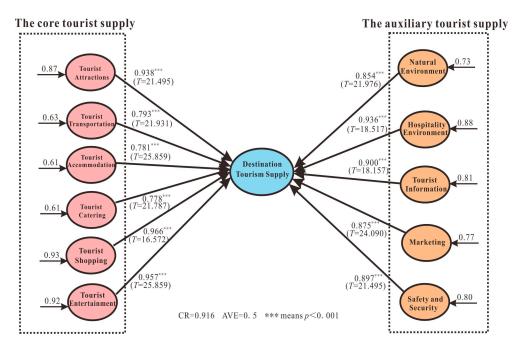


Figure 5. The path model of the community residents' perceptions of the destination tourism supply.

The community residents' path coefficients of the indexes of tourism supply in Xi'an are all below 0.9 (Table 2). The community residents' perceptual coefficients of the convenient and quick city transportation, convenient transportation tourist attractions, perfect transportation facilities, good status of urban public environmental hygiene, beautiful environment of tourist attractions, perfect information service of tourist attractions as well as vivid tourist image are between 0.8 and 0.9. This illustrates that the community residents are quite aware of the related tourism supply such as tourist transportation and tourist marketing in Xi'an city. The perceptual coefficients of the tourist shopping services, diverse forms of public transportation, convenient transportation among local places and other tourist cities, catering service quality, attractive folk customs, good urban air quality, high urban green coverage rate, relatively high overall level of economic development, relatively high level of service industry, strong tourist promotion, good security status of tourist service facilities, tourist complaints being resolved efficiently and high overall safety of the area are between 0.7 and 0.8; however, the perceptual coefficients of other indexes are all below 0.7.

For the core tourism supply (Figure 5), the community residents' perceptual coefficients of the factors such as tourist shopping, tourist entertainment, and tourist attractions are relatively high and all above 0.9. This shows that the community residents recognize the supply of shopping, entertainment and attractions in Xi'an. However, their perceptual coefficients of the factors such as tourist transportation, tourist catering and tourist accommodation are relatively low. For the auxiliary tourist supply, the community residents' perceptual coefficients of the factors including hospitality environment and tourist information in Xi'an are relatively high at 0.936 and 0.900, respectively. The perceptual coefficients of the factors such as the natural environment, marketing as well as safety and security are relatively consistent and all close to 0.9. Overall, the community residents' perceptual degree of the factors of the auxiliary tourism supply in Xi'an is relatively profound.

## 5.3. The Practitioners' Perceptions of the Destination Tourism Supply

Through the evaluation and test of the hypothetical model of the destination tourism supply, it is assumed that hypotheses H1 to H11 are verified and that the path model of the practitioners' perceptions of the destination tourism supply is obtained (Table 2, Figure 6).

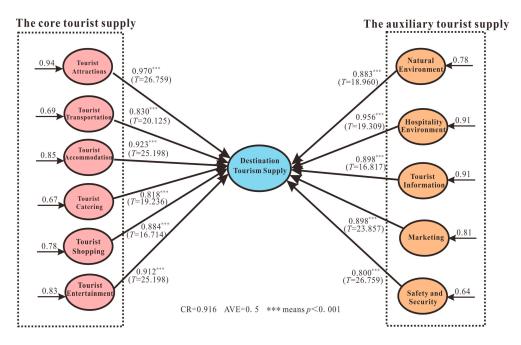


Figure 6. The path model of the tourism practitioners' perceptions of the destination tourism supply.

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From the path coefficients of the specific indexes of the tourist practitioners (Table 2), the practitioners' perceptual coefficients of the indexes such as convenient and quick city transportation, convenient transportation among local places and other tourist cities, perfect transportation facilities, attractive folk customs, high urban green coverage rate, convenient and effective tourist logo, vivid tourist image, good status of physical security, good security status of tourist service facilities, tourist complaints being resolved effectively, as well as high overall safety of the area are between 0.7 and 0.8. Their evaluation degree is relatively high and the perceptual degree is relatively low; the perceptual coefficients of other indexes are all below 0.7.

For the core tourism supply (Figure 6), the practitioners' perceptual coefficients of the factors such as tourist attractions, accommodation and entertainment in Xi'an are relatively high and all higher than 0.9. This indicates that they recognize relatively well tourist attractions, accommodation and entertainment in Xi'an. The practitioners' perceptual coefficients of the factors such as tourist transportation, tourist shopping and tourist catering are relatively low and between 0.8 and 0.9. For the auxiliary tourism supply, the practitioners' perceptual coefficient of hospitality environment in Xi'an is relatively high at 0.956; it is followed by the factors tourist information, marketing and natural environment; the perceptual coefficient of the safety and security factor in Xi'an is the lowest at 0.8. Overall, the practitioners' perceptual coefficients of the factors of the core and auxiliary tourist supply structure in Xi'an are relatively consistent.

## 5.4. The Three Major Stakeholder Groups' Perceptual Differences of the Destination Tourism Supply

From Table 2 and Figure 7, the indexes with relatively high perceptual coefficients of the three major groups can be determined. Among them, the path coefficients of the indexes such as the diverse public transportation, convenient and quick city transportation, tourist transportation, convenient and quick transportation to tourist attractions, convenient transportation among local places and other tourist cities, perfect transportation facilities, good status of urban public environmental hygiene, high urban green coverage rate, relatively high hospitality of the residents, easy access to English-language tourist information, convenient and effective tourist logo, navigation information, vivid tourist image, good security status of tourist service facilities and high overall safety of the area are relatively high and all above 0.7. However, their perceptual coefficients of the indexes such as the value of tourist attractions, the types of tourist attractions, attractive tourist festival activities, rich cultural and performance activities, diverse international exhibitions as well as having provided visitors with chances to learn about local life are relatively low and generally stay below 0.6.

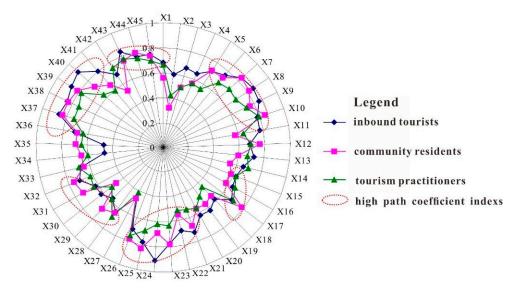


Figure 7. The differences of the indexes of the stakeholders' destination tourism supply.

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From the perceptual coefficients of the core tourism supply, the three major groups' path coefficients of tourist attractions, tourist shopping and tourist entertainment are relatively high and between 0.87 and 0.97. This indicates that these groups recognize the supply factors such as tourist attractions, shopping and entertainment, while they have relatively low perceptual degree of basic consumption such as tourist transportation, accommodation as well as catering, with path coefficients between 0.77 and 0.92. Obviously, their perceptual degree of non-basic consumption such as tourist attractions, tourist shopping and tourist entertainment are all relatively profound, while they have a weak perceptual degree of basic consumption such as the tourist transportation, accommodation and catering.

From the perceptual coefficients of the auxiliary supply factors (Figures 4–6), the three major groups' perceptual coefficients of the hospitality environment in Xi'an and tourist information supply are the highestat between 0.83 and 0.96. Their perceptual coefficients of marketing as well as security are relatively high and between 0.71 and 0.90. The evaluations of the factors of the natural environment in Xi'an are all relatively low and between 0.53 and 0.88. By concluding the perceptions of the three major groups' differences of the tourist supply structure, this paper considers that the tourist attractions, tourist shopping, tourist entertainment, hospitality environment and tourist information are the superior tourist supply factors in Xi'an, and the tourist transportation, tourist catering, tourist accommodation, marketing, safety and security are the stable supply factors of Xi'an, while the natural environment is the inferior supply factor of Xi'an.

#### 6. Discussion

The inbound tourists, community residents and practitioners are the core stakeholders in the development of destination tourism, though they play different roles. The inbound tourists are experiencers of the destinations and also consumers as well as evaluators of the destination tourism supply; the community residents are the participants in the development of the tourism destinations and also the potential tourist source market of destination tourism; the practitioners are the direct participants and sellers of the destination tourism supply, so they a direct impact on the sustainable development of destination tourism. The stakeholders' perceptual evaluations of the supply structure of destination tourism play an important role in promoting the macro-control and the sustainable development of regional tourism. It is not enough, however, to address only the inbound tourists' perceptions of the tourist supply structure of the destinations; auxiliary tourism supply factors should be more emphasized. This paper analyzes the perceptual differences among the inbound tourists, community residents and tourism practitioners from two structural dimensions, core and auxiliary tourism supply. After having applied the structural equation model, the advantages and disadvantages of the tourism supply of Xi'an, a famous tourism city in China, have been delineated.

Based on the systematic theory of tourism, from the structural perspective of core and auxiliary supply of the destinations, this paper analyzes the differentiation of the structural perceptions of the tourism supply from three major stakeholder groups—the inbound tourists, community residents and practitioners—and it deepens the stakeholder groups' understanding of the content of the destination tourism supply system. In addition, this paper further generalizes the superior, inferior and more stable factors recognized by all three major groups. Moreover, it provides a theoretical reference for the tourist macro-control of Xi'an with the goal of tourist coordination and sustainable development, ultimately by improving the implementation of measures as well as coordinating and meeting the needs of the stakeholder groups. In the development of destination tourism, although the status of the stakeholders in tourism decision-making is not equal, the stakeholders' interests should be understood and valued; to ignore their demands will affect the sustainable development of destination tourism [51,52]. By combining the development planning of the tourism in Xi'an City, the destination tourism supply needs to be reasonably adjusted and allocated to ensure the sustainable development of destination tourism.

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The deficiencies of this study are reflected in at least four aspects: First, the inbound tourist market is only a part of China's tourist market; with the vigorous development of domestic tourism, it is necessary to introduce the perceptual analysis of domestic tourists' destination tourist supply structure, with a view to make a more accurate judgment of the perceptions of destination tourism. Second, the supply system of destination tourism has not been fully unified, and it is necessary to further refine the design aiming at the indexes of the destination tourism supply. Third, this paper only takes Xi'an as an example case to analyze the different stakeholders' supply perceptions. Owing to the differences of urban economic development level, city orientation and city function, further comparisons with other cities are needed. Despite these flaws, the results provide support for the coordination of different stakeholders. Fourth, the development of destination tourism cannot be separated from the participation and guidance of the management department because the attitude of this department plays an important role in the sustainable development of destination tourism. In the future, the evaluations of the management personnel's perceptions of the destination tourism supply will be further studied to further enrich our understanding. The above defects and deficiencies are the directions to be studied in the future.

#### 7. Conclusions

The inbound tourists, community residents and practitioners have different attitudes to the factors of the core and auxiliary tourism supply of destination tourism. The inbound tourists have high perceptual sensitivity to the factors of the core tourism supply in the city. The community residents have high perceptual sensitivity to the factors of the auxiliary tourism supply in the city. The practitioners' perceptual sensitivity to the core factors of the urban tourism supply corresponds to that of the auxiliary factors of the urban tourism supply.

For the three major groups' perceptual coefficients of the factors of the core tourist supply, they have relatively profound perceptual degree in all non-basic consumption such as the tourist attractions, tourist shopping and tourist entertainment, while they have relatively weak perceptual degree of all the basic consumption such as the tourist transportation, accommodation and catering. For their perceptual coefficients of the factors of the auxiliary tourist supply, they have relatively high perceptual coefficients in the hospitality environment of Xi'an and tourist information supply, while they all have relatively low evaluations of Xi'an's natural environment. By concluding the three major groups' different perceptions of tourist supply structure, this paper considers that the tourist attractions, tourist shopping, tourist entertainment, hospitality environment and tourist information are superior supply factors of Xi'an; tourist transportation, tourist catering, tourist accommodation, marketing, safety and security are stable supply factors of Xi'an, while the natural environment is the inferior supply factor of Xi'an.

From the inbound tourists' perceptions of the tourist supply structure in Xi'an, the inbound tourists have the deepest perceptual degree of the indexes involving strong tourist promotion and urban water usage. The reason is that Xi'an is located in the northwest of China; the temperature is relatively dry and adequate urban water use is relatively important for the development of urban tourism. Therefore, the tourists have profound perceptions of this, which is relatively consistent with the research results of Gao [34] and other scholars. They have a relatively good perceptual degree of the indexes such as the transportation in the city, tourist logo, navigation information, and consulting services, as well as tourist publicity. For the core tourism supply, the inbound tourists' perceptual coefficient of the tourist shopping factor in Xi'an is the highest, and that of tourist transportation is the lowest. For the auxiliary tourism supply, the inbound tourists' perceptual coefficient of the hospitality environment in Xi'an is relatively high, and tourist information, marketing, safety and security take up the second place; the natural environment in Xi'an is the lowest. These research results verify the results of other scholars [34,53]. Xi'an, as China's famous historical and cultural ancient capital, has a relatively strong historical and cultural atmosphere as well as humanistic environment; therefore, the inbound tourists have a high awareness of this.

From the community residents' perceptions of the tourist supply structure in Xi'an, they have relatively high perceptual coefficients of city transportation, transportation to tourist attractions, urban public environment, scenic environment, information-consulting service and tourist image; this is relatively consistent with the research results of Wu [54]. For the core tourism supply, they have the highest perceptual coefficients of the factors including tourist shopping, tourist entertainment, and tourist attractions in Xi'an, while they have low perceptual coefficients of the factors such as tourist transportation, tourist catering and tourist accommodation. For the auxiliary tourist supply, they have high perceptual coefficients of the factors including hospitality environment and tourist information in Xi'an, whereas they have low perceptual path coefficients of the factors involving the natural environment, marketing as well as security in Xi'an.

From the tourist practitioners' perceptions of the tourism supply structure of Xi'an city, they have high perceptual coefficients of the indexes such as city transportation, urban transportation, folk customs, urban green coverage, information on the tourist attractions, tourist image as well as physical security. For the core tourism supply, they have high perceptual coefficients of tourist attractions, tourist accommodation and tourist entertainment, while they have low perceptual coefficients of tourist transportation, tourist shopping and tourist catering. For the auxiliary tourist supply, they have high perceptual coefficients of the hospitality environment in Xi'an, while tits lowest perceptual coefficient is the security of Xi'an.

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