

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

I . Introduction

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].

With the help of the state and its own construction in recent years, the construction of public service system in Xinjiang has been accelerated, however, the significantly gap still exists compared with the major cities in China. The data of urban public management and public service land in important domestic cities and neighboring provinces (Table 1), by comparison, it can be inferred that the total amount of such land in cities is slightly lower than that in developed regions in Xinjiang, which ranks the second among the five northwest provinces. Because of the vast territory in Xinjiang, the area ratio of urban public management and public service land to urban area is quite low. For instance, the national average is 0.23%, and Shanghai is 2.39%, while Xinjiang is only 0.05%. It is more than four times lower than the current situation of the country, and nearly 50 times lower than Shanghai. By contrast with public management and public service land, to some extent it can reflect that the construction of public service system in Xinjiang remains far off .

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.

Table 1 Comparison Of Land Use for Public Management and Public Service in Some Cities in China (Data Source: China Urban and Rural Construction Statistical Yearbook 2017)

	Urban Area (km ²)	Urban Population(thousand of people)	Urban Management&Public Service Land(km ²)	The Ratio of Urban Public Management&Public Service Land to Urban Area(%)
Nationwide	2196210	76809	5098.33	0.23%
Beijing	16410	2294	172.42	1.05%
Shanghai	6341	2418	151.31	2.39%
Guangdong	95054	8106	446.33	0.47%
Shaanxi	49054	1740	117.88	0.24%
Gansu	87442	896	80.09	0.09%
Qinghai	166332	227	14.82	0.01%
Ningxia	23697	341	52.98	0.22%
Xinjiang	238458	878	112.03	0.05%

A. Review of Studies

(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 (Figure 1). 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. A comparison of bazaars with mainland markets, trading markets and commercial complexes reveals their obvious differences (Table 2). The functions of bazaars can be divided into two types: one is the commercial function represented by retail, catering, entertainment, office, hotel, wholesale and other functions; the other is the function of public services such as culture and art, green squares, entertainment and leisure, convenience services, education and training, and medical and health care. The commercial function supports the daily operation of bazaars while the public service function is conducive to the benign interaction between bazaars and urban/ rural areas. The

significance of “go to bazaars” to all ethnic groups in Xinjiang is completely different from that in the mainland. Because bazaars undertake more social functions, which can be divided into :(1) commercial trade function (2) cultural inheritance function (3) information dissemination function (4) spiritual entertainment function (5) social communication function (6) education function.[8] Due to the impact of the Internet on traditional commerce, the operation of traditional bazaars in Xinjiang has been seriously affected in recent years. In order to preserve and inherit this traditional commercial form, the government has carried out some renovation projects of bazaars, but the actual operation results are dissatisfactory.



Fig.1 Bazaars with Various Sizes in Xinjiang (from Left to Right: Small, Medium and Large)

Table 2 Comparison Between Bazaar and Gathering, Trade Marketing, Commercial Complex in Xinjiang

	Similarities	Differences				
Bazaars of all sizes	Basic Functions are Same	Partly Combined with Religious Functions	Cultural Activities Prefer Outdoor Open Spaces	Design Focus on Region Feature	Operators consist largely of minorities	
Gathering Trade Marketing Commercial Complex		Seldom Combined with Religious Functions	Cultural Activities Prefer Indoor Open Spaces	Design Focus on Modernist Style	Operators consist largely of the Han nationality	

(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.

①Domestic 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).

②Domestic research on humanistic and social aspects mainly include: National Social Science Fund "Research on Xinjiang's Traditional Bazaar and New Urbanization Development" (2012); The key project of Humanities and Social Sciences in Colleges and Universities of Xinjiang Autonomous Region "Cultural Studies on Daily Life in Bazaar" (2011); A key Art Project of National Social Science Fund named Life and Culture of Bazaar (2010). Monograph "Uygur Bazaar and Folk Life" (Harida Slamu, 2018); Monograph Bazaar Zhi (Wang Min, 2015). In terms of papers Wang Min's team, School of Humanities in Xinjiang University, has published nearly ten papers in recent years, which mainly covering the historical literature review, culture, material space and behavior of Bazaar. Other studies include: Research on village bazaar culture (Maimaitijiang, 2015); Research on the role of Bazaar in the social life of ethnic Minorities (Abdu Rehman, 2012); Research on bazaar's function in Uygur society (Zhang Litao, 2015); Systematically analysis and discussion on modern bazaar (Wang Qian, 1991).

In recent years, foreign research achievements on the humanistic level mainly include: interpreting local lifestyle through Bazaar of Dushanbe (Manja Stephan, 2016); Traditional Bazaar ethics (Paul Anderson, 2019); Leisure and Tourism in bazaar (Ross Curran, 2018); Mobility and globalization of bazaar in Kyrgyzstan (Hasan H, 2016); Life and daily activities in Calcutta Bazaar (Saumya Pandey, 2019).

(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. ^[11] 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. ^[11] 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. Through the investigation of Stated Preference Method and the fitting of discrete choice model, the weighted value of each factor index was obtained. ^[10] Liu Yuhong and Xing Luhua et al. conducted a study on the preference of pastoral complex by residents in Zhengzhou by sorting and quantitative analysis on important data such as overall environment type, charge standard and distance. ^[12] Li Yuan, Xie Jia Cheng and Yang Linchuan have studied a preference on tourist demands in Gulangyu Island, and the results can provide suggestions for later planning. ^[13] Wang Zhendong and Li Xiaoxu conducted a qualitative and quantitative research on the combination types of nonprofit functions and other functions of urban complex, so as to explore the influence of different combination types on customer selection behavior and the effect on value enhancement at different levels. ^[14] Wang Zhendong, Wu Menghao, Dai Xiaoling et al. conducted a comparative study on the case of Shanghai Wujiao Square business circle, based on user behavior data and preference selection, and analyzed the factors and weights affecting the integrated utility of urban complex and urban traffic system. ^[15]

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. Meanwhile, it can enhance the public vitality by means of setting up public service functions in bazaars. What is significant to solve the problems of urban and rural people's livelihood, such as the lack of urban and rural public space and insufficient social public services in Xinjiang, improve urban and rural living quality, enhance social governance and maintain social stability at the same time.

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.

II. 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.⑤Model analysis based on the actual problems of Xinjiang residents.

A. Basic Research

Planning to carry out basic research about bazaars on 106 county-level administrative units (4 prefecture-level cities, 5 regions and 5 autonomous prefectures in total, 14 prefecture-level administrative units, 13 municipal districts, 26 county-level cities, 61 counties and 6 autonomous counties) in Xinjiang. (Data source: Xinjiang Statistical Yearbook 2018.) During summer and winter vacations, students made surveys about bazaars in their hometowns and filled out the basic surveys form of bazaars (Table 3). 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, and draws a distribution map of bazaars in Xinjiang (Figure 2). 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.

Table 3 Basic Research of Bazaar

Name of Bazaar:

Address: _____ Region/Autonomous Prefecture _____ City/county _____ District/Street
Town _____ countryside _____ village _____ Street.

Scale: Fixed shops _____; Temporary stalls _____; Other features _____.

Multiple Choice(If you have, please mark ☒ .Please make a supplementary statement later when necessary):

1.The Main things for Sale:Living Supplies ☐ ,Ingredient and Drugs ☐ , Artwares☐,Fashion and Accessories☐, Interior Decoration Materials☐, Electrical Apparatus☐,Mechanical Equipments☐,Others _____.

2.Containing Commercial Functions:Retail☐,Dining☐,Riding☐,Accommodation☐,Others _____.

3.Containing Non-commercial Functions(consider the situation of whole year):Performing Arts☐,Leisure and Entertainment☐, Plaza and Green Land☐,Education and Training☐,Public Utilities☐,Convenient Service☐ Others _____.

4.Opening Hours of Bazaars:Almost Everyday☐,Once a Week☐,Two to Three times a Week☐,Others _____.

5.Buildings around Bazaars:Government Enterprise☐,Commercial Building☐,Residential Buildings☐,National Architecture☐,Industrial Architecture☐,Others _____.

6.The Bazaar has Changed in Size and Area in Recent Years:

Bigger and Bigger☐,Not Obvious☐,Smaller and Smaller☐.

Photos are Attached Below:(Panoramic, Multi-angle Photos of the Bazaar, and Photos of the Non-commercial Functions of the Bazaar)



Fig.2 Distribution Map of Bazaar in Xinjiang Has Been Investigated

B. 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 (Table 4).

Table 4 Attributes And Levels about bazaar's Preference of Xinjiang Residents

Attributes	Levels		
Commercial Scale of Bazaars	Small Size	Medium Size	Large Size
Time from Home to Bazaar	15 mins	30 mins	60 mins
Culture and Art	Yes	No	
Entertainment and Leisure	Yes	No	
Square and Park	Yes	No	
Education and Training	Yes	No	
Medical and Health Care	Yes	No	
Convenience Service	Yes	No	

C. 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, 4096 combinations in total (According to the principle of pairwise intersection of 6 attributes, $2 \times 2 \times 21 \times 21 \times 21 \times 21 \times 21 \times 21 = 2048$ combinations are generated). 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 (Table 5).

Ultimately, 609 questionnaires were distributed in the form of paper questionnaires and online questionnaires. The respondents were mainly people of all ethnic groups living in Xinjiang. The questionnaires, which the respondents didn't know about bazaars in Xinjiang were removed, and 489 valid questionnaires were obtained. Questionnaires were distributed to the early youth, youth, middle age and old age groups, with emphasis on the youth and middle age of the main population in bazaars. In the valid questionnaires, there were 17 teenagers, 303 young people, 135 middle-aged people and 34 aged people. The questionnaires should include as many ethnic minorities in Xinjiang as possible, especially Uyghur nationality, Kazak nationality, Hui nationality, Kirgiz nationality and Mongolian nationality. In the valid questionnaires, 230 Han people, 128 Uyghur people, 60 Kazak people, 51 Hui people, 10 Kirgiz people, 5 Mongolian people.

Table 5 Survey on the Willingness to Choose Bazaar of Xinjiang Residents

Hello! We are studying the relevant questions about bazaars (markets) in Xinjiang, and we need to take about 10 minutes of your time. Your answer is very important to us. The questionnaire is only used for academic research, and your personal information is strictly confidential. Thanks for your cooperation!

1. Please rank the factors which influence whether you go to bazaar, according to its importance (each item is of different importance, 1-4 represents the most important - not important).

Your ranking is (please fill in the numbers 1-4 by importance)	commercial scale of the bazaar	Other functions except for commercial function (eg .arts and culture, leisure and entertainment, squares, square parks, service facilities)	Time from home to bazaar	Others(Please indicate)

2. The maximum time you can afford to go from your home to the bazaar is ____.

A. 15 mins B. 30 mins C. 60 mins D. over 60mins

3. The way you most like to use to go to the bazaar is ____.

A. Walking B. Riding a bike C. Taking a bus D. By car E. Taking a taxi F. others(Please indicate)

4. Please rank the other functions that may appear in the bazaar according to your preference and responsibility (each likeability is not the same, 1-6 means most important to not important).

Types	A. Culture and Art	B. Leisure and Entertainment	C. Square Park	D. Education and Training	E. Public Utility	F. Convenient Service
Major activities	Singing, Dancing, Instrument Playing	Playing Chess and Drinking Tea	Walking and Chating	Training and Publicity	Resting and Going Pot ty	Service
Your ranking(Fill in the numbers 1-6 according to importance)						

5. Please fill your basic information below (Please write anonymously, only for academic purposes)

Gender	Male Female
Age	a. below 18 years old b. 18-34 years old c. 35-55 years old d. over 56 years old
Nationality	a. Han nationality b. Uyghur nationality c. Kazak nationality d. Hui nationality e. Kirgiz nationality f. Mongol nationality g. Others
Family Members	a. 1 b. 2 c. 3 d. over 4
Family Own(multiple choices)	a. bike b. Motorcycle c. electrocar d. car
Your Job	a. Farmer&Herdsman b. Worker c. Individual Businessman d. Staff of Enterprises & Institutions e. Soldier f. Student g. Household h. Others
Your Schooling	a. Elementary school and below b. Junior high school c. Senior high school d. Vocational School e. Undergraduate f. Postgraduate
Your Residence	Large City in Xinjiang b. Small and Medium-sized Cities in Xinjiang

	c.County in Xinjiang d.Village in Xinjiang e.Other Province
Your frequency to large bazaars	Few(Write down the reason) b.Once or Twice a Month c.Once a Eeek d.Three to Four times a Week e.Almost Everday(Write down the reason)

6.If two bazaars A and B will be built around your home, please choose the bazaar you prefer to go after comparison.If you don't want to choose either of them,please choose C.

1	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:						
A	Small	In 30mins	No	No	No	Education and Training	Public Utility	Convenient Service	
B	Sall	In 30mins	Culture and Art	Leisure and Entertainment	No	No	No	Convenient Service	
C	None								

2	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:						
A	Medium	In 30mins	No	Leisure and Entertainment	Square Park	Education and Training	No	Convenient Service	
B	Large	In 30mins	No	Leisure and Entertainment	Square Park	Education and Training	Public Utility	No	
C	None								

3	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:						
A	Large	In 15	No	Leisure and	Square	No	No	Convenient	

		mins		Entertainment	Park			Service
B	Medium	In 15 mins	Culture and Art	Leisure and Entertainment	No	No	Public Utility	Convenient Service
C	None							

4	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:					
A	Small	In 60 mins	No	Leisure and Entertainment	Square Park	Education and Training	No	No
B	Small	In 15 mins	Culture and Art	No	No	Education and Training	No	Convenient Service
C	None							

5	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:					
A	Medium	In 15 mins	Culture and Art	No	No	Education and Training	No	Convenient Service
B	Medium	In 15 mins	No	Leisure and Entertainment	No	No	No	No
C	None							

6	Commercial Scale of Bazaar	Time from Home to Bazaar	In addition to its commercial functions, the bazaar contains the following functions:					
A	Large	In 15 mins	Culture and Art	Leisure and Entertainment	No	No	No	Convenient Service

B	Small	In 30 mins	No	No	Square Park	Education and Training	No	Convenient Service	
C	None								

III. Research Analysis

A. Model Specification

The expression of the discrete selection model proposed by the SP method in this paper is: $V_i = \alpha_1 \text{size}_i + \alpha_2 \text{time}_i + \alpha_3 \text{type1}_i + \alpha_4 \text{type2}_i + \alpha_5 \text{type3}_i + \alpha_6 \text{type4}_i + \alpha_7 \text{type5}_i + \alpha_8 \text{type6}_i$. In the formula, i is the bazaar selection scheme, V_i is the visible utility of the bazaar selection, and $\alpha_1 - 8$ 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 6).

Table 6 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***

B. 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. Based on model analysis, the study respondents chose the

cultural and artistic function mostly, respondents chose healthy preference minimum. The weight coefficient to the bazaar and bazaar scale are negative, showed that bazaars spend less time and the smaller the bazaar, the greater the utility under the same condition. It conforms to general rules of bazaar shopping by Xinjiang residents as a rule.

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 3), so as to describe the negative correlation between scale and time more intuitively.

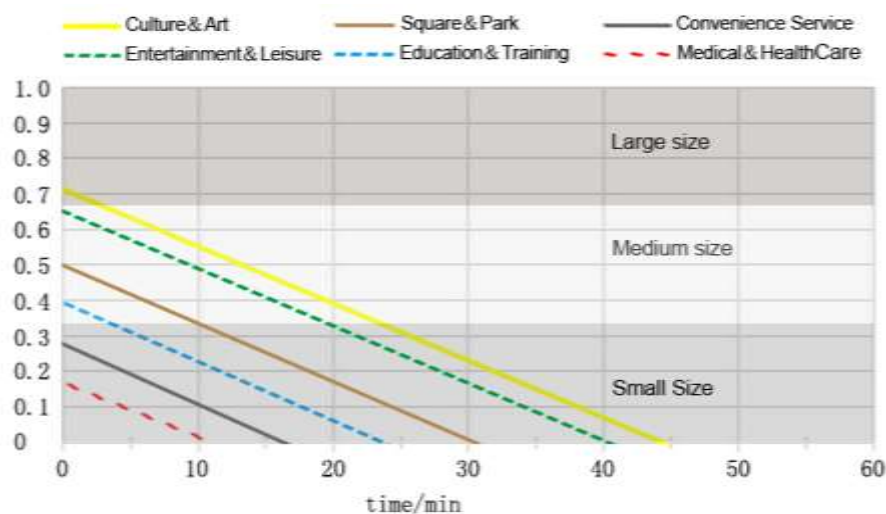


Fig.3 :the Equivalent Lines of Xinjiang Bazaar with Public Service Functions

C. Explanation of Choice Preferences Based on Model Applications

1) Time and Scale Residents Are Willing to Spend on Shopping in Bazaars with Different Public Service Functions (6 Functions).

Based on the discrete selection model, there is a negative correlation between the time taken to reach the bazaar and the bazaar scale. If time arrived is set to 0, then we can calculate the residents' willing to the largest bazaar with acceptable scale which contains different public service function type, among them the residents prefer to travel to the large size as the biggest bazaar which contains cultural and artistic features. The residents prefer to travel to medium size as the biggest bazaar which contains entertainment or square green space function. The residents prefer to travel to small size as the biggest bazaar which contains education training, health care, or for the convenience of the service function(Figure 4). By the same method, if the scale of bazaar is set to 0, the longest time that residents can accept the time reaching to bazaar can be calculated as follows: 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 services (Figure 5). The conclusion can provide a quantitative reference by setting of public service functions in bazaar according to different scale and location.

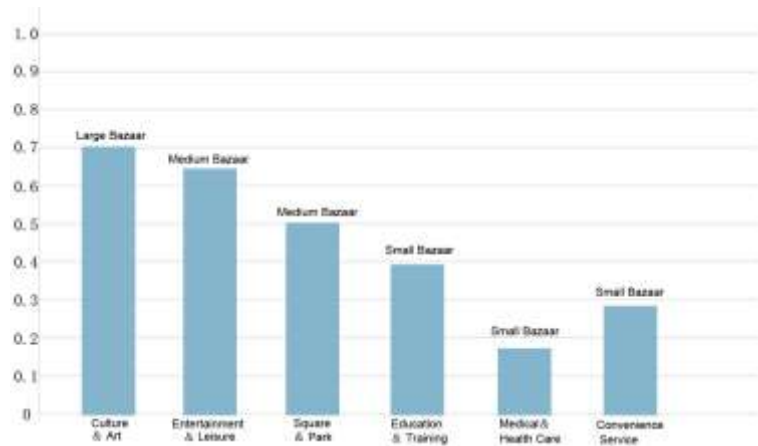


Fig.4 Different Function Bazaar Equivalent Scale

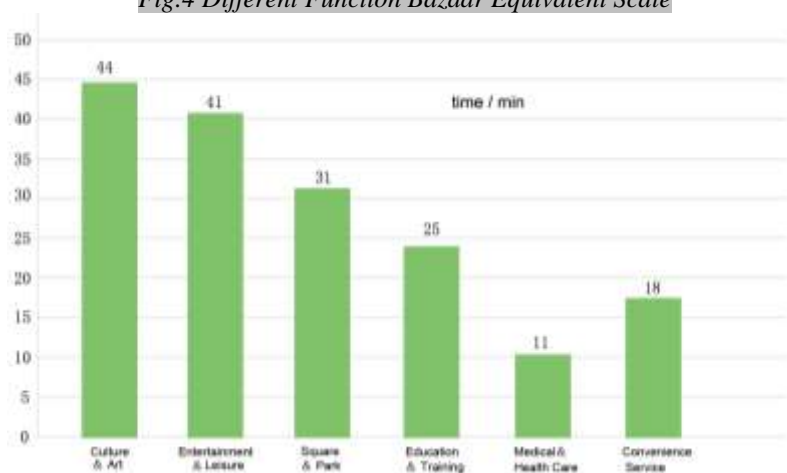


Fig.5 Different Types of Bazaar Equivalent Time

2) Willingness Comparison of Residents to Spend Time and Choose Scale with Different Characteristics

Based on the discrete selection model, this paper compares and analyzes the weights of bazaar's selection factors by residents with different characteristics, which can provide references for bazaar planning target positioning and selection of public service function types. Statistical software Stata was used to model valid questionnaires based on gender, age, nationality, occupation type, education level and residence, and draw equivalent lines at the same time. The equivalent lines of residents with different characteristics can be found to be different to some extent. By comparing the slope and the maximum ordinate value of residents with different features, it can be seen that residents with different features use the slope of line equivalent to reflect the time they can accept to spend on the road -- the greater the absolute value of the slope, the longer the acceptable time.

①By analyzing the equivalent lines of different genders, men are more willing to choose the size of bazaars than women. It means that men pay more attention to the size and are willing to spend more time to reach the size of bazaars. (Figure. 6.1)

②By analyzing the equivalent lines of different ages, teenagers (under 18 years old) can accept the longest time to go to the bazaar because they have more leisure time and are agile. People aged 35 to 55 are significantly more concerned about the size of the bazaar than any other age group, preferring to spend more time in the larger bazaar.

The equivalent curve for the over 55 reflects the group's preference for the time it takes to get to the bazaar, which is associated with the elderly being less mobile and less likely to drive or cycle. (Figure. 6.2)

③Analyze the equivalent lines of different residential areas. The residents living in rural areas can accept the longest time to go to bazaar. People living in smaller cities and rural areas are significantly more concerned about the size of the bazaar than people living elsewhere. They prefer to spend more time to travel to the farther bazaars. (Figure 6.3)

④Analyze the equivalent lines with different degree. The higher degree they have, the more attention they spend on time consumption. The higher degree they have, the smaller amount of time they accept. At the same time, the higher degree they have, the size of bazaar they don't care. The residents with primary and secondary school education prefer to go to the bigger bazaar. (Figure 6.4)

⑤According to the analysis of the equivalent lines of different occupations, farmers and herdsmen, self-employed businessman and employees of enterprises and public institutions are more willing to go to larger bazaars and can accept a longer journey time. (Figure 6.5)

⑥After analyzing the equivalent lines of different ethnic groups, Han nationality, Kirghiz nationality and Uyghur nationality are more willing to go to the larger bazaar than other ethnic groups and can accept a longer journey time. (Figure 6.6)

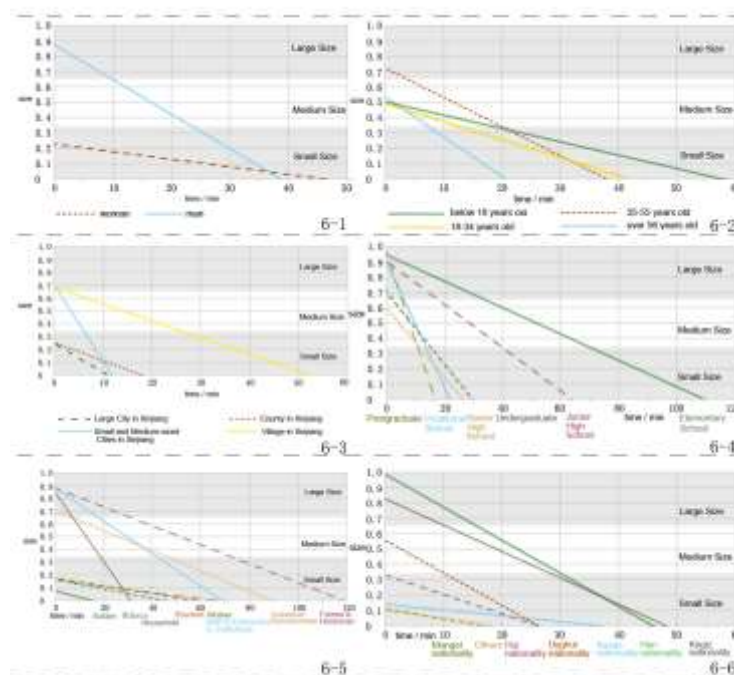


Fig.6 Different Characteristics of the Population of the Equivalent Line

IV. 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 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.

V. Acknowledgment

- 1). Funded by Natural Science Foundation of Xinjiang Autonomous Region -- Youth Fund "Research on the Design Strategy of Public Cultural Service Function Based on the Synergistic Effect Theory -- Taking Xinjiang Commercial Complex as an Example" (No. 2020D01C059).
- 2). Funded by National Natural Science Foundation of China "Study on the Public Cultural Service Function of Xinjiang Bazaar Based on the Theory of Synergistic Effect" (No. 52068065).

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ISSN: 0010-8189

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