Research Article

Multicultural Integration of Urban International Communities in the Innovation Ecosystem

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Purpose. This article aims to bring the issue of multicultural integration of urban international community into the perspective of innovation ecosystem. Combined with theory, it probes into the relationship between multicultural integration and innovation ecosystem. The study, based on in-depth questionnaire and document analysis, examines the status quo of foreign residents' participation in local social and cultural life from the measurement of identity, cultural differences, values, ideologies etc., and the obstacles encountered with the focus of spirit, material, and management. *Design/Methodology/Approach*. This study adopts the data sampling methods of purview sampling and snowball sampling to investigate cultural integration from two dimensions of sociocultural (behavioral) integration and psychological (emotional/affective) integration. The scale adopts the 4-point score of Likert formula and uses the mean coefficient (the average score of each item) to judge the difficulty of psychological integration of foreign residents. *Findings*. First, the social and cultural integration perceived by foreign residents is at a medium level. The conflicts of values, the differences of social and cultural systems, identity, and language ability are the main obstacles and difficulties in the multicultural integration of foreign residents. Second, at the psychological level, many foreign residents conducting the survey did not have too much psychological pressure, most of them could regulate their emotions by themselves, but the problem of psychological integration still exists; therefore, relevant effective intervention is needed. Third, foreign residents' views on the social and cultural environment of their communities affect multicultural integration and stability of their communities. *Practical Implications*. This study helps understand the factors affecting multicultural integration in international community, which will be helpful for the researcher to understand more about the current issue of multicultural integration in international community and for the relevant department to adopt suitable policy and measurements to facilitate multicultural integration in international community.

1. Introduction

The issue of cultural integration in international communities is of great research value [1]. The diversity and complexity of the current social and cultural scenario make central the necessity of a new approach to investigate the urban international community. In this regard, several scholars [2, 3] highlight the importance of studying cultural diversity, cultural ethnic psychological stability, cultural conditionality and cultural integration, characterized by innovation concerning different fields, which are curial to the formation of a stable and harmonious ecological field of benign development among all cultural species.

When the international development of community is viewed as a dynamic process of community social change, which involves conflict and integration, intrusion, and succession, the research window is opened [4]. With the increase of the number of foreign residents in urban community, the structure of community members has changed. Understanding the natural and social composition of the complex population can lead to the understanding of the main group of the community [5], which is especially important in the research on the development of international communities. Based on this, we can find the common interests and common needs of community members and further study how to enhance their common consciousness,

so as to stimulate the interest and enthusiasm of community members to participate in community public affairs and activities, thus promoting community cultural integration [6]. The change of community member structure will increase the degree of community population differentiation, diversify the cultural differences of the faith, lifestyle and language etc., among individuals. Relatively speaking, the more the composition of community members tends to be internationalized, the more open the community will be correspondingly, but the community culture will be greatly alienated [7]. Therefore, to grasp the symbols of community members' beliefs, values, norms of behavior, lifestyle, and language in the process of community cultural structure can help to find ways to promote community members' identification and recognition.

Given this research presented, it is found that the research perspectives and methods of cultural integration do not break through the traditional qualitative studies on cultural conflicts, cultural regionalization, cultural integration, and spatial contrast and differences, few studies focus on the characteristics, modes, and mechanisms of cultural conflict and integration from the perspective of innovation ecology. As a result, questions of how the spatial integration and conflict of multicultures in international communities by using quantitative statistical analysis method have been relatively unexplored especially in the perspective of innovation ecosystem. In the innovative ecological environment, what is the status of cultural integration of foreign residents in urban international communities? What are the main problems and difficulties? What are the major factors that affect the cultural integration of foreign residents in international communities? Are foreign residents' expectations of coming to China and social support network directly related to their cultural integration? Are foreign residents' degree of community cultural identity and community participation proportional to the frequency of interaction? What role does community administration play in the cultural integration of foreign residents? All these problems need to be explored and studied.

Community development is a dynamic dimension, but the community has a relatively static dimension, such as community structure, properties, and characteristics of a particular entity which can be described by certain means. The analysis of the change of community static dimension can become a base to analyze the community dynamics, which must be obtained from the in-depth investigations on the community. The observation object and investigation method of community survey are based on the purpose of investigation analysis. Therefore, it is rational to investigate community development, such as community structure, properties, and characteristics of a particular entity in the community and characteristics of multicultural integration by exploring the relationship between community members' social level and their way of life, between community management and space facilities provider, and the interaction between community cohesion and community residents, and between the management organizations and nongovernmental organizations in the community [8].

Therefore, the article attempts to analyze the connotation of multicultural integration of urban international community in innovation ecosystem and probe into the relationship between multicultural integration of international community and innovation ecosystem by investigating the process, mode, and degree of cultural integration of international community; then, it reveals the characteristics of the cultural integration of international communities and its interaction with the community and explores the status quo and influencing factors of the multicultural integration of residents in international communities by using quantitative analysis. Finally, through the analysis of the collision, communication, and two-way integration of geo-culture and heterogeneous culture in the construction of international community, the article examines the ways and the characteristics that foreign residents blend into mainstream society in everyday life and in social interactions as well as the obstacles they encounter in this process with the focus of spirit, material, and management.

2. Literature Review

Innovation ecosystem, as an important foundation for innovation and entrepreneurship in the era of global economic change, is gaining more and more attention from scholars and researchers. In general, the academic circles have mainly studied the innovation ecosystem from the following aspects.

2.1. A Research on the Concept, Connotation, and Structure of Innovation Ecosystem. The research on innovation ecosystem can be traced back to the business ecosystem proposed by McIlduff et al., which is considered as the basis of the research on innovation ecosystem [9], while Adner proposes the enterprise innovation ecosystem, furthering highlights the core position of innovation in enterprises [10]. Bulc defines innovation ecosystem as a system made for innovation creation in an open, natural manner, which enables a holistic understanding of needs, solutions, and consequences related to innovation processes and innovation itself, and is an interaction between people, enterprises, and institution [11]. Luoma-aho and Halonen argue that innovation ecosystem is a permanent or temporary system of interaction and exchange among the ecology of various actors that enable the cross-pollination of ideas and facilitate innovation [12]. Maillat-aho and Halonen discuss the relationship between technology innovation and social system, market environment, and sustainable development from the angle of ecological economy, laying the foundation of area innovation system's coordinative evaluation [13]. According to Adner and Kapoor, innovation ecosystem is a mechanism which plays a synergistic integration of enterprise innovation results [14]; Luoma-aho et al. believe that innovation ecosystem is a lasting or temporary system based on ecological environment [15]. Iansiti and Levien argue that innovation ecosystem is a system composed of political subsystem, economic subsystem, environmental subsystem, technological subsystem, cross-organizational subsystem,

etc., which interact with each other to form a favorable innovation atmosphere and thus maintain sustainable growth [16]. They and other scholars also define the concept of innovation ecosystem from multiple perspectives [16, 17]. Asefi et al. believe that the characteristics of innovation paths of high-tech enterprises are heredity and variation, which are consistent with the characteristics of biological species ecosystem [18]. According to Lengrand, the way to realize intensive interaction between R&D bases among enterprises is mainly through technology innovation ecosystem [19]. Chen Chou-yong et al., based on the perspective of knowledge and resource network, study the "driving factors" of innovation in enterprise technology and capability system [20]. Later on, researchers further propose the operation mechanism of the enterprise technology innovation ecosystem. Zhang Jing et al. believe that the knowledge innovation ecosystem should bring the social dynamics, social choices, and social constraints of knowledge innovation into the research horizon [21].

2.2. Research on Innovation Ecosystem as Interfirm Collaboration Environment. Adner and Kapoor proposed earlier that innovation ecosystem is a collaborative mechanism, which can be used by enterprises to create values that cannot be created by a single enterprise through multienterprise cooperation [14]. On this basis, Nambisanl and Baron propose that the innovation ecosystem is an important environment for entrepreneurship, and core enterprises are the leaders of the innovation ecosystem [22]. Zahra and Nambisan regard the innovation platform established by core enterprises as an ecosystem providing soil for the creative activities of emerging enterprises, while the survival and development of emerging enterprises largely depend on their ability to provide services for platform leaders [23]. It is obvious that the role and function of core enterprises in the innovation ecosystem is the main focus of early research. Since 2014, research has shifted to explore the value creation and innovation and entrepreneurship environment of the entire innovation ecosystem. Romano views sustainable innovation ecosystems as dynamic and multiactor environments that foster innovative entrepreneurship. In this environment, the benign interaction of knowledge creation, diffusion, and absorption among stakeholders maintains the development of innovative entrepreneurship [24]. Autio and Thomas further point out that the innovation ecosystem is an organizational network formed around focal enterprises or platforms and develops new values of enterprises through collaborative innovation between producers and users [25]. Gawer and Cusumano directly regard the collaboration between internal platform and external industrial platform as an innovation ecosystem [26]. After some scholars proposed the innovation ecosystem based on the triple helix theory, Wu Xuechao draws from Carayannis et al. 's theory that the fractal innovation ecosystem is one of the core organization modes of "Mode 3 knowledge production," and thus proposes the "quadruple spiral innovation ecosystem"; the "five-fold spiral" innovation ecosystem is further summarized thereafter [27]. The

research in this stage not only focuses on the functions of core company but also focuses more on good interfirm ecology and system functions of innovation ecosystem. Users, government, and many stakeholders are all external factors that influence the innovation ecosystem, emphasizing the mutual association between enterprises to promote knowledge diffusion.

2.3. A Research on Innovation Ecosystem as an Innovative Business Environment. Jackson first regarded the innovation ecosystem as an innovative business environment and believed that it was the economic dynamic relationship formed by participants in innovation. Participants include physical resources, human capital, and institutional entities that constitute the ecosystem [28]. Based on his work, scholars study the innovation ecosystem as an innovative business environment from the perspectives of information, regional culture, and value co-creation. From the perspective of information, Luoma-aho defines the innovation ecosystem as the interaction and exchange between different subjects, as well as the migration and collision of ideas to promote innovation. The information flow becomes an intangible asset to maintain the vitality of the neogenesis system [12]. Shaw and Allen directly regard the innovation ecosystem as a channel of interconnected business models, in which several lines of information obtained from users are transmitted and recycled [29]. From the perspective of regional culture, Pichler believes that the evolution of innovation ecosystem is not only related to actors and their interactions but also related to the regional core competitiveness that provides technological starting points [30]. From the perspective of value co-creation, Russel et al. believe that value co-creation in innovation ecosystem is made through information and talent-oriented activity, and its characteristics and boundaries are determined by the political, capital, and intellectual environment [31]. Smorodinskaya et al. further argue that in the era of nonlinear innovation, innovation can be better cultivated in a special innovative environment, which is regarded as an innovation ecosystem of value co-creation through cooperation [32]. To sum up, innovation ecosystem as innovative business environment is a combination of various environmental factors, such as business environment, social environment, and policy environment, among which collaborative innovation usually involves those partners who are closely involved in innovation.

At present, much has been done on the research of innovation ecosystem, which provides useful reference and inspiration for the research ideas and the structure of this article—deficiencies also exit. First, the theory of innovative ecosystem is based on the theory of natural ecology. Most of the theoretical analysis of the existing literature is based on ecological metaphor, and the analysis of the connotation, characteristics, and evolution mechanism of innovative ecology is too theoretical and virtualized. Second, the existing research focuses on innovation ecosystem at the business and enterprise levels, but the research on innovation governance from the perspective of innovation

ecosystem is somewhat insufficient, and there is a lack of discussion on the participation of soft support such as policy, culture, and society in innovation governance, especially that on the innovation ecosystem of community cultural integration. Third, current research focuses mostly on the macro theoretical level and lacks empirical analysis and experiment combined with innovation practice. Therefore, it is necessary to carry out an empirical study of multicultural integration in the construction of community to investigate what the relationship between multicultural integration and innovation ecosystem is and understand how foreign residents view their identity to participate in local social and cultural life in an innovative ecosystem. And what cultural differences, values, and ideologies do foreign residents experience compared to local residents? In the process of cultural integration, what are the difficulties and psychological problems encountered by foreign residents? What are the factors that affect the cultural integration of foreign residents? Answering the questions will help to enrich the research methods and paradigms of cultural sociology so as to better understand the multicultural integration of urban communities.

3. The Relationship between Muticultural Integration in International Community and Innovation Ecosystem

As a new type of urban community, international community aims to build an innovation ecosystem with innovation elements as the core, integrating development innovation, experience application, and regional culture [33]. Specifically speaking, the development process of multicultural integration in international community is the process of enhancing its productivity and innovation ability. Through the cooperation of internal subjects, the value of a humanistic and living environment can be created to obtain productivity, which constantly adapts to the changes of external environment and gains profits from the environment to win the victory of social competition and obtain innovation ability; the productivity of innovation ecosystem reflects the development of value creation ability in international community, whose innovation ability reflects its key ability to cope with environmental changes and realize dynamic evolution [34]. Therefore, the cultural integration of international community is always consistent with the development goal of innovation ecosystem.

The multicultural integration of international community includes system, environment, value orientation, and other elements, while the formation of innovation ecosystem has gone through several stages from value concept identification to value creation to attract favorable elements and adapt to environmental changes. Both the multicultural integration in international community and innovation ecosystem promote regional economic growth through complementary cooperation and co-creation sharing to obtain sustainable development and regional competitive advantage. They both coincide in academic views and policy

guidance. Therefore, the goal of multicultural integration of international community is to establish a healthy and sustainable innovation ecosystem.

As shown in Figure 1, in the innovation community, the producers are the management team of the community, and their work is to gather opinions of community construction together. Combined with the development status of the community, the producers establish and improve the community management system to provide better community services. The residents in the community are the consumers, they enjoy the services provided by the community and at the same time they need to pay related property management fees. Decomposers mainly include relevant government, enterprises, or intermediary service agencies who stand at the forefront of development or scholars who devote themselves to the research of community governance system. They will learn from the governance experience of other communities, integrate it with their own experience, and provide the community with all kinds of services. These practical experience and theoretical focuses will be shared out to improve the overall capacity of community governance.

The innovation relation in the community can be the new relationship among community residents, between community residents and community managers, or between community management and enterprises or government. To put it plainly, the innovation relation in the community is to combine all available resources and forces to create a community-centered development network.

4. Research Methodology

In order to further explore the multicultural integration in international community, a survey is conducted to reveal the economic, behavioral, cultural and conceptual adaptation of foreign immigrants in international community and explore the influence and characteristics of multicultural integration of immigrants from the perspective of geographical perception, social support system, community culture, identity, and other aspects within the scope of innovation ecology. It analyzes the dynamic changes, conflicts, and problems in the process of multicultural integration among different ethnic groups and explores the mechanism and rules of cultural integration in the construction of international community from the material, spiritual, and management dimensions. According to the current phenomenon and characteristics of multicultural integration in the construction of urban international community, the article finally puts forward some countermeasures to realize the multicultural integration on the basis of innovation ecology.

4.1. Research Methods. Based on the cultural integration model of Ward et al., this study takes foreign residents in international communities as the research objects and investigates the status of foreign residents' participation in local social and cultural life by means of questionnaires and interviews from the measurement dimension of identity, cultural differences, values, ideologies etc [36]. Combined with case analysis, the research tries to understand the
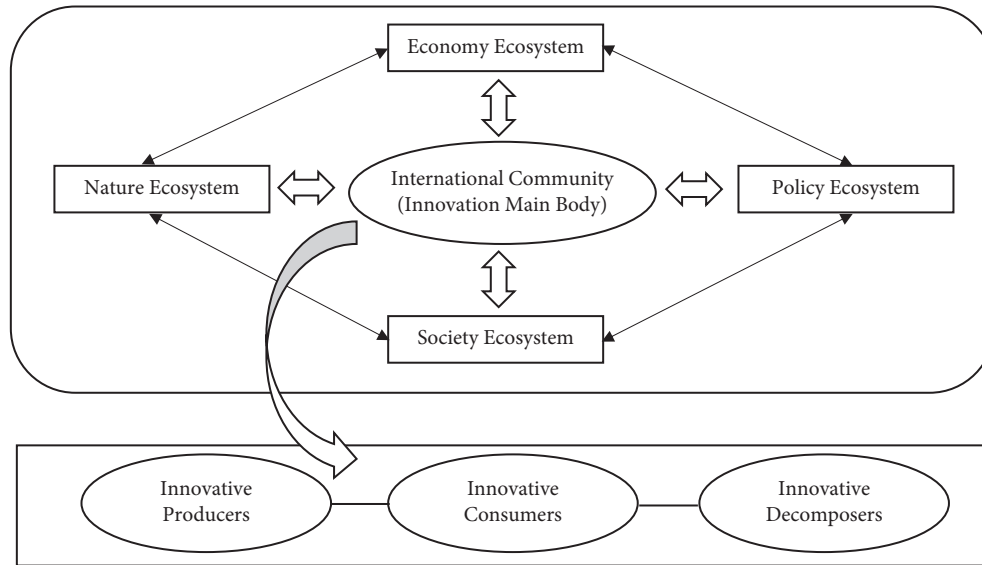
FIGURE 1: The relationship between multicultural integration and innovation ecosystem [35].

multicultural integration of foreign residents in the innovative ecological environment and analyzes the problems and contradictions of foreign residents in the process of multicultural integration as well as the mechanisms and main influencing factors that cause the problems. Finally, relevant strategies are put forwarded to reduce the barriers of intercultural communication and promote the multicultural integration in the international communities.

4.2. The Venues and Objects of the Research. The research group chose the international residential communities in Shanghai, Hangzhou city, and Yiwu city in Zhejiang province as the research venues which include Gubei international community, Biyun international community, Lianyang international community, and Chunjiang international community in Shanghai; Wendingyuan international community, Binjiang Dongxin international community, LongQin international community of Development Zone in Hangzhou, and overseas Chinese students community of the universities in Hangzhou (Zhejiang University, China Jiliang University, Zhejiang University of Industry and Commerce, Zhejiang University of Electronic Technology, and Zhejiang University of Traditional Chinese Medicine); Jiming Mountain international community, Yiwu Institute of Industry and Commerce, and Yiwu Small Commodity City and Night Market in Yiwu city of Zhejiang province.

About 300 foreigners living in Shanghai, Hangzhou, and Yiwu (resident foreigners and family members, foreign staff, and international students) conducted the questionnaire, of which about 50 were interviewed. Because the questionnaire was conducted on spot, the recovery rate of the questionnaire is 100%. After sorting and data entry, 292 questionnaires were effective, and the effective rate of the questionnaire is 97.3%. The interview was recorded by mobile phone and has been converted into text message.

4.3. The Tool of Analysis. This study adopts Colleen Ward's point of view to investigate cultural integration from two dimensions of sociocultural integration and psychological integration. The Social and Cultural Integration Survey used by the study is a revised version of the Social and Cultural Integration Scale (SCAS) designed by Colleen Ward and her colleagues. It has good reliability and validity, and the questions are flexible, which can be deleted and adjusted according to the purposes of the research [37]. The scale has been widely used in the evaluation of the degree of immigrant cultural integration, and it is also a relatively mature scale that has been verified many times. The research scale was in the form of a 5-point Likert scale, with five options for each item ("No difficulty" scores 1 point; "A little difficult" scores 2 points; "General" scores 3 points; "Difficult" scores 4 points; and "Very difficult" scores 5 points), the respondents evaluate the statements in the Table according to their actual situation. The higher the total score, the more difficult the social and cultural integration. In order to make the respondents understand the scale better, this scale is set up in Chinese, English, Korean, German, and Arabic to make it convenient for the respondents to fill in with the five versions.

In terms of the design of psychological integration scale, referring to the Self-rating Depression Scale (SDS) by Zung, some items of the scale were adjusted according to the theme of this study. This is simple to use, reliable, and valid, and it can reflect the subjective feelings of interviewees quite intuitively. The scale adopts the 4-point score of Likert type, "1~4" respectively means "not/rarely so," "sometimes so," "often so," and "always so." The standard score of the scale ranges from 25 to 100 points, with higher scores indicating higher levels of depression. The mean coefficient (the average score of each item) is used to judge the difficulty of psychological integration of foreign residents. The higher the mean coefficient is, the more difficult the psychological integration is. According to the Chinese

TABLE 1: Correlation and decision value between items of sociocultural integration scale and total score ($N = 292$).

Item	Correlated with total scores	CR	Item	Correlated with total scores	CR
a1	0.628**	12.385***	a11	0.602**	9.778***
a2	0.472**	8.461***	a12	0.625**	12.501***
a3	0.485**	8.490***	a13	0.716**	17.043***
a4	0.596**	11.151***	a14	0.559**	11.301***
a5	0.631**	12.665***	a15	0.459**	7.889***
a6	0.554**	9.850***	a16	0.632**	12.725***
a7	0.607**	10.621***	a17	0.560**	11.453***
a8	0.498**	9.630***	a18	0.493**	8.776***
a9	0.601**	10.587***	a19	0.653**	13.452***
a10	0.576**	10.001***	a20	0.561**	9.887***

Note. * means $P < 0.05$, ** means $P < 0.01$, and*** means $P < 0.001$, the same applies hereinafter.

TABLE 2: KMO and Bartlett test of multicultural integration.

KMO and Bartlett test		
Kaiser-Meyer-Olkin measure of sampling adequacy, KMO		0.885
Bartlett's test of sphericity	The approximate chi-square	489.615
	df	105
	Sig	0.000

TABLE 3: The results of the reliability and validity analysis ($N = 196$).

	α value coefficient range	Question number	x^2/df	GFI	AGFI	FI	TLI	CFI	RMSEA
The self-rating depression scale	0.673	20	2.910	0.925	0.901	0.914	0.887	0.931	0.061

norm standard, the critical value is 53, with scores lower than 53 in the normal range, 53–62 in mild depression, 63–72 in moderate depression, and scores higher than 72 in major depression.

4.4. The Analysis and Test of the Scale. Since the scale was retranslated and revised, it is necessary to test the reliability and validity of it. In this study, half of the data were randomly selected for exploratory factor analysis and the rest were used for confirmatory factor analysis. The data were divided into high group and low group with 27% as the cutoff value, and the difference between them was calculated to obtain the decision value of the item. All CR values were greater than 3, reaching the significance level ($P < 0.001$), indicating that the item had strong discrimination ability. All questions are significantly correlated with the total score of the scale, and the correlation number is greater than 0.4 (Table 1), indicating that the questions had good homogeneity [38].

The existence of certain correlation between variables is the premise of factor analysis; in factor analysis, the correlation between variables is usually expressed by Bartlett test of sphericity and KMO (Kaiser-Meyer-Olkin) values. In the Bartlett test of sphericity, the KMO test is applied to test correlations and partial correlations between variables, with values ranging from 0 to 1. When the sum of squares of the simple correlation coefficients between all variables is much larger than the sum of squares of the partial correlation coefficients, the KMO value approaches 1. The smaller the KMO value is, the weaker the correlation between the observed variables is, and the less suitable the original variables

are for factor analysis. Therefore, a significant level of Bartlett test of sphericity is a prerequisite for factor analysis. In this study, 50% data, 196 cases, were randomly selected with SPSS system. As can be seen from Table 2, the significance probability value in Bartlett test of sphericity is 0.000. Meanwhile, the KMO value is 0.885. Both tests show that the data of this scale are suitable for factor analysis.

In addition, reliability and validity analysis of the SDS was performed on 196 samples (randomly chosen) to check the internal consistency and structural validity of the scale. Reliability reflects the reliability or stability of the scale, which is represented by the consistency, reproducibility, and stability of test results. Validity is goal-oriented and reflects whether the scale is effective in measuring the desired goal (designed by the user), then AMOS was used to test the validity of the scale, and the results are shown in Table 3.

As shown from Table 3, the reliability of the SDS was 0.673. According to DeVellis [38], the α coefficient range between 0.65 and 0.70 is the acceptable value of reliability, 0.70~0.80 is quite good, 0.80~0.90 is very good, indicating that the SDS has reliability. Confirmatory factor analysis shows that x^2/df < 3, RMSEA <0.08, other fitting indexes are close to 0.9, indicating that the SDS has satisfactory structural validity.

5. Findings and Discussions

5.1. Basic Information of Multicultural Integration in International Communities. The general information of multinational integration in international communities is shown as follows:

TABLE 4: Basic information of social and cultural integration of foreign residents.

Item	N	Min	Max	M
Integration of identity belonging	292	1.00	4.52	2.4904
Integration of culture value	292	1.00	5.00	2.5001
Integration of behavior and custom	292	1.00	4.23	2.3896
Integration of institutional culture	292	1.00	4.95	2.4982
Integration of spiritual consciousness (including religion)	292	1.00	4.86	2.4933
Language proficiencies	292	1.00	4.33	2.3925
Social communication ability	292	1.00	4.27	2.2987

The social and cultural integration perceived by foreign residents is at a medium level ($M = 2.489$). According to the results of the survey, 78.93% of foreign residents are faced with difficulties in community cultural integration, and most foreign residents choose "2 = somewhat difficult" to "3 = difficult." As shown in Table 4, for foreign residents, the difficulty of community cultural integration is cultural value integration > institutional culture integration > spiritual consciousness integration > identity ownership integration > language competence > social communication ability > behavior and custom integration. It shows that the conflict of values, the difference of social and cultural systems, identity, and language ability are the main obstacles and difficulties for the cultural integration of foreign residents in international communities.

The data shown above in Table 5 reveal that most of the foreign residents in the international community who participated in the survey do not have too much psychological stress, most of them can manage their emotions, but about 24.33% of the respondents show symptoms of depression, including 71 residents with mild depression and 8 residents with moderate depression. This indicates that although the overall psychological integration of foreign residents is good, but the problem of psychological integration still exists; therefore, effective intervention is needed.

(1) Based on the research above, it is found that the integration of cultural value, institutional culture, and spiritual (including religion) are considered to be the three most difficult items. Although many foreign residents are interested in Chinese culture and even come to China for this reason, it is not easy to understand and identify with Chinese culture and the values of Chinese civilization. In addition, religious expatriates have strict requirements for food and etiquette, making it difficult for them to integrate into local society. Some of them states that even though they are able to adapt to local social cultural environment, even recognize the way of local interactions, but the degree they interact with the locals is very low, they only accept his or her home country culture and education since childhood, their culture and school education is Western, and they have different social interaction patterns, ways of thinking, including the cognition of human with Chinese. There is also a lack of understanding and rejection of certain Chinese constitutional systems. The whole cultural environment in China is based on Chinese

TABLE 5: Self-rating Depression Score (standard score) of foreign residents.

Score	N	%
<51 (normal)	213	72.9
52~65 (mild depression)	71	24.3
66~75 (moderate depression)	8	0.03
≥76 (major depression)	0	0

cultural tradition and attaches great importance to relationship (guanxi). The way and habits of Chinese people are influenced by local geography, politics, culture, and social environment. It is difficult for the foreign residents to understand and identify with which they usually take the way of avoidance and retain their own original identity.

(2) Foreign residents usually feel confused about their identity and have a low degree of identification with their own community. There exist significant differences in daily living habits, daily life integration, and stress risk. Moreover, foreign residents with cross-cultural experience are more likely to continuously compare the differences of various cultures they have experienced in the past due to their past experience, which is easy to confuse different cultural fields in different cultural situations. It is difficult to adjust their mentality, leading to the difficulty in cultural integration. Chinese language ability has certain effects on foreign residents' cultural fusion. Foreign residents who could communicate in Chinese fluently have better cultural integration than those who only understand simple Chinese. Language communication barriers caused by misunderstanding and estrangement do exist, but the impact is not obvious.

(3) The survey also reveal that some foreign residents had already taken part in "cross-cultural training" programs before coming to China, and had a psychological "expectation" of what they would face, knowing that they would face a completely different cultural environment and seeing it as an exciting "challenge and experience." But most foreign residents find it difficult to live in a foreign country, and the difficulties vary. In other words, the cultural distance perceived by foreign residents is not the same. People have different lengths of time to
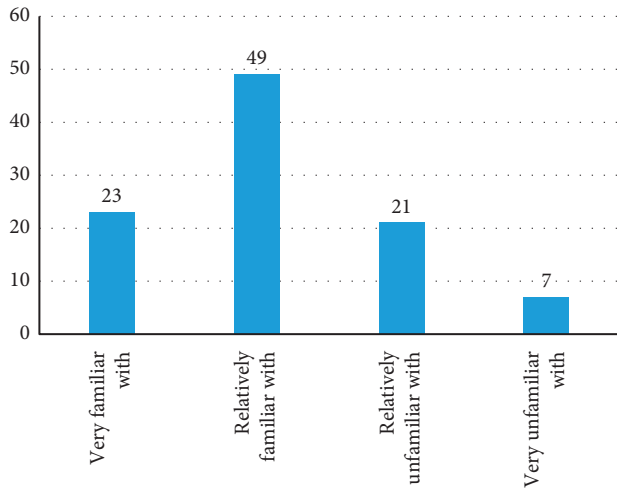
FIGURE 2: Foreigners' familiarity of public facilities in community.

FIGURE 3: Foreigners' usage frequency of public facilities in community.

assimilate and different degree to perceive cultural integration, some faster, some slower, even people from the same country. Therefore, whether the expectation of foreign residents in China is directly proportional to their cultural integration has not been verified.

(4) Making More Chinese friends will provide more social support, which is more conducive to the cultural integration of foreign residents. Depression levels also show that the more Chinese friends they have, the less foreign residents are affected by depression. These results suggest that social support can buffer or reduce the negative impact of alien culture on immigration, and also confirm that social support can play a moderating role in cultural integration. In addition, all respondents say they are actively integrating into the community, the local society, and learning about the local culture and customs.

5.2. Foreign Residents' Views on the Social and Cultural Environment in International Community: Three Dimensions. The foreign residents' views on the social and cultural environment of the community they live in will affect their cultural integration and the harmony and stability of the community. We randomly selected 50 foreign residents in the interview and asked them to evaluate the social and cultural environment of their communities from three aspects: material environment, cultural life, and spiritual life.

5.2.1. Cultural Integration at the Material Level. Figures 2–4 above show that most foreigners are familiar with community facilities while about one-third of them know very little about it, almost half of them seldom use them. According to interviews, most international communities do not have enough public facilities, only with community square, chess and card room, activity room, school, hospital, gym, etc. Most public facilities foreigners know are always limited to those they cannot live without,
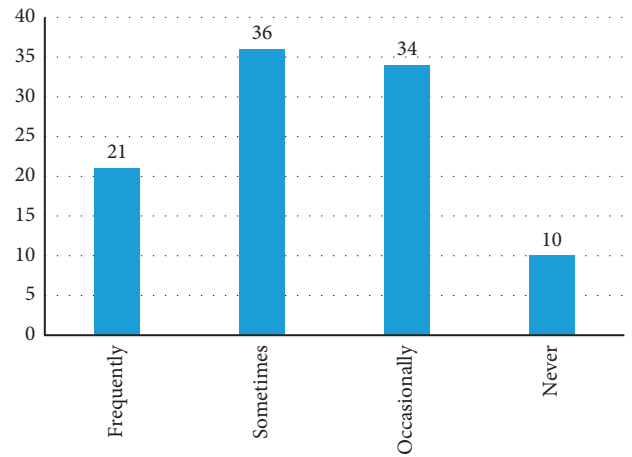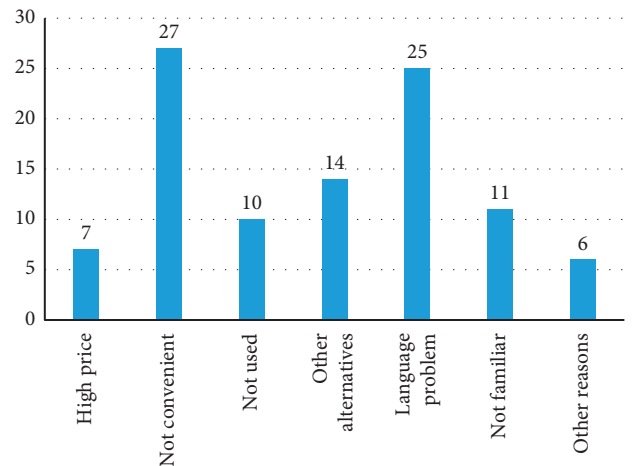

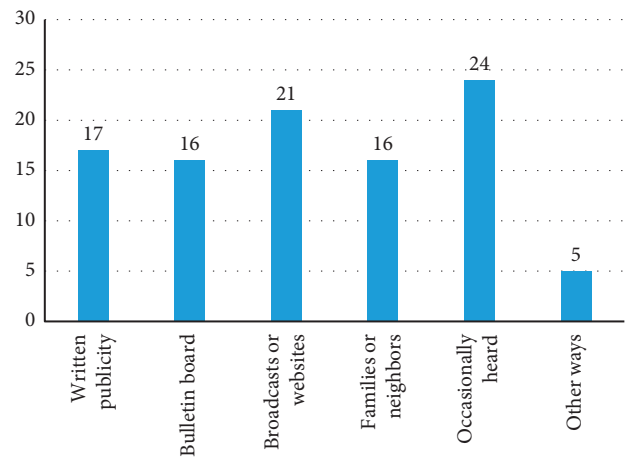FIGURE 4: Reasons about different usage frequency of public facilities in community.

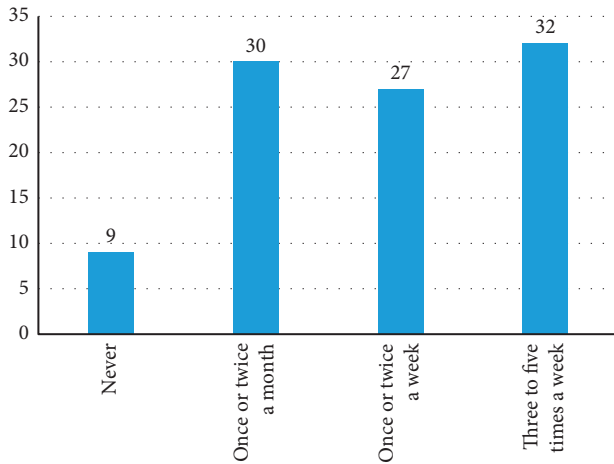FIGURE 5: Approaches for foreigners to learn about community.

FIGURE 6: Foreigners' communication frequency with local residents in community.

FIGURE 7: Quantity of foreigners' local friends in the community.

such as schools, hospitals or gyms, foreigners know them out of personal hobbies, or the community squares somewhere they pass by. Besides, there are some bilingual signs in the community, but it is far from enough for foreigners. Coupled with the sometimes-excessive enthusiasm and attention of local residents, most foreigners cannot adapt and often choose to reduce their use to avoid the embarrassment as much as possible.

Figure 5 shows that there are many ways for foreigners to learn about the community. "Occasionally heard" still accounts for the largest proportion, which means publicity media in the international community, covering from writing, bulletin board, broadcasting to Internet, is relatively complete while the radiation scope of publicity is still insufficient. Interviews show that quite a few foreigners are resistant to the written publicity like leaflets and manuals. They think this kind of publicity is not environmentally friendly, and the act of handing out leaflets in the street disturbs their daily life. In addition, many communities do not have bilingual broadcasts or websites due to the high cost, let alone WeChat account. In a word, the current international community has a relatively high degree of cultural integration at the material level, but there are still spaces to improve, like providing bilingual services, expanding the scope of publicity.

5.2.2. Cultural Integration at the Spiritual Level. Spiritual culture here refers to the psychological issue such as the sense of community identity and belonging. In order to explore the cultural integration at the spiritual level, two aspects of the sense of community belonging and the multicultural identity are conducted as follows:

This part of the research mainly starts from two aspects: interpersonal relationship and satisfaction.

Figures 6 and 7 indicate that foreign residents have the subjective desire to conduct cross-cultural communication with local residents. They like to make friends with local people, improve their language skills, and experience the fun of integrating into the local community. The survey shows
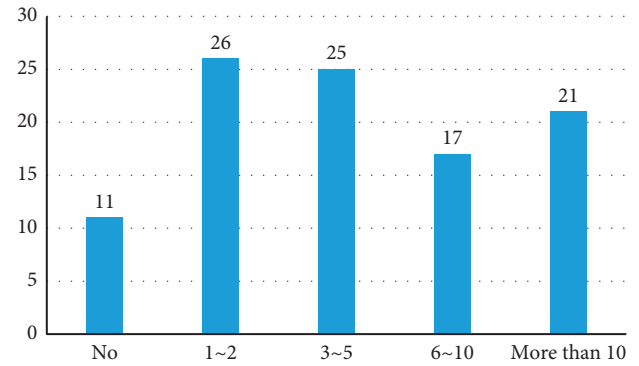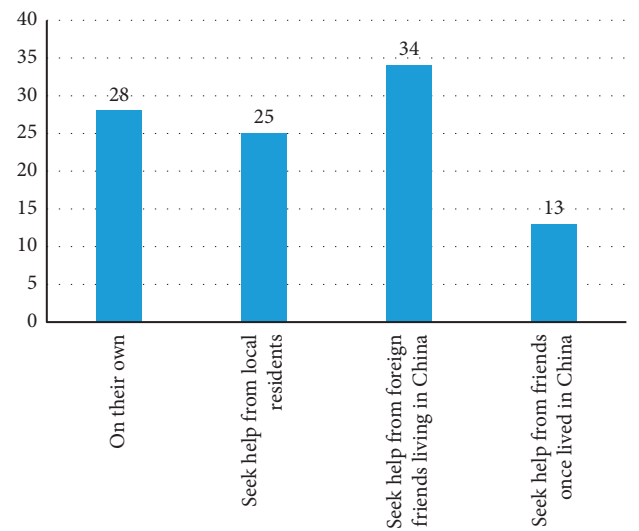

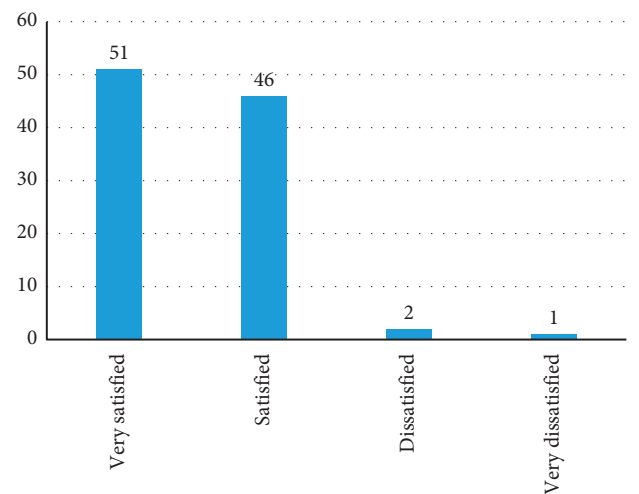FIGURE 8: Foreigners' choice to overcome difficulties.

FIGURE 9: Foreigners' satisfaction level with the current situation.

that many foreign residents have "help each other" Chinese friends, offering them with help in work, life, and study, and participating in some activities with local friends. Through interaction with Chinese friends, foreign residents also
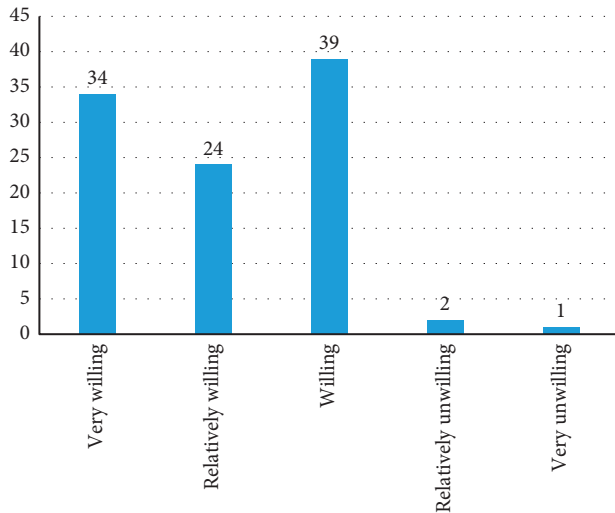
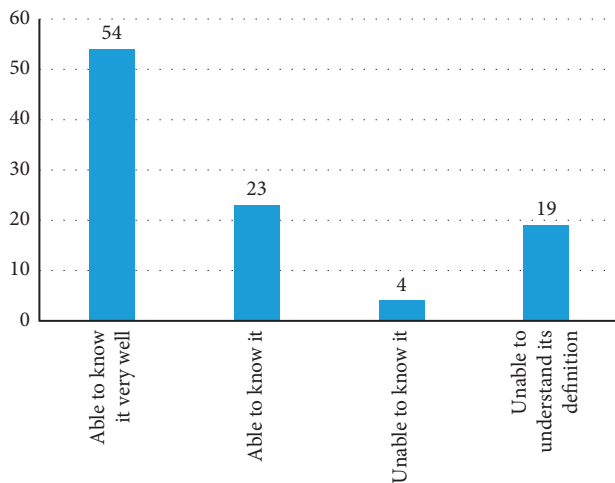FIGURE 10: Foreigners' willingness of long-term residence in the current community.

FIGURE 11: Degree of foreigners' awareness of their multicultural identity.

FIGURE 12: How willingly foreigners contact with community managers.
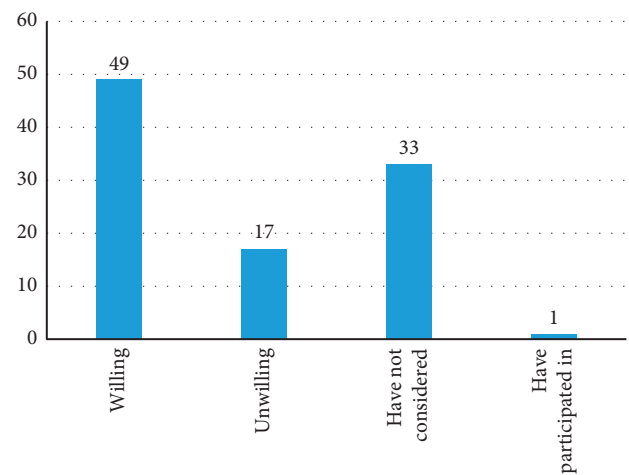
FIGURE 13: Foreigners' willingness to participate in community management.

gradually gain an understanding of Chinese social norms, customs, and values. But some still turn to their compatriots when they need help (Figure 8). For foreign residents, their compatriots are a source of emotion and information, and a source of connection with their culture. Because their compatriots in a foreign country have the same pressures and feelings as them, they are more able to share experiences and provide emotional support and comfort. In questionnaire and interview, we further study the causes of this phenomenon and found that the language obstacle, life stress, cross-cultural communication skills, multicultural communication attitude, and willingness of the local residents as well as the difference between values and interpersonal mode are the important factors leading to the situation.

The data (Figure 9) display that 97% of foreigners are satisfied with community's hardware environment and software services, it also reflects their willingness to live in
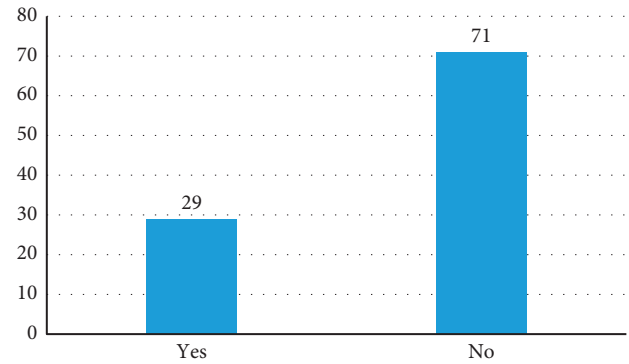
the community for a long time (Figure 10). This illustrates that those foreign residents have developed a certain sense of community identity and are willing to tolerate and understand their community's shortcomings and deficiencies. The interview also reveals that foreigners who are dissatisfied with the community are mainly college students living at school campus. However, the regulations such as being unable to leave dormitory at night and cannot have electrical appliances with excessive power or with potential safety hazards are beyond their acceptance.

Data show that more than three quarters of foreign residents are able to accept their multicultural identity, 4% are unable to accept their multicultural identity, and 19% are not clear about the definition of multicultural identity (Figure 11). To be honest, the definition of multicultural identity is abstract and subjective. It is difficult to quantify whether a person accept his or her cultural identity. Therefore, this actually does not explain the result of "How much foreigners embrace their multicultural identities." Instead, the question is far beyond what have been found: foreigners' attitudes to other culture and foreigners' confidence and willingness to treat different cultures equally.

Of course, the data on cultural integration at the spiritual level have possibility to be embellished. The reason is that

from a psychological point of view, many people will subconsciously choose the answer that will not cause embarrassment in such situation, whether out of politeness or respect. But this behavior is also a sign of cultural integration: foreigners are willing to consider things from other party's point of view. In the long run, it is likely for the community to have a subtle influence on them.

5.2.3. Cultural Integration at the Management Level. The data show that only a small number of foreigners often contact community managers (Figure 12). According to the interviews, some foreign residents are more concerned about and focus on issues that are closely related to their own interests. If not necessary, they do not want to contact community managers, let alone participating in community management. Some think that there are language barriers and difficulties with the community managers, they would rather seek the help of their friends who come from the same country and have lived in the community longer. Another essential reason is that very few internationalized communities in China have a complete governance system for foreigners to participate in community management. As shown in Figure 13, foreign residents are less involved in community governance and management, only 1 of the surveyed population has management experience. About 49% of the foreign residents surveyed said they were willing to participate in community management but had no opportunity to do so. Therefore, it is also necessary for the community to establish foreigners' self-management mechanism, a wide-covered community service system, and cultural exchange platform to promote foreign residents' understanding of community and increase the flow of communication within the community which is crucial to enhance foreign residents' sense of community belonging and identity to avoid conflicts and eventually promote multicultural understanding and integration. It is a shame that we failed to collect enough data to prove whether the degree of community cultural identity and community participation of foreign residents is proportional to the frequency of interaction, which may be conducted in the study thereafter.

5.3. Limitations. At present, the construction and development of international communities in China is still in its infancy, and problems and contradictions arising from the coexistence of diverse cultures in international residential communities are emerging. However, there is lack of prior research studies on the topic, few relevant academic materials were found to support this research, and practical research on how to realize the multicultural integration in international community needs to be further accumulated. Cultural integration is a multidimensional and multifaceted phenomenon, which needs further observation and research on the personal and environmental levels, including internal (interpersonal) and external (social environment) conditions. Although enough sample data were collected to investigate the current situation, characteristics, and problems of multicultural integration in international communities,

still the data in some aspects of the research were insufficient. For example, there was not enough data to prove whether the community cultural identity and the degree of foreign residents' participation were directly proportional to the frequency of interaction, etc. further research will be conducted to explore more deeply on the analysis of the difficulties of cultural integration and the countermeasures of how to achieve cultural integration. Multicultural integration is the core concept in an effective innovation ecosystem in urban international communities. Therefore, it is necessary for communities to highlight the core value of multicultural integration and explore the problem comprehensively to analyze the degree of multicultural integration in urban communities from the perspective of innovation ecosystem.

6. Conclusion

The development of urban international community is a dynamic process of conflict, integration, invasion, and inheritance. In a certain region, culture itself is also a pluralistic and diverse unity, a "cultural ecosystem." Due to the particularity and exclusivity of culture itself, in the process of cross-cultural communication, foreign residents with different cultural backgrounds are faced with the transformation from their own national culture to another culture, and they will inevitably experience different values and lifestyles from their own national culture in the new and unfamiliar environment. The cultural differences such as belief, life style, and language among residents with diverse cultural backgrounds in international communities make it inevitable to have cultural conflicts among foreign residents. The integration and conflict of diverse cultures, the collision of values, the influence of social and cultural system differences, identity, and language ability are all problems and challenges faced by foreign residents.

As a gathering place of different ethnic groups in the world, international community is a community of social life whose members live in a certain geographical range, and its cultural structure presents complex pluralism and heterogeneity. Due to the different cultural backgrounds of Chinese and foreign residents, there are certain differences in ways of thinking, religious belief, value orientation, lifestyle, customs, and community management system. Foreign residents will inevitably collide with local culture in terms of cultural concepts, and the common consciousness of the community has not been fully formed. The sense of belonging and identity of foreign residents to the international community still needs to be strengthened. Therefore, it is an important task for the construction and development of international communities to create a material environment and social atmosphere that can enable foreign residents to live and work in peace and contentment, which will enhance the awareness of joint participation and mutual benefit of Chinese and foreign residents, creating a harmonious community atmosphere and improving the sense of community identity through mutual communication, cooperation, and the exchange of ideas. It is necessary for the community and relevant authorities to take some

measurements for the foreign residents to overcome the lack of geographical sense in the heterogeneous environment, as well as the difficulties in the formation of multicultural integration raised by the differences in the demand for community services, community cultural concepts, community governance models, etc. It is also very important for the community and relevant government department to enhance community's satisfaction, sense of identity, and belonging and sense of responsibility to ultimately form an international community with orderly management, perfect service, the Chinese and foreign residents living in harmony, regional culture, and world culture well-blended by optimizing cultural exchange platform and encouraging the intensity of residents' participation into community's management.

Data Availability

The data used to support the findings of this study are included within the article.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

References

[1] G. Su, L. Zhang, and G. Xia, *Globalization: Cultural Conflict and Symbiosis*, Social Sciences Academic Press, Beijing, China, 2006.

[2] J. Rodes and V. Rodríguez, "Social integration and multi-locality: a multivariate study on lifestyle migration," *Journal of International Migration and Integration*, vol. 22, no. 2, pp. 529–551, 2021.

[3] X. Liu, H. Sun, and X. Ma, "The management model of science and technology based on innovation ecology," *Science of Science and Management of Science and Technology*, vol. 2015, 2015.

[4] S. Yue, "How do Chinese SMEs Enhance Technological Innovation Capability? from the Perspective of Innovation Ecosystem," *European Journal of Innovation Management*, vol. 25, pp. 22–25, 2022.

[5] M. Zhao and W. Zhao, *Community Development Planning: Theory and Practice*, China Architecture and Building Press, Beijing, China, 2003.

[6] H. Chong, *Era and Nationality: A Study of Cultural Conflicts in the Pattern of Global Communication*, China Social Sciences Press, Beijing, China, 2011.

[7] X. Long, *Research on the Development of Urban and Rural Cultural Integration in China during the Transition Period*, Central Translation and Translation Press, Beijing, China, 2019.

[8] C. D. McIlduff, M. Forster, E. Carter et al., "Model of engaging communities collaboratively," *International Journal of Critical Indigenous Studies*, vol. 13, no. 1, pp. 45–69, 2020.

[9] R. Adner, "Match your innovation strategy to your innovation ecosystem," *Harvard Business Review*, vol. 84, no. 4, pp. 98–148, 2006.

[10] V. Bulc, "Innovation ecosystem and tourism," *Academica Turistica-Tourism Innov*, vol. 4, no. 1, pp. 27–34, 2011.

[11] V. Luoma-aho and S. Halonen, "Intangibles and innovation: the role of communication in the innovation ecosystem," *Innov Journalism*, vol. 7, no. 2, pp. 3–20, 2010.

[12] D. Maillat, "Interactions between urban systems and localized productive systems: an approach to endogenous regional development in terms of innovative milieu," *European Planning Studies*, vol. 6, no. 2, pp. 117–129, 1998.

[13] R. Adner and R. Kapoor, "Value creation in innovation ecosystems: how the structure of technological interdependence affects firm performance in new technology generations," *Strategic Management Journal*, vol. 31, no. 3, pp. 306–333, 2010.

[14] V. Luoma-aho and S. Halonen, "Intangibles and innovation: the role of communication in the innovation ecosystem," *Innovation Journalism*, vol. 7, no. 2, pp. 1–19, 2010.

[15] M. Iansiti and R. Levien, "Strategy as ecology," *Harvard Business Review*, vol. 82, no. 3, pp. 68–126, 2004.

[16] L. Mei, T. Zhang, and J. Chen, "Exploring the effects of inter-firm linkages on SMEs' open innovation from an ecosystem perspective: an empirical study of Chinese manufacturing SMEs," *Technological Forecasting and Social Change*, vol. 144, no. 144, pp. 118–128, 2019.

[17] S. Asefi, D. N. Resende, and M. P. C. Amorim, "Modeling a successful innovation ecosystem toward a sustainable community: the I-Reef (a review study)," *Energy Reports*, vol. 6, pp. 593–598, 2020.

[18] L. P. Lengrand, *Innovation Tomorrow, Innovation Policy and There Gulatory Framework: Marking Innovation an Integralist of the Broader Structural Agenda*, DGEN-terprise, St. Louis, MI, USA, 2002.

[19] C. Chou-yong, X. F. Hu, and Q. Zhou, "Analysis on the small-world characteristics of regional technology innovation ecosystem," *Scientific Management Research*, vol. 5, no. 5, pp. 17–20, 2010.

[20] J. Zhang, B. Yu, and C. Lu, "Exploring the effects of innovation ecosystem models on innovative performances of start-ups: the contingent role of open innovation," *Entrepreneurship Research Journal*, vol. 11, 2021.

[21] S. Nambisan and R. A. Baron, "Entrepreneurship in innovation ecosystems: entrepreneurs' self-regulatory processes and their implications for new venture success," *Entrepreneurship: Theory and Practice*, vol. 37, no. 5, pp. 1071–1097, 2013.

[22] S. A. Zahra and S. Nambisan, "Nambisan entrepreneurship in global innovation ecosystems," *AMS Review*, vol. 1, no. 1, pp. 4–17, 2011.

[23] A. Romano, G. Passiante, P. D. Vecchio, and G. Secundo, "The innovation ecosystem as booster for the innovative entrepreneurship in the smart specialisation strategy," *International Journal of Knowledge-Based Development*, vol. 5, no. 3, p. 271, 2014.

[24] E. Autio and W. Thomas, *The Oxford Handbook of Innovation Management*, Oxford Press, London, UK, 2014.

[25] A. Gawer and M. A. Cusumano, "Industry platforms and ecosystem innovation," *Journal of Product Innovation Management*, vol. 31, no. 3, pp. 417–433, 2014.

[26] X. Wu, "Elements composition and operation mechanism of five-fold spiral innovation ecosystem," *Studies on Dialectics of Nature*, no. 6, pp. 156–167, 2015.

[27] D. J. Jackson, *What Is an Innovation Ecosystem*, National Science Foundation, Arlington, TX, USA, 2011.

[28] D. R. Shaw and T. Allen, "Studying innovation ecosystems using ecology theory," *Technological Forecasting and Social Change*, vol. 121, no. 5, pp. 121–134, 2016.

[29] K. Pichler, *Successful Innovation Ecosystem: Critical Traits and Fundamental Dynamics*, Freie University of Bozen-Bolzano, Bozen, Italy, 2015.

[30] G. Russell, K. Still, and J. Huhtamki, "Transforming innovation ecosystems through shared vision and network," in *Proceedings of the Orchestration Triple Helix IX International Conference, Silicon Valley: Global Model of Unique Anomaly*, Stanford, CA, USA, July 2011.

[31] N. Smorodinskaya and M. Russell, "Innovation ecosystems Vs.Innovation systems in terms of collaboration and cocreation of value," in *Proceedings of the 50th Hawaii International Conference on System Sciences*, Waikoloa Village, HI, USA, January 2017.

[32] S. Shihao and Z. Mingwei, *Characteristic Town: A Form of Industrial Spatial Organization*, Zhejiang Social Sciences, Zhejiang, China, 2016.

[33] X. Mengzhou and W. Zuqiang, "The cultivation strategy of characteristic town from the perspective of innovation ecosystem A case study of dream town Journal of Zhejiang provincial School," *Journal of Zhejiang Provincial Party School*, vol. 5, pp. 33–38, 2016.

[34] R. Zhang, "Study on the evolution of Shanghai city innovation ecosystem: in the 3D perspective of element-relation-function," Doctoral Dissertation, East China Normal University, Shanghai, China, 2016.

[35] C. Lundström, "Creating 'international communities' in southern Spain: self-segregation and 'institutional whiteness' in Swedish lifestyle migration," *European Journal of Cultural Studies*, vol. 22, no. 5-6, pp. 799–816, 2019.

[36] C. Ward, S. Bochner, and A. Furnham, *The Psychology of Culture Shock*, Routledge, East Sussex, UK, 2nd edition, 2001.

[37] M. Wu, *Practice of Questionnaire Statistical Analysis*, p. 329, Chongqing University Press, Chongqing, China, 2010.

[38] R. F. DeVellis, *Scale Development Theory and Applications*, Sage Publications, London, UK, 2nd edition, 2003.