Practice and Reflection on the Construction of the First 5G+ Smart Community in Guizhou Province

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Abstract: In recent years, major cities have put forward smart city construction plans. As the basic unit and component module of smart city, the construction of smart community has received extensive attention. With the application of new technologies such as 5G technology in the field of community governance, building a smart community based on 5G network technology can give full play to the role and value of technologies such as big data, artificial intelligence and the Internet of Things. It makes overall planning for various service resources in the community, builds an intelligent operation management platform, builds different types of smart application scenarios, and improves the living standards of community residents. This paper takes the first batch of smart communities in China as an example, analyzes the status quo and existing problems of the construction in Huaguoyuan Community, and explores the specific application of 5G in the construction of smart communities in this Community. Based on this, this paper puts forward some suggestions to improve the construction of urban smart community, such as government-led smart community construction design, improving the construction of Internet infrastructure, strengthening the construction of talent team and broadening the source of funds.

Keywords: Smart Community; 5G+; Digital Governance; Governance Innovation; Huaguoyuan Community

1. Introduction

Community is the "last kilometer" to promote the in-depth development of China's governance capacity modernization, and it is also the "first kilometer" for the government to serve the needs of the people. As an important component of smart city construction, the construction of smart community can improve the intensification and intelligence level of infrastructure. It can reduce the work burden of community organizations and enhance the ability of community service and management; It is beneficial to expand the content and field of community service, to establish a diversified and multi-level community service system, and to promote the modernization of community governance system; It can even promote the transformation of grass-roots governments to service-oriented governments and enhance the efficiency of administrative operation of grass-roots governments.

China's smart community construction continues to deepen innovation and exploration and practice. In 2022, The Ministry of Civil Affairs and other departments issued the Opinions on Further Promoting the Construction of Smart Community, which clarified the overall requirements, key tasks and safeguard measures for the construction of smart communities, and at the same time put forward higher requirements for comprehensively promoting smart governance at the grassroots level. Under the guidance of the national master plan, Guizhou Province has also successively formulated corresponding local policy documents to accelerate the implementation and redeployment of smart community, smart city, 5G network construction and 5G application scenario exploration.

With the arrival of the 5G era, the construction of smart communities lies in the scientific and reasonable use of 5G technology and the improvement of the application mode and system of technology. According to the startup scene, construction scene, traffic scene and governance scene, etc involved in smart community, to ensure the application of 5G technology in the construction of smart

community and improve the application effect and level of 5G technology. Using 5G technology to build a modern smart community environment, to improve the effect and level of community services, and to contribute to the sound development of smart communities.

2. The Connotation and Research Status of Smart Community Construction

2.1 Connotation of Smart Community
In the 1980s, the emergence of such concepts as "community digitization" and "electronic community" triggered the preliminary exploration stage of community intelligent governance [1]. In 1992, the International Center for Communications at the University of San Diego formally introduced the concept of "smart communities" in response to the rapid technological changes and complex socioeconomic challenges of the late 20th century. Based on this, relevant researches at home and abroad have gradually extended from the early digital construction to the level of smart community governance services [2].

In 2014, the concept of smart community was first put forward from the national level in China. In the government document Opinions on In-depth Promotion of the Construction of Smart Community, the concept of smart community is defined as: "Smart communities make full use of new information technology means such as big data, 5G, cloud computing, and artificial intelligence. Integrating various community service resources creates a new form of community governance based on information and intelligent management and services".

It can be seen that the concept elements of smart community are composed of new information technology, information integration, and resident's needs. The new information technology is the necessary condition of community intelligence, so the new information technology is indispensable in the whole process of community operation; The core of the construction of smart community is based on the integration and utilization of all kinds of information resources in the community. The essence of the construction of smart community is the intelligent and information upgrading of the community operation mode. The content of the construction of smart communities, the needs of residents, must be guided by the needs of the masses, what the residents need, focus on what to provide. Therefore, the community is the window of the society, is the people's sense of gain, happiness, security, and the purpose of smart community construction is the community residents need for a better life.

2.2 Huaguoyuan Smart Community
Huaguoyuan community covers an area of more than 6000 hectares and has a permanent population of 500000, accounting for about 8% of the permanent population in Guiyang. The community consists of 22 blocks and more than 300 buildings, with a building area of 18.3 million square meters, including 311 high-rise buildings with an average floor height of more than 40 floors, more than 20000 enterprises and businesses settled in the community, and the peak of population is nearly one million.

Huaguoyuan community is the largest shanty town reconstruction project in China, which is developed and constructed by Honglicheng Group. It is a large urban complex integrating prosperity and beauty, with a total investment of 100billion yuan. The core area of the project covers an area of 320000 square meters and is positioned as the fashionable and fresh dolphin Commercial Plaza in the southwest. At present, the tallest Twin Tower International Shopping Center in China has been completed and put into operation. And there is 160000 square meters of huaguoyuan wetland ecological park, which is also developed and constructed by Honglicheng Group.

Huaguoyuan community is known as the "first great building" in Asia. As the first market in the country, the population of Huaguoyuan community, some small European countries and the population of many county towns in the country, are not as large as the population of Huaguoyuan community, and the degree of congestion is close to Hong Kong. In addition, there are tourist attractions such as the Twin Towers, the tallest building in Guiyang city, the White House, the largest wetland park in the central city. The huge community size and complex community environment make the pressure of people, money and things faced by community governance far exceed that of traditional communities, and scientific, refined and intelligent community governance is

imminent.

2.3 Research Status of Smart Community Construction

Smart city construction is the main direction of community construction at present, and the academic community's understanding of smart city is gradually deepened with the practice and application of smart city construction. The main research contents at this stage focus on the following aspects:

The first is the construction of theoretical analysis framework. Analyzing the construction of smart communities based on the integrated action framework, it is believed that it was necessary to "build an empowering platform with information technology to empower grassroots social governance and activate smart communities" [3]. "In the process of its construction, establish and adhere to the principles of building a smart community people-oriented, supported by science and technology and diversified and win-win" [4].

The second is the construction of theoretical analysis framework. The main research content is Online To Offline (Abbreviated as O2O) service platform, which believes that this model will promote community service to a new service model and make community service information, which is also the development trend of community service model. Hong & Lu studied "Jin My Home" platform——a digital platform for community governance in Jin'an District of Fuzhou, and pointed out that the platform launched customized services for community residents, and developed functions such as "facial recognition", "community life" and "warm walking together" according to the needs of community residents, which effectively mobilized the participation and interaction of community residents, improved the effect of community services and improved resident's satisfaction [5]. At the same time, research related to platform construction also focuses on smart elderly care, believing that smart communities can provide comprehensive and full-time elderly care services for elderly care services with the help of platform construction, and reduce the cost of elderly care, improve service efficiency, and simple and convenient operation. Taking the construction of smart community in Chongqing as the research

object, they proposed the healthy pension model of government-led smart community health, the trinity of community, pension institutions and community hospitals, and the organic combination [6]. Investigating five communities in Qinzhou District and Maiji District of Tianshui City, Yang combined with the actual situation of the local elderly population structure and the lack of pension institutions, the community pension chose to introduce Internet technology, and built a health care service platform to facilitate the local elderly in Tianshui to adopt the semi-automatic pension model at home [7].

The third is the practice and application of smart community construction in various regions. Lv et al. took the development of Shanghai smart community as an example to explore the new model of community supply. They through "focusing on four tasks: information security, platform building, library building and card holding; Establish diversified market financing system; Establish multi-level personnel training and transportation system; Establish a smart community evaluation system" [8]. In the practice of smart community construction in Yuzhong District, Chongqing, Zheng proposed that the construction of smart community should constantly improve smart facilities, improve service functions, improve precision, refinement and precision service level through the extensive application of emerging information technology, build a "smart, convenient, comfortable, green, safe and modern community, and build a new governance model of smart community" [9].

With the development of information technologies such as 5G technology and big data, research on the application of new technologies in smart communities has gradually become the focus of academic research. On the basis of the understanding of 5G technology and smart community, Yang pointed out that the application value of 5G technology in smart community lies in maintaining community public safety, improving the quality of community public services, and improving the control effect of community energy conservation and environmental protection [10]. Li firstly analyzed the necessity of the construction of 5G+ new smart community, secondly, for the construction of new 5G smart community, he

studied the construction opportunities and challenges encountered, and then built the overall plan of 5G+ smart community, focusing on the 5G application scenario of smart community. Finally, he looked forward to the future development trend of smart community. Effectively promote the standardized construction of 5G+ new smart community [11]. Wan explores the exploration and practical experience of building community education demonstration bases jointly by schools, enterprises and society from the three aspects of cooperation mode, base construction and curriculum setting of multi-subject community education bases [12]. At present, there are few researches on the smart community in Guizhou Province. Huaguoyuan Community is the first batch of pilot communities for the construction of smart communities in Guizhou, and its management and service are still in the initial stage. Therefore, it is of great practical significance to put forward countermeasures for the long-term development of Huaguyuan smart community, so as to better promote the digital transformation of smart community governance.

3. Current Situation and Problems of Huaguoyuan Smart Community Construction

3.1 Construction Status of Huaguoyuan Smart Community

3.1.1 Introducing smart devices into the community

Smart facilities are the foundation of digital community construction, and the construction of intelligent street lights, intelligent monitoring, intelligent access control and other facilities as well as information transmission carriers should be promoted in the community to enhance the digital level of community development. Huaguoyuan community expands the collection methods of community data through the Internet, mobile phone base stations, video surveillance, drones and other intelligent facilities, and integrates dynamic data types such as Internet data, mobile terminal data, sensor data into the community basic information platform to improve the perception level of community data. Based on the biological face access control system, residents standing under their own buildings

can quickly open the access control through the face recognition system. At the same time, the information entered by residents is also transmitted in real time to the comprehensive treatment center visualization platform of the residential committee of the Huaguoyuan Sub-district Office.

3.1.2 "Digital smart governance Huaguoyuan" community governance platform

Combined with the actual situation of Huaguoyuan community, Softong Intelligent Technology Co., Ltd. through the model of "big data+urban governance" and leveraging capabilities such as the Internet of things, digital twins, and visual AI assisted analysis, the company has created a multi-dimensional service platform centered on the holographic community brain—"Digital smart governance Huaguoyuan" community governance platform. The platform involves four major capability centers, including data center, IoT center, AI vision center, and intelligent scheduling center, as well as 21 sub systems. It covers the entire scene of smart community construction in areas such as smart fire protection, smart access control, smart security, smart information, and smart commerce, providing conditions for further realizing the modernization of new social governance in Huaguoyuan community, and naturally becoming a new benchmark for the modernization of urban social governance.

3.1.3 "Smart Huaguoyuan" intelligent media platform

"Smart Huaguoyuan" is a smart media platform jointly developed by Broadcasting and Television System and Telecommunications Department. In 2019, Guizhou Mobile Magic Box and IPTV terminal began trial operation of "Smart Huaguoyuan", the purpose of which is to better integrate IPTV into smart technology to serve community residents. On January 1, 2020, Huaguoyuan Community officially launched the customized version of "Smart Huaguoyuan". As a customized TV product for urban communities, it takes the lead in the industry to put forward the concept of urban community smart service. Before the launch of "Smart Huaguoyuan", Guizhou Radio and Television Station has been operating IPTV industry customization business to adapt to the new needs of users in the new media environment. On this basis, broadband

operators use their developed communication technology to develop and launch "Smart Huaguoyuan", to achieve 24-hour uninterrupted broadcast, and relying on the huge user base of radio, television, mobile and telecommunications, users can watch various programs of "Smart Huaguoyuan", as long as they use mobile and telecom broadband, open the TV home page.

3.1.4 Build a "star-rated safe residential Community"

In 2022, Huaguoyuan community was awarded the "Star safe Residential district" of Guiyang City, which created an upgraded version of community governance. Since 2018, the public security, community, neighborhood committee, property and other departments have linked together to install a brushed face access control smart security system in Huaguoyuan community to establish a humanized smart access control system, so that more residents can enjoy the sense of security brought by the intelligent system. In addition, the Huaguoyuan community for safety escort, the original property patrol and volunteers combined with the new patrol, they patrol from 8 p.m. to 8 a.m. the next day 24 hours. The community also advocates quality service: low-carbon fashion. In order to ensure the cleanliness of the community environment, every day, the property staff will clean each floor and arrange the cleaner to wash the road with a water pressure gun. Additionally, the intelligent management platform introduced by Huaguoyuan community integrates multiple functions such as high-definition monitoring, remote control, intelligent analysis, and intelligent identification. On the smart platform, the neighborhood committee will classify the resident population, floating population, key personnel, and special groups into color management, to ensure that the neighborhood Committee can provide more humane elderly care services for the elderly in the area, provide timely care for the empty-nesters, and implement accurate management of key management personnel.

3.1.5 The new practice of "smart fire protection"

In recent years, under the guidance of fire departments at all levels, Hongli City Group has promoted the combination of "physical defense, civil defense and technical defense" with the help of intelligent means such as the Internet of Things and big data, and opened a new practice of "intelligent fire protection" in the community. On the one hand, Huaguoyuan intelligent fire protection monitors all areas around the clock to ensure the safety of owners. Since 2015, Honglicheng Group has invested 80 million yuan to start the construction of Huaguoyuan community, and built a full-time fire brigade with a total area of 3,500 square meters. At the same time, a smart fire command center has been built for unified dispatch. Today, in the Huaguoyuan community, visible red miniature fire trucks can be seen everywhere, and 22 miniature fire stations in the fire equipment room are fully equipped and full-time firefighters are on duty 24 hours a day. On the other hand, the daily training of full-time firemen in Huaguoyuan community is uninterrupted. Millions of smoke and temperature sensing devices, terminal sensors, visual fire monitoring probes, 72 fire control rooms, and a large data center together form "a net" of "intelligent fire protection" in the Huaguoyuan community. Through the Internet of Things, big data and cloud computing center, the fire information of all the buildings under the control of the control room in Huaguoyuan community will be unified to the unified command center platform, and in the event of a fire, it can achieve "minute level" arrival.

3.2 Problems in the Construction of Huaguoyuan Smart Community

3.2.1 Lack of operational funds for smart communities

The construction of smart community requires large investment funds. The construction funds of Huaguoyuan Community come from Hongli City Group. However, the funding source of the community neighborhood committee is the same as that of most grassroots communities, which is mainly allocated by the superior government and distributed by the sub-district office. The improvement of infrastructure equipment and the integration of community resources require sufficient financial support, and the collection and processing of information data is also a complex and arduous task. The lack of sufficient funding sources and investment greatly limits the construction and development of smart communities. Relying solely on funding investment clearly cannot meet the needs of

smart community construction and development. At present, the participation of enterprises, cooperation between the government and enterprises, and the tripartite cooperation mechanism between the government, enterprises and residents need to be further deepened, and the participation of social forces needs to be improved.

3.2.2 Weak implementation of intelligent platform functions

Building a smart community is a systematic project characterized by new technologies that require information integration and coordination. Although emerging technologies such as big data and 5G technology have developed rapidly and played a huge role in real life. However, these technologies still need to go through a long time test in specific practice, especially the core technology of the information platform is not mature enough, the relevant technology needs to continue to improve, and the level of intelligence is low. At present, the construction of community governance platform only meets the needs of a small number of users and enterprises, information technology does not play a prominent role, some functions lack universality, and background support service resources have not been fully utilized. At this stage, the construction of information platform is still unable to meet the growing needs of residents. The "wisdom gap" caused by the "age gap" makes the resident's sense of identity and belonging to the construction of smart community low. The elderly mainly participate in offline cultural and sports activities in the community, while the young groups form online discussion groups or old goods trading groups in the community. There is little overlap between the two groups, so it is still a big problem to realize the common concern and governance of community public affairs [13].

3.2.3 Low participation of community residents

As the largest group in the community, the level of community resident's participation directly affects the practical effect of community governance. Due to the limitation of time, place and other factors, residents in traditional communities have a low degree of participation in community public affairs. while, the emergence of the smart community model has created an online intelligent platform, built a new bridge of communication with community residents, and formed a double-chain participation channel online and offline, breaking the boundaries of time and space. However, it is found that there are still some difficulties in the actual community governance from the real participation of community residents. First of all, most of the residents of Huaguoyuan community are tenants, who have insufficient understanding of the importance and significance of participating in community governance and lack enthusiasm for participating in community governance. They believe that community governance is the business of managers, and they have no time, ability or need to participate in it. Therefore, they rarely participate in the management of community affairs from the standpoint of governance subjects, and do not take the initiative to pay attention to the publicity information of community governance. Secondly, the exclusivity of intelligent information technology itself hinders the participation of some community residents. Some residents who do not use mobile phones, computers and other smart products lack online channels to reflect interest demands and value preferences, which will reduce their sense of identity for community governance.

3.2.4 Lack of professional talents

At present, big data, 5G technology, and Internet technology make the construction of smart communities and grassroots governance more smooth and efficient. However, the lack of professional talent is also difficult to achieve. Community governance and smart community construction both need more high-quality, technical and professional talents to participate. At present, Huaguoyuan community has the problem of large staff mobility, lack of manpower, lack of professional and technical personnel. Because community workers not only have to undertake grass-roots administrative affairs, but also organize and carry out grass-roots community governance work. The high-load work state makes them powerless to the construction and development of smart communities.

4. Application of 5G Technology in the Construction of Huaguoyuan Community

In 2020, Guizhou Province issued the

"Guizhou 5G Development Plan (2020-2022)", which will redeploy and promote 5G development, focusing on deepening the integrated application of 5G in ten fields such as advanced manufacturing and intelligent transportation, fully reflecting Guizhou's characteristics. Guizhou is one of the first 5G pilot areas in the country, and will spare no effort to promote the development of 5G industry, among which Huaguoyuan community is one of the key layout areas to take the lead in 5G construction, and is the first 5G community in Guizhou. The application of 5G new technology in the construction of Huaguoyuan smart community is as follows.

4.1 5G new Technology Support
As a super-large urban complex, Huaguoyuan community has occupied 500,000 people, settled more than 20,000 enterprises and institutions, and has an average daily flow of 1 million people. So there are massive data generated every day, which is itself a "data treasure", and the introduction of 5G new technology will also solve the problem of high-density and high-traffic communication, providing a solid guarantee for the construction of "smart Huaguoyuan". The mobile 5G signal network speed near Huaguoyuan Central Square is between 500M and 700M per second, while the 4G signal network speed in the same place is only 20M, which is more than 25 times faster. If the test is carried out at night when the interference signal is smaller, the 5G network speed in the same location is between 800M and 1G per second, and the peak can even reach 1.2 to 1.4G. In Huaguoyuan Community, citizens can feel the 5G speed through VR, AR and 5G mobile phones.

4.2 5G Base Station Construction
In the context of the 5G era, Honglicheng Group provides rich application scenarios for the construction of Huaguoyuan "smart community". In order to improve the speed of Huaguoyuan's network, in 2019, Hongli City Group has signed strategic cooperation agreements with China's three major telecom operators (China Unicom, China Mobile and China Telecom) to set up 5G experience stores through new 5G base stations. Setting up 5G experience stores and continuing to increase

the construction of Huaguoyuan smart community in communication services, Internet of things, Internet and big data applications. The three major telecom operators are expected to strengthen the layout in Huaguoyuan community, build more than 1,800 5G stations, comprehensively coordinate the construction of 5G network. In order to promote the deep integration of 5G applications and various fields of economy and society, and create new advantages in regional development with the new achievements of 5G development. In 2021, 318 5G macro station base stations and 338 5G indoor distribution base stations has been built in Huaguoyuan community, and at present, the 5G coverage rate of community has reached 95%. So "Huaguoyuan community is a complete ecosystem community, the construction of 5G base stations and the use of 5G applications in Huaguoyuan community can create a benchmark for 5G application in the community, and make a practical case for the promotion of 5G".

4.3 Smart Access Control System
Smart community is built on the basis of modern intelligent means such as big data, 5G technology, and the Internet of Things, which promote the improvement of community governance efficiency at the technical level and achieve community "smart governance".Because the "smart access control" system launched by Huaguoyuan Smart community, "Intelligent" community management is more refined and problems of difficult management in the community has effectively solved. Intelligent access control links the big data platform of Huaguoyuan community, carries out identity identification, effectively maintains the privacy of the residents, and realizes the function of safe living. In addition to residents's "facial recognition" in and out, their vehicles can also enjoy convenient services of "their front facial recognition" in and out of the parking lot.

4.4 Smart Community Service Platform
Today, face payment, face withdrawal, non-inductive parking, fingerprint borrowing, face recognition door opening and other scenes can be seen everywhere in Huaguoyuan community, and many of which advanced scientific and technological achievements are

applied for the first time in Guiyang. In particular, the"Building finance benefits everyone" in Huaguoyuan smart community cloud platform gathers resources from all sides and integrates into all aspects of the owner's daily life, covering smart property, life services, shopping consumption, neighborhood social life scenes, and provides a full range of services such as food, housing, transportation, travel, shopping, entertainment and so on. At present, the four major sections of the smart community cloud platform have launched more than 30 sub-functions, providing more than 70 services, improving the efficiency of community services and the quality of life of residents. 5G technology can also build other service platforms in the smart community. For example, Huaguoyuan smart community health service platform "Smart Family Doctor" is a smart community health service platform based on 5G technology. In order to reduce the number of patients running to the hospital, the second health community service center intelligent navigator in Huaguoyuan community help patients to quickly find the consulting room. By scanning the two-dimensional code of the code center, patients can realize the functions of booking, registration, payment, and viewing the test results on the mobile phone, and the whole process is paperless. This improves the service quality and level of the smart community and provides guarantee for the current situation of community medical services.

4.5 Garden "Smart" Property Services

In addition to providing building "housekeeper" for each building in the area, the property in Huaguoyuan community has successively launched "Macro housekeeper" and "Macro e Home" two apps to open up the internal port of the property and the port barrier for owners. "Macro housekeeper" APP integrates information collection, property repair, work order processing and daily work functions. "Macro e Home" APP Developed specifically for residents, the APP includes functions such as reporting for repairs, shopping mall points and Hongyue Hui community activities, and can also meet the needs of owners to pay utilities, parking fees, and property fees, witch provides great convenience for residents.

5. Strategies for Sustainable Development of Huaguoyuan Smart Community

5.1 Government-led and Multi-parts Cooperation

In May 2014, the Ministry of Housing and Urban-Rural Development issued the Guidelines for the Construction of Smart Communities (Trial), which put forward relevant guidelines for the construction of smart communities. It believes that the government should play a leading role in the construction of a government-led smart community service information system and make unified planning. And, the construction of smart community should adopt the operation mode of "government-led, community-subject and market operation", that is, the government is led, the market is involved, and the community and residents actively participate in playing their respective roles. Then, the community neighborhood committee takes the lead in achieving linkage and coordinated development with various service merchants. In the design of smart community construction, the government should focus on the needs of the government, neighborhood committees, property companies, market service enterprises and residents, set the overall goal of smart community construction, and establish a comprehensive information service platform for smart community construction to coordinate resources, funds and talents. Secondly, according to the needs of residents, community neighborhood committees, property service enterprises, business enterprises, elderly care institutions, medical institutions, etc. participate in the construction and management of smart communities.

5.2 Expand the Channels for Raising Funds

Building smart community is a systematic project based on abundant human, material and financial resources. The construction of smart communities is highly dependent on capital, which not only requires a large amount of investment in the first phase, but also needs to provide a large amount of funds for operation and maintenance after the construction work is completed [14]. Therefore, the investment of construction funds can not rely on a single enterprise investment or government allocation. In the

construction of smart communities, the government should not allow the government, enterprises or the market to take full control. The government should guide the market to play an active role, enhance the role of the market in resource allocation and coordination, actively expand financing channels, and innovate investment and financing models. In the construction and operation of smart community projects, all kinds of social capital are encouraged to join and deeply integrate, and a sample project of the construction of smart community in Huaguoyuan smart community is created, So that every resident can enjoy the fruits of smart community construction.

5.3 Cultivate Intelligent Talents

The staff of the smart community should not only do a good job in the daily management and service of the community, but also handle the public affairs in the smart community platform, which puts forward higher requirements for the overall quality of the community staff. On the basis of doing a good job in the basic service of the community, they must also master certain information technology knowledge and learn the use and maintenance of various intelligent equipment, which is essential to improve the level of community service. Therefore, strengthen the construction of operation team, strengthen the construction of community governance team, and improve the governance capacity of smart communities. Community governance team building should be the starting point, increase the publicity of smart communities and information platforms, enhance resident's sense of belonging and understanding of project construction, and strengthen governance effectiveness [15]. In addition, strengthen the salary guarantee of community grass-roots staff, increase the training of community staff, and strengthen their knowledge level, operational skills, and data security awareness.

5.4 Guide Resident's Participation Actively

The construction of smart community requires not only professional and technical personnel, management personnel and community workers to strengthen their own construction, but also the active and active participation of residents. The two sides jointly create a good intellectual and cultural environment, so that residents can obtain both physical and mental pleasure. In community governance, digital platforms participate in the construction of smart communities, so that community residents can develop the habit of participating in governance. The community can release the process or guidance of public participation in community-related affairs through its own community service platform, wechat public account or short video platform. Or the community management can assign a number of community workers to guide the community public to actively participate in the community governance work through the form of training lectures, door-to-door lectures, and the issuance of leaflets.

5.5 Enhance Data Security Awareness

With the promotion of smart community construction, the introduction of new technologies and smart devices, community resident's personal information: identity card information, human biometric information, household registration information, real estate information, vehicle information, video surveillance data and other massive data collection, followed by data security risks. It can be seen that data security is an important issue facing the smart community. The smart community collects a large amount of resident data through various sensors and devices, such as household consumption, resident's travel, social information and other data contains resident's personal privacy information, if the data is leaked or abused, it will have a serious impact on resident's lives. Therefore, the smart community must strengthen security protection measures in the process of data collection and transmission. Community management should adhere to people-oriented services, scientific management, intelligent perception, the use of various information tools to obtain and track the demand information of residents, real-time monitoring of the dynamic status of demand services, in order to provide excellent administrative services, enhance public confidence, and actively improve the intelligence of information platforms.

6. Conclusion and Reflection

Throughout the present, the construction of smart community is the trend of development and management. The construction of

Huaguoyuan smart community is still in its infancy, and a mature development model has not yet been explored. Although 5G technology is applied in various fields of resident's lives in Huaguoyuan Smart Community, further adjustments and improvements in construction planning are needed.

In view of the current problems in the construction of Huaguoyuan smart community, it is proposed that the government should take the lead, all parties should coordinate development, fund raising, intelligent personnel training, resident's participation, data security and other aspects. It is expected to help the Huaguoyuan smart community to better connect the virtual community created by information technology with the regional entity community. It can avoid risks, ensure data security, and promote the interactive impact of the two communities, which is also a new way to walk out of the modern model of smart community governance.

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