The Preference Study on Public Service of the Bazaar in Xinjiang

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Abstract. This paper proposes the practical problems of improving the weak public service's foundation about urban and rural construction in Xinjiang, which takes bazaar as an important carrier to expand the public service function of the site. The narrative preference method is used to study the preference of Xinjiang residents to bazaar's public service function. Furthermore, the conclusion can provide suggestions for bazaar's plan, design and operation. The main conclusions are as follows: the most popular public services of bazaar in Xinjiang are culture and art, entertainment and leisure, square green area, education and training, convenient services, and medical and healthy care. The longest time they are willing to spend on the way to bazaars are 44, 41, 31, 25, 28 and 11mins; The maximum size that can be accepted are: large, medium, medium, medium, small, small. The differences of gender, age, ethnic group, occupation, education and residence also bring significant differentiation.

Keywords: Bazaars in Xinjiang; Stated-preference analysis; Public services.

1. Research Background

In recent years, the construction of urban and rural public service system in China has made remarkable achievements. But the level of public service system construction still needs to be improved, compared with the level of current social and economic development, the material and spiritual needs of the masses, as well as the goals and requirements setting by relevant departments[1]. Above problems are embodied in the following aspects: Firstly, the pace of urban and rural residents' life is gradually increased with rapid development and construction of urban and rural areas. Traditional urban and rural public service places are generally difficult to satisfy the renewal of urban and rural spatial structure. Therefore, the accessibility is being worse and the utilization rate of poor accessibility is getting lower[2]; Secondly, traditional public service places have a vague sense of changes in social demand, which provides service contents and facilities are relatively old and cannot adapt to the rapidly growing needs of residents. As a result, they are disconnected from daily life and become less attractive [3].

To fundamentally improve the above-mentioned problems, it is an important way out to supply innovate of public service by site expansion[4]. The bazaar is an excellent carrier for the construction of urban and rural public service system in Xinjiang. Meanwhile, it is also a vital content of urbanization construction in Xinjiang during our jobs to enrich bazaar's functions and promote the attraction of secular life to people of all ethnic groups.

1.1 Review of Studies

1.1.1 Overview of Xinjiang Bazaar

The word "Bazaar"or "Bazar" comes from Persian[5], it is the transliteration of minority language in Xinjiang. It is sure that the word "market" calls "Bazaar" in Uygur language, Kazak, Kirgiz language, Uzbekistan, Tatar, Tuva. Commercial streets and markets in urban and rural areas for ethnic minorities in Xinjiang are collectively called bazaars[6]. Bazaar is similar to the "gathering" in north China, the "city" in south China, the "ruins" in Guangdong and Guangxi, the "street" in Yunnan, and the "field" in Sichuan and Guizhou [7]. After years of development, bazaars lack of specific classification standards today, but they can be generally divided into three categories: small bazaars, medium bazaars and large bazaars. Among them, small bazaars have the

largest number and their functions are similar to those of the gathering in the mainland. The function of medium-sized bazaars is close to the inland farmers' market; The large bazaar is closely to the commercial complex in the mainland. [8]

1.1.2 Research Status of "Bazaar"

Overseas and domestic scholars have little research finding about the bazaar, which may mainly be related to existence in Central and Western Asia. Achievements mainly focus on the study of humanistic and social level. Furthermore, National Social Science Funds and Art Funds have been approved about the bazaar in recent years, but the research findings of architecture design and planning level are relatively few.

Domestic and foreign researches on architectural design and planning mainly include: Introduction of Architectural Design in Xinjiang International Grand Bazaar (Wang Xiaodong,2003); A Study on the Architecture and Regional Characteristics of Bazar in Xinjiang (Imam Muwu Mountain, 2010); A Study on the Traditional Culture of Rashid Al-bazaar in Iran (Maryam Pourzakarya, 2019); Application of Urban Space Design Theory of Bazaar in Iran (Azadeh Lak, 2018); Sustainable Analytic hierarchy Process of Tajrish Bazaar in Tehran (Halleh Nejadriahi, 2015); The Urban Characteristics of Tabriz Grand Bazaar in Iran and its Relationship with Environmental Satisfaction of Commercial Public Space (Mahmoud Ouria, 2019); Spatial Analysis and Morphological Evolution of "Bazaar Street" and Urban Atructure in Dhaka city (Ferdous, 2012); Thoughts on Urban Transformation and Controversial Space in Istanbul Bazaar (OZLEM OZ, 2012).

1.1.3 The Application of SP Method in the Architecture and Planning

Stated Preference Method is a spatial research method based on users' preference. It is a survey method for obtaining "the personal subjective preference indicated by people's multiple choices with hypothetical conditions", which also known as SP survey and intention survey. [9]SP method can simulate the elements that produced in the real environment through a simple situational hypothesis questionnaire. Getting people's preference for the space environment under the complex case has a good predictability. It has been widely used in traffic analysis, environmental assessment, price setting and other market research due to its advantages of a good controllability and a low costing. [10] Nowadays, the research objects of SP method are mainly on urban infrastructure in the field of urban planning and architecture.   For instance, Fang Jia, Wang De et al. conducted a study on the preference of Shanghai residents for suburban parks, providing evidence for the type selection, fee targeting, crowd characteristics and other recreational preferences of Shanghai residents. Zhao Qian, Wang De and Zhu Wei explored the evaluation method of urban living environment quality that takes Shanghai's Yangpu District as an example, and established the evaluation index system.

1.2 Purpose of Research

The research attempts to solve the highlighted realistic problems about the weak foundation of public service during the acceleration process of urban and rural development. It aims to study the place of public services which taking bazaar as the important carrier. By strengthening bazaars' social attribute, we wants to promote the overall vitality of the bazaar, realize its sustainable development, activate the traditional minority national commercial form---bazaar.

In China, the application of SP method in the study of commercial building planning mainly focuses on commercial complex and urban complex, while the study on the commercial type with regional characteristics of bazaars in Xinjiang has just started. This paper tries to more accurately grasp and understanding of people of all nationalities in Xinjiang to bazaars' preference characteristics of public service work using the SP method. In order to determine the business scale of bazaar, select public service`s type, choose target population characteristics of public service providing residents preferences conclusion, it can predict effectively before the bazaar was built and make business functions and public service functions play a synergistic role.

2.   Research Design

The research route of SP method in this paper is as follows: ①Conduct a preliminary survey to obtain the status of Xinjiang bazaar function type. ②Through interviews with experts and residents to get the attributes and level of Xinjiang bazaars; ③Use SPSS orthogonal design questions to edit the questionnaire;④Distribute questionnaires and make statistics, and establish a discrete selection model through data processing. ⑤ Model analysis based on the actual problems of Xinjiang residents.

2.1 Basic Research

Planning to carry out basic research about bazaars on 106 county-level administrative units in Xinjiang. During summer and winter vacations, students made surveys about bazaars in their hometowns and filled out the basic surveys form of bazaars . Many bazaars did not reopen due to the COVID-19. A total of 327 bazaars survey datum were received, which was a little short of the estimated 1000 questionnaires. But it also basically covers most areas and major cities in Xinjiang. Through the study of the statistical analysis of 327 datum, it can basically clear the present situation of the bazaar in xinjiang. In addition to the commercial function, non-commercial function mainly contains: culture and art (43), entertainment and leisure (37), square green space (21), education and training (23), health (15), convenient service (29), public transport interchange (8), the folk religion(5) . On the whole, the scale of bazaar in Xinjiang has changed little in recent years. It focus on commerce and seldom integrates other non-commercial functions (public service functions), so it is not attractive enough to residents and the overall operation is not ideal. The bigger the bazaar is, the more public services it contains, also, the more there are. Many small and medium-sized bazaars lack of public service function, and it is one of the reasons why their operation condition is worse than surrounding bazaars of the same size. They are still purely commercial bazaars, which do not play the social attribute of bazaars through public service function.

2.2 Attributes and Level Definition

The most important factors were analyzed and screened out which influence the selection of residents through preliminary investigation by means of interviews with experts and residents: the commercial scale of bazaars, the time spent from home to bazaars and the function type of bazaar public service, which were taken as SP survey attributes.

Bazaar`s commercial scale attribute level refers to commercial construction scale, and considers that ordinary residents participated in the investigation questionnaire will not estimate the bazaar area, the number of shops and so on. So bazaars can be divided comprehensively into three types: small, medium and large size, which the differences between them judged by each person's experience. According to the results of the preliminary investigation and the previous research, the time level of the property of time spent from home to bazaars can be roughly divided into three time levels of arrival distance: 15 mins, 30 mins and 60 mins. The public service function of bazaars can be subdivided into six types: culture and art, entertainment and leisure, square park, education and training, medical and health care, and convenience service. Whether a bazaar contains these functional types with "have" or "nothing" can be used to describe the public service function of bazaars. Finally, eight attributes and levels about bazaar's preference evaluation table of Xinjiang residents was established .

2.3 Questionnaire Design and Survey Implementation

Questionnaire design:①Design several traditional options, which being used for the SP method to assist and test the answer;②Respondents' social background information;③Options of SP survey, SP question is: "If two bazaars will be built around your home, please choose by A and B bazaar you prefer to go. If you don't want to go to either of them, please choose C." Bazaar A and bazaar B are from 2 to 3 levels of 6 attributes, 2048 combinations in total. By SPSS orthogonal design, 32

groups appear. Through manual selection, 9 groups with obvious differences are removed, and 23 groups of options are finally retained. The 23 groups were divided into 3 folds according to 8 groups, 8 groups and 7 groups, so as to ensure that the workload of comparison and selection in each questionnaire was appropriate.

3. Research Analysis

3.1 Model Specification

The expression of the discrete selection model proposed by the SP method in this paper is: $V_i = \alpha_1 size_i + \alpha_2 time_i + \alpha_3 type1_i + \alpha_4 type2_i + \alpha_5 type3_i + \alpha_6 type4_i + \alpha_7 type5_i + \alpha_8 type6_i$. In the formula, i is the bazaar selection scheme, V_i is the visible utility of the bazaar selection, and α_1- 8 is the coefficient to be fitted by the model. Size is the commercial scale of bazaars; time is the time taken from home to bazaars (min); type 1-6 is a sub-function of the bazaar's public service function type. The expression above was used to establish bazaar discrete selection model in Xinjiang and calculate the weight relation among various factors. The statistical software Stata was used to fit the model of 11,247 selection records formed by 489 valid questionnaires (Table 1).

Table 1: Discrete selection model fitting results of Xinjiang bazaar

Variables	Factor
Commercial Scale of Bazaars	-0.0065
Time from Home to Bazaar/min	-0.3076***
Culture and Art	0.4568***
Entertainment and Leisure	0.4184***
Square Park	0.3223***
Education and Training	0.2563***
Medical and Health Care	0.1126***
Convenience Service	0.1795***
None	-0.6241***

3.2 Interpretation of Model Results

The coefficient weights calculated by the discrete selection model are: 0.4568, 0.4184, 0.3223, 0.2563, 0.1126 and 0.1795 respectively for the selection of culture and art, entertainment and leisure, square park, education and training, medical care and health, convenience services.

The model can also be used to calculate the negative correlation between the consumption of time and the size of bazaars, if the utility of certain public service work selected by residents is certain. It can also calculate the relationship between the amount of time residents are willing to spend on a certain public service function in the bazaar and the size of the bazaar. If the time and scale of a certain bazaar function are assumed to be 0, the maximum scale and maximum time of the corresponding bazaar function can be calculated. Furthermore, the equivalent lines of different bazaar public service functions can be drawn (Figure 1), so as to describe the negative correlation between scale and time more intuitively.
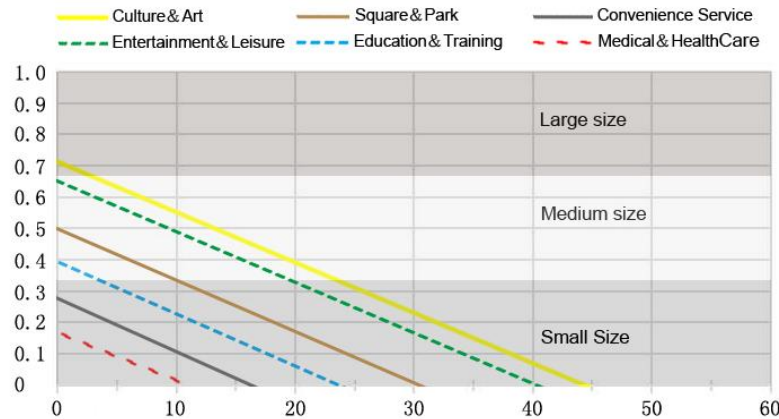
Figure 1:The equivalent lines of Xinjiang Bazaar with public service functions

4. Conclusion

The narrative preference method is used to obtain information from questionnaires about the public service function of bazaars by residents of all ethnic groups in Xinjiang, and a discrete selection model is established. By calculating the weight of each attribute, it can be concluded that the preferences of residents of all ethnic groups in Xinjiang for bazaar's public service function types, from high to low are as follows: culture and art, entertainment and leisure, square green space, education and training, convenience service, and medical&health care. Through the model，it calculates the residents' acceptable the consumption of time and distance towards bazaars containing the public service: residents are willing to go to the bazaar with cultural and artistic features is the biggest size. Residents receive the largest size-medium containing entertainment or square function. Residents are willing to travel to bazaars containing education training, health care, or the convenient   service function, the largest size they can accept is small size. The longest time residents are willing to spend in bazaar is: 44 mins for culture and art, 41 mins for leisure and entertainment, 31 mins for square green space, 25 mins for education and training, 11 mins for medical and health care, and 28 mins for convenience service. According to different characteristics of the residents, the author draw the equivalent lines of all kinds of residents, and analyze the different characteristics of their willingness to spend time in reaching the bazaar or the bazaar scale. Through the analyses above, it can provide reference for the planning, construction and operation of Xinjiang bazaars in determining the commercial scale, selecting the type and scale of public service functions, and selecting the target population and so on.

Acknowledgements

References

[1] Li Xiaolin. Coordinated promotion and integrated development, striving to construct modern public cultural service system [N]. China Culture Daily, 2014-04-01(001).
[2] Zhang Li. Survey and Analysis on the Utilization of Public Cultural Places in Shanghai Statistical Science and Practice, 2012(12): 12-14.

[3] Fu Caiwu. The construction of contemporary public cultural service system and the transformation of traditional cultural undertaking system [J]. Jianghan Forum, 2012(1): 134-140.

[4] Fang Kun. Reshaping Cultural Space: Spatial Transformation of Public Cultural Service Construction [J]. Journal of Yunnan Institute of Administration, 2015(6): 26-31.

[5] Cihai Editorial Board. [Z]. Shanghai: Shanghai Dictionary Publishing House,1979:221.

[6] Chen Zongzhen, Lei Xuanchun. Collections of Chinese Turkic Language Words [M]. Beijing: Ethnic Publishing House,1990:47.

[7] Zhong Jingwen. Introduction to Folklore [M]. Shanghai: Shanghai Literature and Art Publishing House,1998:64.

[8] Zhang Litao. Journal of Shandong Agricultural Engineering College,2015(5):108-110. (in Chinese)

[9] Louviere J J, et al. Stated Choice Methods: Analysis and Applications Kindle Edition [M]. Cambridge:Cambridge University Press, 2000:3-10.

[10] Zhao Qian, Wang De, Zhu Wei. A study on the quality evaluation of living space in Yangpu District of Shanghai [J]. Shanghai Urban Planning Review,2012(6):90-95.