Research on Sustainable Design of Historical Blocks Based on Inhabitant Social Integration Measurement: A Case Study of Harbin

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Abstract: The inhabitant behavior is the important part of the sustainable vitality for the historical blocks. In order to solve the conflict between inhabitant life and commercial tourism in the renewal of Chinese historical blocks, this paper proposes the sustainable design strategy for the vitality of historical blocks from a perspective of inhabitant social integration. Base on the theory of social integration and taking the DaoWai Historical Blocks in Harbin as an empirical case, the paper constructs the evaluation model of inhabitant social integration, uses the confirmatory factor analysis method to quantify the influence factor and its weight of inhabitant social integration by structural equation model (SEM). Empirical research proves that behavior and culture has a significant impact on the social integration. In the end, the paper discusses the sustainable design strategy of historic blocks from the five dimensions of behavior, culture, industry, space and management, and the emphasis of sustainable design should be put on the improvement of behavior and culture.
Keywords: Sustainable Design, Social Integration Measurement, Inhabitant, Historical Blocks

1. Introduction

The sustainable design of urban historic blocks aims not only to improve a dilapidated physical environment but also to redistribute and integrate spatial resources under scarce and confined spatial conditions. Its essence is to restore the cultural vitality and historical characteristics of such street blocks while protecting the interests of various groups and social communities. Urban vitality originates in the economic, social, and cultural interaction between people and the urban public space (Jiang, 2007). The interweaving of people, their activities, and their places of residence helps create diversity in urban life, thus nurturing its vitality (Jacobs Jane, 2006). The sustainable design of historic blocks is a necessary means to maintain economic and cultural vitality as well as the vitality of the social community of such districts.

The Venice Charter advocates the protection of the authenticity of historic spatial environments (Xu, et al., 2010). The key to revitalizing historic blocks is to retain residential inhabitants while conserving their lifestyle (Ruan, 2011). The focus of protection should be the life of the people. Protecting the lifestyle of the inhabitants is a central factor in maintaining the vitality of historic blocks as they undergo renovation (Yuan, et al., 2010). Only small-scale, gradual reconstruction based on the needs of the inhabitants can achieve the sustainable development of historic blocks (Xia, 2008), which is the fundamental means to increase the vitality of such blocks. In the reconstruction and revitalization of historic blocks solely under the guidance of economic values, emphasis is only placed on spatial improvements brought about by the renewal plan and economic growth due to the marketing effect. A thorough understanding of the renewal and a proper distribution of political rights and economic interests among all stakeholders are ignored. This approach will result in a so-

called “space bubble” and intensify social contradictions (Chi, 2010; He, 2012; Zhang, et al., 2013).
China has witnessed the emergence of “hollow blocks” in many historic districts. Except for activities that occur during public holidays and daytime business hours, the hollow historic blocks are devoid of popularity and deserted by residents. It is impossible to sustain the internal organic vitality in these blocks. It is also impossible to meet the increasing demand for a satisfying touristic experience. Because of the emphasis on reconstruction and profitability, historic blocks have not performed well in terms of the social inclusion of inhabitants. Conflicts between inhabitants and developers are often rooted in unjust choices among interests. In many aspects, such as lifestyle, survival style, or social status, it is difficult for inhabitants to integrate their lives with tourism development in historic blocks. To socially integrate the inhabitants of historic blocks and sustain the organic vitality of such blocks, this paper constructs a theoretical model for measuring inhabitant social integration. Using survey data collected from inhabitants of Harbin’s DaoWai historic and cultural blocks, the paper adopts confirmatory factor analysis of structural equation modeling (SEM) to analyze the statistical data. In addition, a quantitative study on the influencing factors and their weights with respect to inhabitant social integration is performed. Subsequently, we propose a design strategy to achieve the sustainable vitality of the historic blocks while ensuring the social integration of inhabitants.

1.1 Sustainable Design

Sustainable design includes not only the sustainability of the environment and its resources but also that of society and culture. It is a strategic design activity for the construction and development of sustainable solutions, which weighs economic, environmental, moral, and social issues in a balanced manner while considering design guidelines and the satisfaction of consumer demand (Crosbie M J, 1994). Sustainable design requires the harmonious development of individuals and their environment as well as products, services, and systems that meet the needs of the present generation while ensuring sustainable future development (Szokolay S , 2004).
Sustainable design has four attributes: natural attributes, social attributes, economic attributes, and scientific and technological attributes. As such, it requires that the human living environment be sustained while the quality of human life is improved. The net benefits of economic development are increased to the maximum under the premise that the quality of natural resources and their services are maintained while the consumption of energy and other natural resources is reduced as much as possible (Azhar S, et al., 2011). The sustainable design of historic blocks involves the integration of the socio-economic culture in spatial management. The vitality of historic blocks entails adopting sustainable development in planning and design and using spatial planning to the greatest extent possible to realize the sustainable vitality of such districts.

1.2 Social Integration Measurement

Social integration, which became the core concept of Western social policy research and social policy practice in the early 21st century, has been widely encouraged by government, social policy research, and decision-makers. The definition of social integration by the European Union (EU) in 2003 can be summarized as follows: Social integration is a process to ensure that socially vulnerable groups have access to development opportunities and resources; participate in economic, cultural and social activities; receive social benefits; and receive significant opportunities to participate decision-making (Regina, 2002). The measurement of social integration was pioneered by Park and Burgess, who proposed a view of social integration in which four aspects interact: economic competition, political conflict, social connection, and cultural integration (Park, 1928). Landecker divided social integration into cultural integration, communicative integration, functional integration, and normative integration (Landecker, 1951). Subsequently, many sociologists divided the classification system of social integration measurement into more specific levels. The EU has also played an important role in the design of a social integration indicator system. In

December 2001, the Indicators' Sub-Group (ISG) of the EU's Social Protection Committee proposed 18 indicators divided into two levels: primary indicators and secondary indicators. In June 2006, the Social Protection Committee divided the social integration and social protection indicators into four major composite systems: overall indicators, social integration indicators, pension indicators, and health- and long-term care indicators (Lu, 2014). Different from in other countries that face immigration issues, social integration measurement in China focuses on the social integration of migrant workers, other migrants, urban new immigrants, and other groups (Chen, et al., 2015; Huang, 2011; Yue, et al., 2012).The measurement dimensions include economic integration (Huang, 2011; Yang, 2010), psychological integration (Yang, 2016; Zhang, et al.,2008), cultural integration (Lu, 2014; Yue, et al., 2012), identity integration (Chen, et al., 2015; Yang, 2010; Zhou, 2012; Ren, et al.,2010; Wang, et al., 2008), and community integration (He, et al., 2009). In the literature on social integration, little scholarly attention has been devoted to the inhabitants of historic blocks.

1.3 Inhabitant Social Integration Measurement

Inhabitant social integration introduces the concept of social integration into the revitalization of historic blocks. Inhabitant integration is based on social justice and harmonious integration. It emphasizes fairness regarding cultural, economic, environmental, and behavioral integration in the protection and development of historic blocks and planning ideas that are not solely oriented toward economic development. Attention is paid to the inhabitants' life model and group interests. Drawing on the social integration measurement of new urban immigrants (Zhang, 2008) and the Sydney Urban Frontiers Program (UFP) for socially vulnerable groups (Li, et al., 2004), a system is constructed to measure inhabitant integration in terms of behavior (Yang, 2010), culture (Zhou, 2012), industry (Zhang, et al., 2008), space (Zhang, et al., 2016; Lu, et al., 2017; Cai, et al., 2018), and management (Lu, 2014). The specific integration dimensions include the integration of inhabitant behavior and tourist behavior, neighborhood culture and business culture, the employment economy and the business economy, living space and tourism space, and public management and public participation.

(1) Behavior integration dimension

Behavior integration includes a wide range of aspects, such as interpersonal communication, living habits, community participation, and social behavior. The integration of two groups requires that one group is universally accepted by the other in daily life and the private domain (Blau, 1977). To integrate inhabitant behavior and tourist behavior in historic blocks, inhabitants must accept tourist recreational activities in their living environment. Regular disturbance of inhabitants by tourism should be minimized. The goal is to ensure that the inhabitants' life rhythm remains unchanged and their behavior and habits are respected. It is also necessary to incorporate the customary activities of historic block inhabitants into tourism activities. The integration of inhabitant and tourist behavior should be accomplished while avoiding disruption, providing protection, and encouraging conservation.

(2) Cultural integration dimension

The cultural integration of historic blocks requires tourism development to recognize the culture, local customs, and social concepts that prevail in historic districts. The goal is to overcome the impasse between preserving the traditional neighborhood culture and tourism development. The integration of neighborhood culture and the tourism business culture is the key to realizing the social integration of inhabitant communities in historic blocks. The recognition of traditional culture is based on respect for the culture of a historic block. The business culture created by tourism development should respect existing traditional forms of business and seek to continue an area's original forms of commerce and trade. In this manner, the integration of a traditional neighborhood culture and a business culture can be achieved. Appropriate measures must to be adopted to reduce the commercialization of folk cultural activities and restore the authentic tradition of the historic block. In this way, the contradiction between street culture and tourism culture can be eased.

(3) Industrial integration dimension

The revitalization and development of historic blocks inevitably results in the pursuit of economic benefits by profit-making industries. The tourism industry can bring substantial economic benefits from tourists. However, the realization of industrial integration in historic blocks must address the gap between the inhabitant employment level and the requirements of commercial companies. Industrial integration means the interpenetration and intersection of products from different industries or within the same industry and the eventual formation of a new, unified industry (Li, 2003). Inhabitant employment by companies undertaking the renewal of historic blocks, the comprehensive consideration of business selection criteria, and classifying business types to satisfy multiple demands will help integrate inhabitants into the renewed local economy. In this way, inhabitants can be involved in the life model of "integrating industry with living".

(4) Spatial integration dimension

In terms of social space, a city is a community with an internal growth mechanism that integrates various components. "Organic unity" and "mechanical unity" are different forms of organizing people. People occupy different spatial positions as a result of their differing occupations, status and prestige. The greater that the social differentiation is, the more complicated its spatial structure (Yang, 2014). The spatial integration of historic blocks is the counterpart of the corresponding spatial differentiation. In the process of planning and revitalizing historic blocks, preserving the inhabitant's living conditions inevitably results in the heterogeneity of tourism space and living space. The realization of spatial integration refers to how the physical spatial layout organically divides or integrates the areas in which the inhabitants live and the public places of tourism. In moving toward commercial development, the planning of historical blocks should give priority to considering the disruption of the living environment caused by tourist activity and improving the sharing of resources from public facilities.

(5) Management integration dimension

The most obvious means of inhabitant social integration is to establish a sound public participation mechanism and increase the level of public participation. The management of inhabitant communities and the commercial management of revitalized historic blocks can be integrated in a "two-in-one" approach (Liu, et al., 2017). In this manner, the public interest is represented on the same platform as the commercial interest, forming an integrated management plan in which these interests are balanced. This approach should be implemented throughout the process of revitalizing historical blocks. At each point, the functions of decision-makers and management and the rights of inhabitants should be clarified. The goal is to construct a platform for dialogue regarding the implementation of measures and strategies, to arrange a process of public management, and to establishing a long-term feedback mechanism in an integrated public management system.

2. Methodology

2.1 Data

The data used in this paper were collected by the Research Group of the Humanities and Social Sciences Project Fund of the Ministry of Education in the Study of Inhabitant Social Integration in the Revitalization of Historic Districts. The research team visited Harbin's DaoWai historic and cultural block in the traditional commercial city from June to July 2017 and conducted social surveys there. Harbin's historic and cultural traditional commercial city conservation block exemplifies the Chinese Baroque style. It is the largest such preserved area in China. Constructed in the 1920s and 1930s by Chinese artisans in DaoWai, the buildings imitate Western Baroque architectural styles with additional traditional Chinese decorative patterns. These structures are of important historic and humanistic value and are internationally influential.

To obtain relatively high-quality, first-hand data, the investigators established a team of trained master's degree and doctoral students. A total of 305 questionnaires were distributed, and 282 valid questionnaires were recovered. The recovery rate was 92.46%.

Of the 282 samples (see Table 1), 146 were completed by men and 136 by women. Of the respondents, 27% were 40-50 years of age. Inhabitants identified as business owners represented 92.2% of the total sample. A total of 22.7% of the inhabitants had resided in the district for 20-30 years. The monthly income of resident inhabitants was not high, with 41.5% of the total sample earning between 1,000-3,000 RMB/month. The data sample used in this paper was primarily based on a survey of the inhabitants of the protected area of the DaoWai historic block (purple line) and did not include the inhabitants who had moved out.

Table 1. Demographic and Social Characteristics of the Samples

Variable	Category	Freq	PCT	Variable	Category	Freq	PCT	Variable	Category	Freq	PCT
Gender	male	146	51.8	Identity	owner	260	92.2	Family	Couple	52	18.4
	female	136	48.2		Tenant	22	7.8	Structure	Nuclear	140	49.6
Age	10-20	7	2.5	Residence	0-10	57	20.2		Trunk	68	24.1
	20-30	25	8.9	Time	10-20	50	17.7		United	2	0.7
	30-40	52	18.4		20-30	64	22.7		Single-parent	7	2.5
	40-50	76	27.0		30-40	47	16.7		Single	13	4.6
	50-60	62	22.0		40-50	34	12.1	Address	Chun Hua	32	11.3
	60-70	57	20.2		50-60	19	6.7		South 2nd	35	12.4
	70-80	3	1.1		60-70	11	3.9		South 4th	49	17.4
Monthly	<1000	7	2.5	Educational	Junior school	119	42.2		South 5th	36	12.7
Income	1000-3000	117	41.5	Level	Senior school	115	40.8		South 6th	31	11.0
	3000-5000	100	35.5		Junior College	42	14.9		South 9th	29	10.3
	5000-10000	48	17.0		Undergraduate	4	1.4		South 10th	37	13.1
	>10000	10	3.5		Postgraduate	2	0.7		North 4th	33	11.7

2.2 Study Measurements

The survey method combined subjective questionnaires and semi-structured interviews. The scale used a 5-level Likert scale with the following response options: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The questionnaire was completed based on subjective feelings. The questionnaire consisted of two parts. The first elicited basic demographic information from the inhabitants. There were 10 items. The second surveyed the inhabitant social integration response indicators. There were 19 measurement items. SPSS 21.0 statistical software was used to conduct the preliminary collation and inspection of the survey data. The data were checked and corrected, and abnormal data were eliminated. Missing data were replaced with average values. A reliability analysis was performed on the 19 measurement items contained in the questionnaire. The Cronbach's Alpha of the data sample was 0.927, which met reliability requirements. In addition, the results of Bartlett spherical test and KMO value analysis showed that P value was 0.000($P < 0.001$), and the Bartlett spherical test was satisfied. The KMO value was 0.908. Therefore, the sample data were suitable for factor analysis, and the validity of the scale satisfied normal standards.

3. Model and Statistics

3.1 Measurement Model

The hypothetical theoretical model adopted to measure inhabitant social integration is a structural equation model using confirmatory factor analysis. In the model, social integration is an exogenous latent variable that is measured using five dimensions. Behavioral integration, cultural integration, industrial integration, spatial integration, and management integration are assigned corresponding indicators as external observation variables. The final social integration measurement model contains 19 observation variables and five latent variables. (see Table 2).

Table 2. Evaluation Model of Inhabitant Social Integration

Latent Variable	Latent Variable	Observational Variable	Code
Social Integration	Behavior	Neighborhood Communication	a1
		Social Community Network	a2
		External Disturbance	a3
	Cultural	Folk Cultural Activities	b1
		Community Cultural Atmosphere	b2

Latent Variable	Latent Variable	Observational Variable	Code
	Industry	Local Cultural Elements	b3
		Degree of Employment	c1
		Degree of Starting a Business	c2
		Traditional Store Management	c3
	Space	Living Infrastructure	d1
		Private Living Space	d2
		Living Environment Quality	d3
		Transportation Convenience	d4
		Public Space Sharing	d5
		Public Facilities Sharing	d6
	Management	Organization Group	e1
		Degree of Participation	e2
		Public Discourse Right	e3
		Management Evaluation	e4

3.2 Statistical Analysis

LISREL8.0 was used to perform the second-order confirmatory factor analysis of the measurement model. The maximum likelihood estimator method was used to estimate the model parameters to obtain the model's parameter estimation results and the standardized path coefficients (see Fig.1). T-test was used to examine the significance of the path coefficients (see Fig.2).

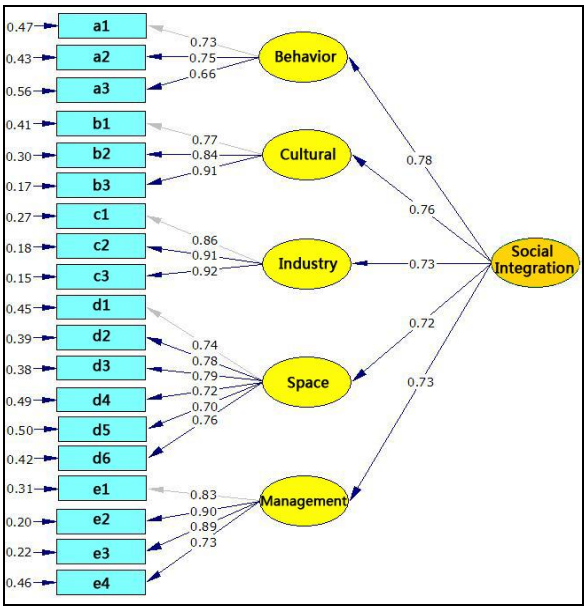

Fig.1. Normalized Path Coefficient of Model

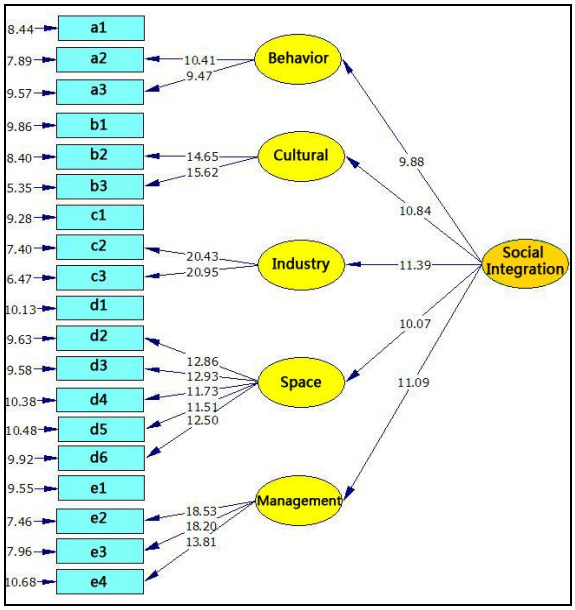

Fig.2. T-test of Model

The results indicate acceptable model fit. The chi-square value is 307.47, the degree of freedom is 203, and the ratio of the two is 1.51. The P-value is 0.000, and the RMSEA value is 0.043. Other indexes of fit are all within an acceptable range: NFI (0.97), NNFI (0.99), CFI (0.99), IFI (0.99), RFI (0.97), and AGFI (0.89). The overall model fit is good. Therefore, the inhabitant social integration measurement model constructed in this study is statistically supported.

3.3 Results

The study finds that the dimensions behavioral integration and cultural integration have higher path coefficients. Their standardized path coefficients are 0.776 and 0.772 (see Table 3). This outcome indicates that based on the data sample for Harbin's DaoWai historic and

cultural blocks, behavioral integration and cultural integration have a more significant impact on social integration. In contrast, industrial integration, spatial integration, and management integration should be improved to more effectively promote social integration.

Table 3. Measurement Result of Structural Equation Model

Observational Variable to Latent Variable				Latent Variable to Latent Variable	
Outer loading (t-value)		Outer loading (t-value)		Path Coefficient (t-value)	
a1←Behavior	0.730(----)	d1←Space	0.737(----)	Social Integration →Behavior	0.776(9.89)
a2←Behavior	0.758(10.355)	d2←Space	0.784(13.224)	Social Integration →Cultural	0.772(10.94)
a3←Behavior	0.660(9.561)	d3←Space	0.788(13.285)	Social Integration →Industry	0.723(11.10)
b1←Cultural	0.771(----)	d4←Space	0.720(12.090)	Social Integration →Space	0.717(10.45)
b2←Cultural	0.839(14.983)	d5←Space	0.693(11.389)	Social Integration →Management	0.730(11.12)
b3←Cultural	0.909(16.048)	d6←Space	0.755(12.401)		
c1←Industry	0.858(----)	e1←Management	0.832(----)		
c2←Industry	0.906(20.290)	e2←Management	0.899(18.620)		
c3←Industry	0.921(21.148)	e3←Management	0.885(18.329)		
		e4←Management	0.733(13.834)		

The explanation of these outcomes can be understood as the failure to reconstruct the existing multi-story residential buildings in the conservation area during the redevelopment of the DaoWai historic and cultural blocks. Some of the district's inhabitants still live there, maintaining their original living conditions and social networks. The neighbor relationships are good, and interactions are frequent. The study period was during block reconstruction, at a time when only two blocks (South 2nd to South 4th Street) had been completed. From the perspective of all the district's blocks, the trade and tourism capacity was small, and there was not much disturbance of the inhabitants. Therefore, inhabitant behavioral integration played a large role in the social integration. The cultural heritage of the neighborhood's original ecology remained intact. Even during the reconstruction period, the original street business culture of the district remained in evidence, and the new tourist and cultural projects did not undermine the original condition of the blocks. These facts highlight the cultural integration of the blocks. However, commercial development did not facilitate inhabitant participation in employment and entrepreneurship. In terms of the space, because redevelopment and reconstruction remains incomplete, separation between inhabitant living space and commercial space has not been achieved. The management of the blocks is dominated by the government office in charge of the reconstruction. A so-called "self-living and self-governing" inhabitant-based management model has not been formed.

Therefore, the variables with higher correlation path coefficients must maintain their current status and improve reasonably as the project continues. Those variables with lower correlation path coefficients represent key dimensions with respect to evaluating inhabitant integration in future block planning.

4. Discussion

There is a statistically significant correlation between the dimensions of the inhabitant social integration measurement and the observed variables in the model. By comparing the loadings of the measurement factors in each dimension, the overall level of inhabitant social integration in the blocks and the factor weight can be quantified. In this manner, one can guide subsequent revitalization planning in the historic blocks and generate ideas for combining theoretical techniques and an econometric model for historic block planning strategies. This paper uses Harbin's DaoWai as an example to investigate sustainable design strategies for historic blocks based on the measurement of inhabitant social integration. From the perspective of improving the infrastructure and spatial environment, the paper suggests integrating social, cultural, economic, and environmental benefits to create a residential, commercial, cultural, and tourism center that reflects DaoWai's traditional

business environment and an atmosphere of folk culture and that is adapted to inhabitant needs.

4.1 Behavioral integration promotes interaction and reduces host-guest conflicts

Planning should first consider a compensation plan for inhabitants who had to relocate during the initial stage of reconstruction. This plan should balance the interests of multiple parties from the perspective of interactive decision-making familiar from game theory. It must also reduce conflict as much as possible and retain as many inhabitants as possible, i.e., ensure a stable inhabitant retention rate. The property rights of the inhabitants who choose to stay should be adjusted to protect and preserve long-established houses and courtyards and the ecology of the historic blocks. In consideration of the original texture of the blocks, more public space, such as “pocket parks”, should be laid out spatially, and green nodes with a radius of 100m should be planned (see Fig.3). Green spaces should separate the living space used primarily by inhabitants and the tourism space so as to enhance exchange and communication in the inhabitants’ community and improve the eco-environmental quality of the blocks.

Fig.3. Pocket green space planning

4.2 Regeneration of cultural resources and the creation of traditional folk brands

Symbols of the traditional culture and the identity of the historic blocks should be protected and widely used in the architecture and design of large and small structures to improve the district’s visual and acoustic appearance. The historical and cultural elements in the conservation area should be revitalized, and a reasonable tourism capacity should be planned. Considering the need to reduce the impact on the inhabitants, tourism traffic should be strictly controlled to promote sustainable, stable tourism development in the historic blocks. The tourist routes planned for the conservation areas are shown in Fig.4-5. Inhabitant participation should be strengthened, and emphasis should be placed on creating historic building tourism products, traditional courtyard tourism products, special cultural tourism products, and non-material cultural folk products. These products should highlight the brand tourism image of DaoWai’s authentic and original Chinese Baroque style.

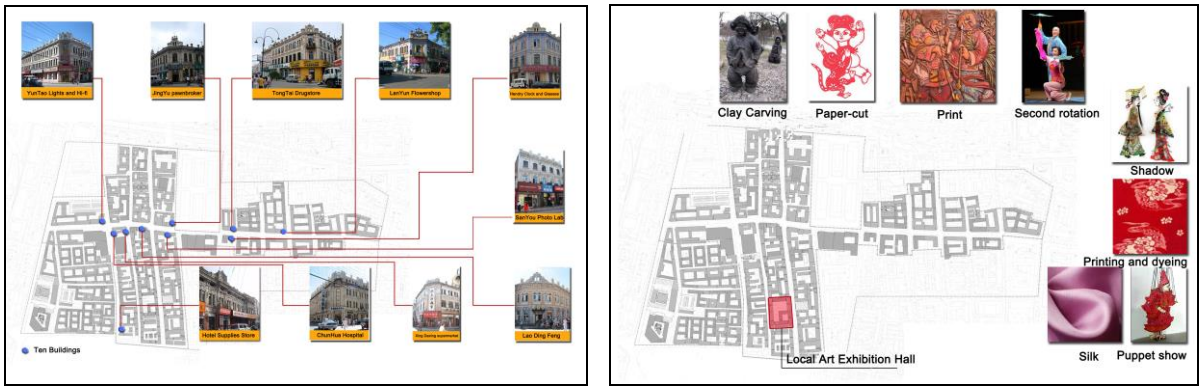

Fig.4-5. Tour of Historical buildings and Folk Art

4.3 Sharing the benefits of industrial resources and promoting innovation and entrepreneurship

The original business conditions in the historical blocks should be adequately preserved. In particular, historic stores with long-established brands and products that exhibit traditional craftsmanship should be protected. The creation of a tourism industry and the selection of relevant companies should complement the characteristics of the local blocks to achieve a distinctive integration and unity. Lifestyle and service business representatives should be improved and supplemented to form an attractive image of the full-scale upgrade and revitalization, giving the blocks appeal as “a place for living, a place for shopping, and a place for tourism”. Priority should be awarded to employing local inhabitants and improving their residential areas. The goal should be to realize a lifestyle of “living here and working here”. The internal power cycle of the historic blocks should be stimulated. Worn urban spaces should be rejuvenated while retaining historic artifacts. The importance of protecting the material and intangible cultural heritage should be emphasized. A commercial layout with new function implantation, functional replacement, and a functional mix should be implemented rationally (see Fig.6). Inhabitant integration should be the primary goal, with priority given explicitly to commerce, leisure travel, and livability. The vitality and value of the blocks should be increased by emphasizing the development of high-density commerce through a functional and spatial mix of business projects.

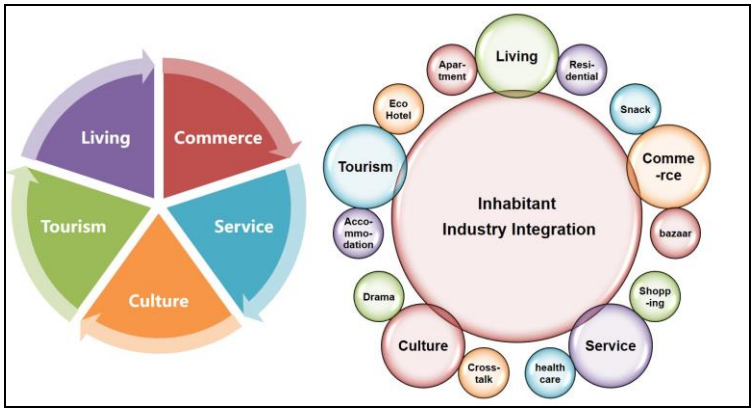

Fig.6. Industrial structure and project planning

4.4 Integrated layout of the spatial environment and people-oriented planning

The planning of historic blocks should divide quiet areas from busy areas to achieve functional separation. In addition to updating commercial areas, residential areas should be updated to preserve their livability for the inhabitants. The first floors of buildings should be planned to host commercial functions, and the second and third stories should be restored to the residential function. A hybrid of commercial and residential spaces should be planned to solve the problem of living space for inhabitants, including renting or selling apartments (Figure 3.18). The plan should emphasize the construction of eco-networks in the blocks and improve the capacity of ecological public services. Plant landscaping and landscaping techniques for small facilities can be used to isolate residential space from business and commercial space. Signs that identify private residences can be used to minimize the conflict arising from the mutual disturbance of hosts and guests in the historic blocks. Within the planning area, there are five functional subdivisions, with Jingyu Street and its traditional commercial axis stringing together various functional subdivisions and forming a spatially integrated tourism-business-residence layout (see Fig.7-8). In addition, the inhabitants’ social integration should be incorporated into the planning, and planning decisions should emphasize the measurement and evaluation of inhabitant social integration. The level of detail of the published rules should be enhanced, and the existing approval procedures should be supplemented to benefit inhabitants.

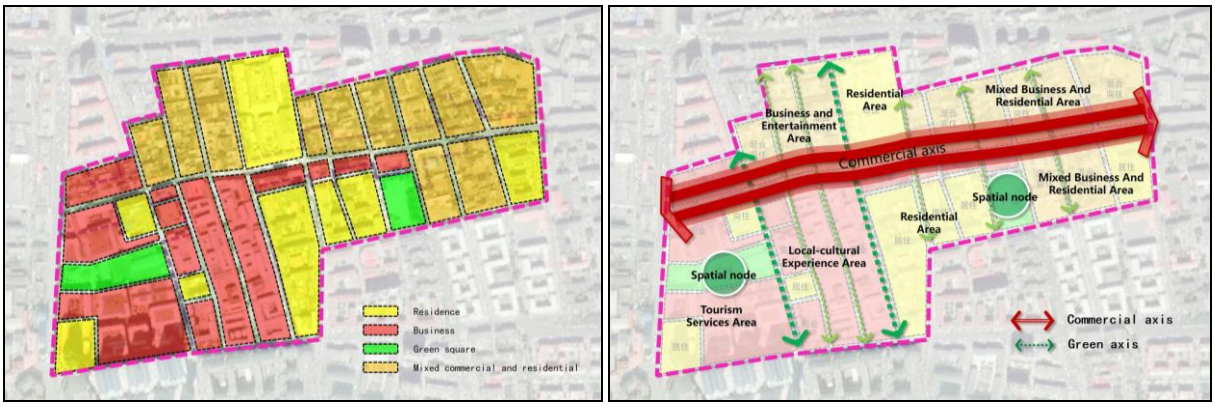

Fig.7-8. Land use and spatial structure planning

4.5 Integrating strictness and flexibility in management and promoting public participation with multiple subjects

A management committee should be jointly formed by inhabitants, business owners, and management decision-makers to uphold the interests of all parties in the implementation of conservation area planning. In addition, community public management entities should be established to supervise the management and development of the conservation area. The long-term follow-up service for planning implementation should be improved, and a long-term feedback mechanism for public planning management should be established. Inhabitant interest groups in the historic blocks should be established, and the financing of the revitalization of the blocks should be formulated and discussed in phases. To improve plan implementation, control must be exercised over the development of the land within the plan's scope, including the environmental landscape. The control management has three parts: prescriptive indicators, guiding indicators, and picture-based guidance. The specific control and management requirements are presented in the form of plans. Planning requirements should be normalized, and planning management should be implemented in accordance with a legal plan to ensure that inhabitant interests are optimally respected in the arrangement of public facilities.

5. Conclusion

With the change of historical heritage protection policy environment in China, the renewal of historical blocks will not only highlight the protection and preservation of the original historical material objects, and also will be more and more towards to the transformation of the traditional cultural protection and community humanistic sustainable development. This paper proposed the evaluation model of inhabitant social integration, and quantify the influence factors and their weights by the confirmatory factor analysis method of structural equation model, then resulted that the point of the sustainable design is the behavior integration and cultural integration according to the evaluation model measurement. Further, we suggest the sustainable design strategy, which provides a new perspective and approach to solve the conflict between trade tourism and inhabitant in the process of renewal and revival of historical districts. It provides new ideas and means for activating historical districts and realizing sustainable development.

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References:

Jiang Difei (2007) The vitality of urban form, Nan Jing: Southeast University Press

Jacobs Jane, Jin Hengshan (2006) The death and life of great american cities, Nan Jing: Yilin Press

Xu Zhen, Gu Dazhi (2010) “Historical monument and original authenticity ---On the development of urban architectural heritage protection from the two key words of Venice Charter”, Planners, Vol. 26 No.4.
Ruan Yisan (2011) “Protection of historical and cultural cities calls for rationality”, Urban Insight, No.3
Yuan Yao, Chen Ying (2010) “Thoughts on conservation planning of historic district of Shuijingfang in Chengdu”, China Ancient City, No.9
Xia Jian, Wang Yong, Li Guangbin (2008) “Returning to life-world: a study on the living authenticity of the historic blocks”, Urban Planning Forum, No.4
Chi Fulin (2010) The second transition: The Transformation of Development Mode at the Crossroads, Bei Jing: Economic Publishing Press
He Heming (2012) “Growth limits and urbanization transformation: logical relations among social transformation, capital, and urbanization from perspective of spatial production”, City Planning Review, Vol. 36 No.11
Zhang JingXiang, Zhao Dan, Chen Hao (2013) “Termination of growth supremacism and transformation of China’s urban planning”, City Planning Review, Vol. 37 No.1
Crosbie M. J. (1994) Green architecture: a guide to sustainable design, Rockport, Mass and Washington, DC: Rockport Publishers
Szokolay S V. (2004) Introduction to architectural science: The basis of sustainable design, Oxford: Oxford Architectural Press
Azhar S, Carlton W A, Olsen D, et al. (2011) “Building information modeling for sustainable design and LEED rating analysis”, Automation in Construction, Vol. 20 No.2
Regina Berger Schmitt (2002) “Considering social cohesion in quality of life assessments: concept and measurement”, Social Indicators Research, Vol. 58 No.1-3
Park Burgess (1921) Introduction to the science of society, Chicago: University of Chicago Press
Landecker (1951) “Types of integration and their measurement”, the american journal of sociology, Vol. 59 No.4
Lu Zirong (2014) “Hierarchy of social integration theory and measurement index”, social science front, No.11
Chen Hongsheng, Liu Zhendong, Li Zhigang (2015) “Social integration of neo-immigrating urban china: a case study of six large Cities”, Modern Urban Research, No.6
Huang Kuangshi (2011) “Social integration index of the floating population: eu practice and chinese construction”, Population and Society, Vol. 27 No.1
Yue Zhongshan, Li Shuzhuo, Feldman Marcus W. (2012) Social integration of rural-urban migrants in china: current status，determinants and consequences, Beijing: Social Sciences Academic Press
Yang Juhua (2010) “Index of assimilation for rural-to-urban migrants: a further analysis of the conceptual framework of assimilation theory”, Population and Economics, No.2
Yang Wenjie, Qin Jiajia (2016) “Research on the improvement of measurement index system of social integration of floating population”, Journal of Hebei University (Philosophy and Social Science), Vol. 41 No.3
Zhang Wenhong, Lei Kaichun (2008) “The urban new immigrants’ social inclusion: internal structure, present situation and influential factors”, Sociological Studies, No.5
Zhou Hao (2012) “Measurement and theoretical perspectives of immigrant assimilation in China”, Population Research, Vol. 36 No.3
RenYuan, QiaoNan (2010) “Social integration for migrants: process, measurement and determinants”, Population Research, Vol. 34 No.2
Wang Gunxin, Wang Limin (2008) “A summary of the study on the social integration of the urban alien population”, Journal of Shanghai Administration Institute, No.6
He Xuesong, Lou Weiqun, Zhao Huan (2009) “Service utilization and social integration: an exploratory study on new immigrants in Hong Kong”, Population and Development, Vol. 15 No.5
Li Zhigang, Zhang Jingxiang (2004) “Mediating socio-spatial differentiation: urban planning responses to social disadvantage——with reference to UFP report, Sydney”, Urban Planning International, Vol. 19 No.6
Zhang Jun, Liu Daping, Zhang Yuting (2016) “Appraising the reconstruction of a historical block base on demand differences——a case study of the historical district of Hengdaohezi Town”, Architectural Journal, No.2

Lu Ming, Cai Zihan (2017) “Vitality upgrade for historical and cultural blocks on inhabitant spatial integration”, Planners, Vol. 33 No.11.
Cai Zihan, Lu Ming (2018) “A study on the planning of the revival of historic blocks from the perspective of indigenous social convergence: a case study of old Daowei district in Harbin”, China Ancient City, No.3
Blau P.M. (1977) Inequality and Heterogeneity, New York: Free Press
Li Wuwei, Wang Zhen (2003) The Frontier problems of China's Industrial Development, Shanghai: Shanghai People's Publishing House
Yang Huan (2014) “Spatial Fusion: the New Perspective of Urban-rural Integration”, Socialism Studies, No.1
Liu Yang, Xu Suning (2017) “From Control to Participation: Transformation of the Design Modes of Modern Urban Space”, Architectural Journal, No.8