

# Social Management Practices of Grid Communities Turning to Intelligent Communities

Based on the Investigation of Fengning Sub-district Office in Kunming

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**Abstract**—With the quiet rise of intelligent communities, many traditional urban communities have begun to carry out transformational practices. The practice of Fengning sub-district office in Kunming is a typical example of western China. This paper attempts to explore the intelligent community of Fengning Street. The construction process includes the transformation analysis of Fengning Street community and the construction of intelligent community system, and proposes corresponding improvement suggestions.

**Keywords**—community; intelligent; grid; service system

## I. INTRODUCTION

With the continuous progress and development of human society, people pay more attention to the quality of living environment, the harmony of neighborhoods, and the further improvement of the demand and intelligentization of community infrastructure. The convenience, intelligence and informationization of residents have become the core of quality of urban construction. Meeting the diversified and individualized needs of urban residents has become an important factor. The community plays a key role in the growing needs of urban citizens, and it also makes the construction of smart communities become an irreversible historical trend in today's urban development.

In his report at the Third Session of the 12th National People's Congress on March 15, 2015, Premier Li Keqiang spoke of the concept of popularizing Internet application for the first time when he talked about urban construction, and pointed out that on the basis of inheriting traditional culture, it would be of great significance to move towards the goal of an intelligent city and increasing the construction of public infrastructure, and this is the first time that an intelligent city has been written into a government work report at the national level. As a national strategy, "National New Urbanization Planning" regards smart cities as a new model of urban development. With the deep practice and exploration of the "Internet +" strategy, Internet models such as "Internet + public services", "Internet + city management", and "Internet + Infrastructure" have accelerated everywhere and are rapidly emerging. This paper revolves around the grid management of communities in Fengning sub-district region, the cognitive status of smart community residents, the current situation and existing problems in the exploration

and practice of intelligent and informationized communities in the management mode, so as to build from infrastructure and intelligence. On the basis of the carrier equipment, data collection and integration, the community planning, management and service technology system interoperability and integration, it can establish a community integrated management service information platform that can be connected to the intelligent city management. Based on the theory of urban geography, from the perspective of grid community management, the informationization and intelligence of community management will be realized. In addition, it will be necessary to provide dynamic and refined services for community residents, and propose solutions and suggestions for problems in the process of building and constructing intelligent systems for community management and services.

## II. THE NECESSITY OF MOVING FROM GRID MANAGEMENT TO INTELLIGENT COMMUNITY CONSTRUCTION

In response to the trend of social development, the relevant ministries and commissions of the CPC Central Committee and the State Council jointly proposed in December 2016 that in the "Urban and Rural Community Service System Construction Plan 2016-2020". It is proposed to promote the construction of urban and rural community comprehensive service facilities, to achieve full coverage of the implementation of community comprehensive service infrastructure by 2020, to strengthen the construction of urban and rural community service institutions, to expand the effective supply of community service people, to improve the urban community service network, and to promote the promotion and construction of the talent team and the multi-task of the service urban and rural communities. In June 2017, the document of the Central Committee of the Communist Party of China issued the "Opinions on Strengthening and Improving Urban and Rural Community Governance" pointed out that by 2020, the basic leadership of grassroots party organizations and the participation of grassroots governments and the joint management of urban and rural structural systems will be basically formed, the capacity of urban and rural community governance will be significantly improved, and the public service capacity, public management, and public safety of urban and rural

communities will be guaranteed. It is necessary to improve the community information network infrastructure, further improve the technical level, and strengthen the construction of community information service self-service terminals, community information kiosks and other public information service facilities and community information service stations. Taking the "Internet + Government Affairs" project construction as an opportunity, a comprehensive information service platform for community work will be built and a "one-stop" service model in community service will be achieved. It will also be very important to implement the "Internet + Community" implementation plan, make full use of new media forms such as WeChat, Weibo and QQ to guide community residents to participate in public social affairs, daily interactions, conduct residents' self-government consultation activities, organize interaction and mutual assistance between neighbors, and explore a new model of the effective governance of smart communities and improving service quality under the social governance innovation model. The community e-commerce should be actively explored and developed. It will be a necessary task to explore the classification and grading of smart city construction ideas, build a complete information service platform on the ground, design a network mobile client for information platform, and realize the interaction of community service projects, resources and information, multiple projects in one platform, and synchronization of multi-terminals.

Various conditions for implementing grid management of intelligent cities are basically available. The grid management of "Ten-thousand-meter Grid" originated from Beijing and other cities has broken the traditional urban community management mode of traditional, fragmented and non-systematic structure, realized the transformation from departmental and multi-head management to comprehensive management and innovation, and improved the efficiency of community management operations and the quality of services to a certain extent. Grid management integrates community resources, strengthens the functions of community management community workers, improves the network of grassroots services and management, builds a new type of community management service mechanism, promotes the harmonious development of society; it also implements integrated management, establishes and improves the corresponding working mechanism, and implements the "segmented package" management model, to achieve the goal of community management grid, the implementation of "people, responsibilities, tasks" three. And it has become one of the important means of grassroots social governance in China. Therefore, the intelligent community should make full use of the community management and service model platform of grid management to realize the transformation of the traditional mode of grid management to the intelligent and information service. The service subject is transformed from the community management service to the community residents so that it can form a social multi-subject interaction model with residents as the core, government and community services as the main body, and third-party social services. Through the integration of various monitoring and

supervising and the service devices installed in the community, as well as the integration of information such as mobile communication mobile clients and location-aware devices of residents, the data is dynamically perceived at all levels of the community. Relying on the division of the community grid, the micro-detection and management of each grid is realized in the community. Scientific planning of equipment layout and management of community grid management is more conducive to rationality and targeted services.

The intelligent community relies on a unified digital platform and the effective use of urban management. The city management jurisdiction is divided into a number of cells according to certain standards. Then the events in each cell are managed in an integrated manner, and a management form in which supervision and disposal are separated is established. China's urbanization process has now entered a period of climax. The innovative methods of urban management in China have gradually emerged and matured. The technicalization of government management and governance, the construction of digital cities and the intersection of urban management systems have brought together a new wave of "grid and information" management. However, while the grid management has not been fully rolled out, the construction of an intelligent community that fully integrates with the Internet has come into being, opening a new wave of community management and intelligent service methods. Therefore, in the future management and service of smart communities, it is necessary to make full use of the good foundation laid out by grid management, and to make good use of new information networks and digital platforms to overcome the drawbacks of grid management mode. Through the establishment of smart community management and service technology standardization, it will be important to make full use of the Internet of things, cloud computing, mobile Internet, information intelligent monitoring, data-push and other intelligent terminals, to make the management and service of the community change from static management to dynamic management, and truly realize the intelligent management mode.

### III. ANALYSIS OF THE STATUS QUO OF GRID MANAGEMENT AND SERVICE IN FENGNING STREET

In 2014, Fengning Street, in accordance with the grid management requirements of "grid, normalization, informationization and globalization", comprehensively built and implemented "grid management and paired service" in the communities in the jurisdiction, and focused on serving the residents. Based on the distribution of community area, population distribution, production and living habits, road setting, personnel composition, and floating population, the jurisdiction is divided into 21 grids based on street, community distribution, community building, and family driver responsibility area to realize management seamless coverage, and promote the grid management mode of "one grid, three grids, one grid and three members", which the street leaders are the first-level grid supervisor, the community secretary and director as the secondary

responsibility network coordinator, and the grid information officer is the third-level responsible person. The sub-strict office also carried out pair-to-type service and order-based service. At the same time, on the basis of deepening the "84501" civil registration mechanism and the cadre direct contact with the long-term mechanism for serving the masses, it also established a joint conference system of "grid management and paired service", and smoothly contacted service channels to do a good job in the work of the masses.

In the period of creating a national civilized city in 2017, in order to boost urban management to a new level, it is necessary to further stringent grid management requirements, and detail the discovery, coordination, supervision, data communication and exchange of problems in urban management to provide strong support for the work of building Kunming as one of the national civilized cities. On the basis of grid management, Fengning Street has formulated the "Division Map and Grid Responsibility for Sinking Grids of District-level Units and Streets", with the aim of more detailed and responsible, and promotes the rapid and steady advancement of "three in place", to make the grid supervisors fit in. A total of more than 150 volunteer supervisors dressed in "Kunming Wuhua Civilized Volunteers" green clothing, assigned to each grid, to inspect, process and report on the environment, traffic and uncivilized behaviors of urban grids.

#### A. The Foundation of Grid Management Stepping into a Intelligent Community

From a macro perspective, the Kunming municipal government has deepened the construction of community hardware infrastructure, and actively introduced the construction and promotion of shared bicycles, smart parking, smart urban management service centers, etc., while leading commercial hardware facilities and commercialized smart communities to deep into jurisdictions such as Guoan community uses the Internet, big data and cloud computing and other innovative technologies to create a convenient, high-quality online and offline life experience model that integrates community life, community shopping malls, community interaction, community government services, community information management and services with community-based properties that provide residents with community-based residents. From the microscopic point of view, eight communities in the district of Fengning Sub-district have established grid management and formed a unique community grid management model. Through the establishment of gridding, a database of residents and vulnerable groups was collected. Based on the database, the pilot projects of Huangtupo Community Children's Home Construction, Hongshan Middle Road Community Mutual Aid Pilot Project, Hongshan South Road Community Care for the Elderly, and Kunjian Road Community Comprehensive Stability and Grid Service Management Demonstration Project were built and have achieved remarkable results, which is conducive to the construction of intelligent big data system platforms and the development of specific work. The grid management model is a traditional human-centered model, which relies mainly on human

resources. However, intelligent cities rely on advanced technologies such as the Internet of Things, the Internet, and sensor networks to effectively save material, financial, and human resources. Since the intelligent community needs high capital investment, the source of community funds is single, and the government's allocation alone will lead to a slow progress in the promotion and construction of intelligent communities.

#### B. The Status Quo of Residents' Perception of Intelligent Communities

1) *Basic situation of the respondent*: The survey was based on residents of the district of Fengning Street. The survey population is extensive, including senior professional and technical personnel, junior professional technicians, office workers, skilled workers, unskilled workers, administrators, service personnel, military personnel, drivers, athletes/artists, students, farmers and other personnel in total of 13 classes. A total of 265 questionnaires were distributed and 265 were collected. The following is a description of the basic situation of the residents surveyed from three aspects: gender, age and education background.

TABLE I. BASIC INFORMATION OF THE RESPONDENTS (N=265)

	Project	Frequency	Composition ratio (%)
<b>Gender</b>	Male	106	40
	Female	159	60
<b>Age</b>	Less than 20	36	13.58
	20-30	188	70.94
	30-40	22	8.3
	40-50	13	4.92
	More than 50	6	2.26
<b>Education background</b>	Junior high school and below	16	6.04
	High school/technical secondary school	23	8.68
	Junior college	19	7.17
	Bachelor degree or above	207	78.11

From the perspective of gender (see "Table I"), among the 265 community residents surveyed, 159 are women, accounting for 60% of the total number, and 106 are men, accounting for 40% of the total. From the age point of view, 36 people are under the age of 20, accounting for 13.58%; 188 people are between the ages of 20-30, accounting for 70.94; 22 people are between 30-40 years old, accounting for 8.3%; 13 people are 40-50 years old, accounting for 4.92%; and 6 people are over 50 years old, accounting for 2.26% of the total number. Among them, 16 people only have junior high school education or below, accounting for 6.04% of the total number; 23 people have high school/college degree, accounting for 8.68%; 19 people have the degree of junior college, accounting for 7.17%; and 207 people have bachelor degree or above, accounting for 78.11%. From the basic situation of the respondents, the gender ratio is reasonable, the occupation type is diverse, and the education level is diverse.

## 2) Survey status of intelligent community awareness:

From the point of view of whether the respondents have heard of "smarter planet, smart city, intelligent community" (see "Table II"), there are 165 people, 62.26% of the total number of residents said that they have heard of it, and 37.74% of residents said that they never heard about it. From the understanding of the concepts of "smarter planet, smart city, intelligent community", there are 136 people, accounting for 51.32% of the total number of residents, indicating that the work has nothing to do with the field, and they don't know the basic concept; followed by 97 people, accounting for 36.6% of the total number of residents said that the work has nothing to do with the field, but they know the basic concept; while there are 32 people who work in related fields and know the basic concepts, accounting for 12.08% of the total number. The data shows that only 48.68% of the residents in the jurisdiction know or partially know the concept of "smarter planet, smart city, intelligent community". It can also be seen from the above data that residents' overall awareness and understanding of the use of wisdom is relatively low. The reason for this phenomenon may be due to the information asymmetry caused by the government's propaganda faults for intelligent use. It may also be that the intelligent application of technology and development has not aroused the attention of enterprises, resulting in a relatively low level of participation. Therefore, as a government, it should play the role of the main responsibility of propaganda and communication that is intelligently used, keep pace with the times, conform to the trend of the times, and transform the way of government service. It is necessary to actively introduce third-party institutions to participate in the intelligent construction, from a single-subject government management to a diversified entity to jointly govern and change. The government will lead the "side-by-side" promotion, and the government and the community will do a good job of cognition and publicity to raise the awareness of residents, and the company will be responsible for the implementation of specific projects.

community are expected to be diverse and extensive, and may be more relevant than the environment in which the individual is located. The highest is the basic intelligent security system in the family housing, such as the intrusion alarm of doors and windows, the automatic detection of fire alarms, etc., can realize the family has intelligent gateway, realize the Internet access and intelligent control of household appliances, and realize the intelligentization of electricity meters, water meters and gas meters. The smart projects accounted for 32.45%, 32.08% and 31.70% respectively. Secondly, it is expected that the residential community will cover the LAN or wireless network system, the community can have intelligent parking or parking management system, the community or building has a video surveillance system, and there are intrusion detection systems and intelligent calling systems, such as medical assistance systems. The relatively low is expected to have access control systems for communities or buildings and private projects with communities' own private websites, accounting for 18.87% and 18.49% respectively.

From the above data, it can be concluded that with the development of the economy and the continuous improvement of living standards, the needs of residents are also diversified and diversified. People's needs are mainly to expect life to be safer and more convenient, such as household appliances and living basic energy and carriers such as electricity meters, water meters, gas, and safety protection systems. On this basis, it is hoped to realize intelligent calling systems such as home shopping, LAN coverage, medical assistance, etc., and look forward to more comprehensive intelligent system services. As the coordinator and implementer of the intelligent community, the government and community "two foundations" must rationally set up intelligent community service platform projects according to the needs of community residents, and truly realize the benefits for the community residents and the benefits for the community residents.

TABLE II. COGNITION OF SMARTER PLANET, SMART CITY, AND INTELLIGENT COMMUNITY

Survey project	Sample	Awareness rate (%)
The situation of residents' awareness	165	62.62
Work in related field and know basic concepts	32	12.08
Work in non-related field but know basic concepts	97	36.6
Work in non-related field and barely know basic concepts	136	51.32

From the specific performance and needs of the surveyed objects to the intelligent community (see "Table III"), the demand and specific performance of the intelligent



TABLE III. THE SPECIFIC PERFORMANCE AND NEEDS OF THE INTELLIGENT COMMUNITY IN RESIDENTS' OPINION (MULTIPLE CHOICES)

Project	Frequency	Composition ratio (%)
(1) Community or building access control system	50	18.87%
(2) Smart parking/parking management system in the community	67	25.28%
(3) Having a LAN or wireless network system that covers a cell	71	26.79%
(4) Electricity meters, water meters, gas meters having achieved intelligent	84	31.70%
(5) There is video monitoring system in the community or building, and intrusion detection system around it	65	24.53%
(6) There are basic intelligent security protection systems in the home, such as intrusion alarm of doors and Windows, automatic fire detection and so on	86	32.45%
(7) In the community or home it can be conveniently complete shopping, online banking and other basic operations through the Internet	64	24.15%
(8) The home has the intelligent gateway, realizes the household electrical appliances to surf the Internet and the intelligent control	85	32.08%
(9) There are intelligent calling systems, such as medical assistance systems	65	24.53%
(10) The community has its own electronic social network, network information publishing platform, such as WeChat group, community blog, etc.	49	18.49%
(11) Others, please specify:	17	6.42%

From the point of view of whether the residents are willing to live in an "intelligent community" when they move to a new home (see "Fig. 1"), there are 127 people who are very willing to do so, and the proportion is 47.92% among all the people. 40% said they are basically willing and the total number of people is reached 106 people. 10.57% of the people made an ambiguous answer, which said that it does not matter, and 1.51% of people made a negative answer, a total of only four people. From the point of view of whether or not to support the payment of property fees, there are 244 people who are willing to accept the property fees if

the fee is in tolerance range, accounting for 92.08% of the total number. Only 21 people are unwilling, accounting for 7.92% of the total. It can be seen from the above data that the construction and exploration of the intelligent community corresponds to the needs of the community residents. The construction of the entry point for daily life, clothing, food and shelter has improved the residents' satisfaction with the construction of intelligent communities. It is where the vitality is of the exploration and practice of the intelligent community.

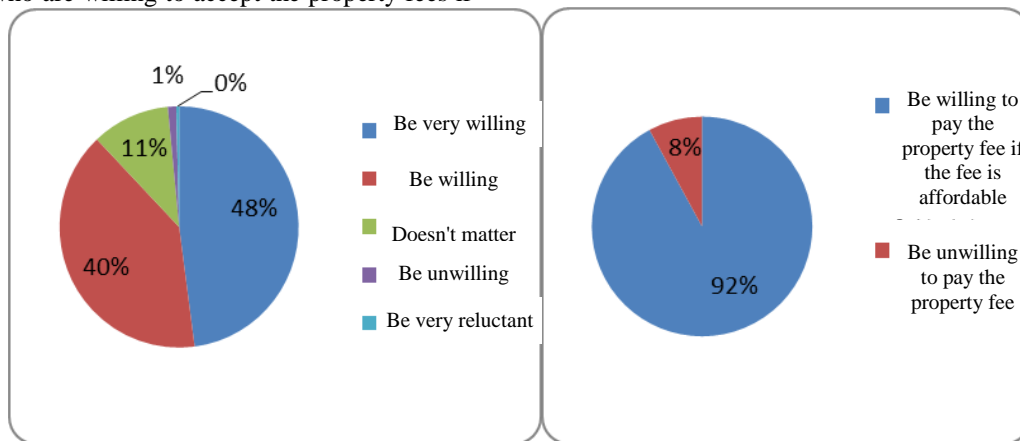


Fig. 1. Willingness to live in an intelligent community and support for payment of property fees.

From the concerns of the intelligent community information system (see "Table IV"), 68.30% of the community residents believe that the most important thing is that the performance of the system should be stable and can respond in real time. 60.38% of the community residents think that the system should be safe and reliable. It can prevent virus attacks and protect privacy. 46.42% of the community residents think that the system interface is sensitive and easy to operate. 44.91% of the community residents think that the system should be able to meet the

office needs well. From the data analysis, community residents hope that the platform construction will be more standardized. The most important thing is that the system should have strong stability and availability. Then, it is hoped that the platform construction will have strong security and avoid illegal access, illegal use of network resources and illegal control. That is to say, the government needs to implement the principle of "unified planning, unified standards, overall arrangement, and mutual support" in construction, so that the near-term goals can be combined

with long-term goals. At the same time, due to the openness and interconnectivity of the system, it is vulnerable to the invasion of illegal personnel, hackers and viruses, and the security protection system must be analyzed and established from the perspective of security management system.

TABLE IV. CONCERNS ABOUT THE INTELLIGENT COMMUNITY INFORMATION SYSTEM (MULTIPLE CHOICES)

Project	Frequency	Composition ratio (%)
The system functions cannot meet the office requirements well	119	44.91%
The system interface is not friendly and easy to operate	123	46.42%
The system is not stable enough to respond in real time	181	68.30%
The system security is not reliable, and it will encounter virus attack or privacy disclosure	160	60.38%

According to the data analysis of this survey, the residents of Fengning sub-district have a low understanding of the connotation and concept of "intelligent community", but the residents have higher expectations for the intelligent community. The most important ones are basic intelligent safety protection system systems such as door and window intrusion alarms and automatic fire detection in family houses, as well as electric meters, water meters, gas meters, etc., which can realize intelligent meter reading. The system of the intelligent community information integration platform can be stable, security is higher, and personal privacy can be effectively protected. On the contrary, the community has a public social network platform, the community or building access control system and other similar services and the intelligent community information integrated service platform can meet the needs of office. Expectations of ease of operation are lower. It can be seen that the residents' privacy and life convenience in the life of the intelligent community is more important. Therefore, the top-level design of the platform for the construction of intelligent community information comprehensive service platform by streets and communities should be more scientific and reasonable, establishing people-oriented ideas, clarifying the direction and construction focus of platform construction, and paying attention to the living needs of residents. At the same time, the construction should be more standardized to make the establishment of the system security and data security protection system available.

#### IV. THE SYSTEM CONSTRUCTION OF THE INTELLIGENT COMMUNITY IN FENGNING SUB-DISTRICT OFFICE

Introducing the modern and new intelligent community management model into the community management of Fengning Street, it requires seeking truth from facts and analyzing according to the actual situation of different regions and different community foundations. To this end, according to the economic development degree and information base of different communities, it will be necessary to follow the principle of voluntariness and

adaptation, and explore a specific introduction mode that adapts to different community types and has characteristics. The following modes can be considered for adoption.

##### A. Construction Path of Intelligent Communities

The intelligent community is an inevitable outcome of the information age. With the advancement of smart city construction, the construction boom of intelligent communities has been formed. The level of intelligence has also been rapidly developed with the continuous improvement of computer technology, communication technology, automatic control technology and graphic display technology. As the city's cell and the smallest construction demonstration unit, management and service are its core direction. As the community's main body status is gradually gaining attention, community residents begin to pay attention to the quality of life in communities with different environments.

The construction of a smart community should also be based on human beings, strengthen communication between communities and residents, realize that residents really enjoy the right to know, supervise, and participate, promote the process of grassroots democracy construction, and give full play to the effective role of the community's mass autonomy system. Relying on grid construction, around the dynamic planning of the community, through the perception of smart devices such as mobile phones, the integration and aggregation of multi-network data, it can promote the effective integration of government departments, communities, industry information and regional information at all levels to achieve scientific decision-making. The dissemination of multi-platform information, eliminates information silos, promotes information sharing, and maximizes the effectiveness of information. It will also be important to improve the infrastructure construction of intelligent communities, improve environmental detection technologies, and achieve smart management of smart communities. And through the introduction of international standard indicators and systems for the evaluation and feedback of intelligent community management and service levels, it can constantly improve the level of community management services.

##### B. Realization of Intelligent Communities

1) *The goal of an intelligent community*: Through the construction of the intelligent service platform, the large and cumbersome data volume will be integrated to realize the grid management of the grassroots government, promote the communication and communication of the community residents, and build a harmonious community. First is to improve people's livelihood, improve the community's security mechanism, strengthen community convenience services, eliminate conflicts, achieve social harmony and stability, and build a harmonious community. The second is to strengthen the communication between the community and the residents in the area, improve the self-control ability of the community and promote the democratic construction at the grassroots level, and truly realize the residents' right

to know, to participate and to supervise. The third is to promote the integration of information at all levels of government, community, industry and other regional communities, and promote information sharing to support scientific decision-making. The fourth is to promote the efficiency of the work through the construction of the community wisdom platform, organizing the activities of propaganda and informationization, informatization of community work, and reducing the burden of community workers' statistics.

2) *Principles of construction*: It will be of great significance to integrate diversified information on people's livelihood, smart government, health care, property management, smart business and other related aspects to establish a systematic, holistic and comprehensive engineering project to ensure the healthy, healthy and orderly development of the intelligent community. First of all, the government should play a leading role. The intelligent community belongs to the construction project of multi-disciplinary and technology integration and diversified entities. It requires the guidance and support of all levels of government, as well as formulating unified goals and plans for coordinated promotion, and planning and integrating surrounding participants in intelligent community projects; secondly, it will also be necessary to integrate the community service resources to the maximum extent, optimize the configuration, realize the sharing of resources and maximize the use, and break the information island; then, it should be scientifically designed and carried out step by step. it will be important to extensively carry out research and demonstration, clear objectives, select regional pilots, promote after successful, move on step by step, and advance steadily; finally, it is necessary to adapt to local conditions, highlight the characteristics, and proceed from the most urgent, most concerned and direct needs of the residents, and create a distinctive community service model integrating people's livelihood, government affairs, community, family and business.

3) *Overall framework*: The overall framework of the intelligent community is based on the diversified use of diversified entities such as smart community residents, governments, property companies, families, and businesses, to build a "one core, one foundation" system based on advanced, reliable, secure and open platform, and build a smart city community information service platform with government services, family services, public services and other basic services. And with this platform, it can provide thoughtful and meticulous public services to relevant departments, covering common areas including public services, convenience services, business services, family convenience, and community management.

4) *Information infrastructure*: The network is an important part of building an intelligent community. Therefore, any equipment involved in the construction of an intelligent community must be connected to the network.

The leading government and community that develop intelligent communities in each region should use the level of smart community service and universal service capabilities. The overall planning is based on quality and meeting the basic requirements of residents for communication quality and service, and the construction of information infrastructure is carried out based on technical means of communication operations. The first is to realize the full coverage of the local area network in the regional service centers such as the Life Service Center, the Social Affairs Reception Center, the Cultural Activity Center, and the Health Service Center. Secondly, based on the urban public information platform and the public basic database, various systems such as data exchange and shared operation terminals are used to specifically publish and push public service information. For example: IP TV screen, mobile phone screen, PC computer screen, outdoor screen and other carriers for display.

5) *Construction of technology and platform*: Standardized platform construction is an important means to promote intelligent community management, and it is also an important measure to ensure that the intelligent community model is standardized and normalized. In order to ensure the high quality and efficiency of the construction of smart community management, it is necessary to establish a standard system for smart community management under the protection and support of laws, regulations, industry standards and technical specifications. The construction of the intelligent community information platform is to use the system integration method to build the network infrastructure, application and database three systems according to the unified technical architecture, unified technical specifications, unified data planning, unified identity authentication, and unified user management "five unified" principles. According to the construction principle of "level protection, comprehensive prevention, sub-domain protection, and overall safety", based on the requirements of system security protection and maintenance, the security platform is divided into information platforms, and comprehensive prevention mechanisms are established from the aspects of network, data, system, operation, and operating environment to ensure the security of the intelligent community information platform.

6) *Management and service*: It will be necessary to establish an "intelligent people's livelihood" service system, provide convenience services through the information network according to the service content required by community residents, so that community residents can learn more about the life, service information, and anytime, anywhere inquiry and consultation service information without leaving the household. For example, residents can timely understand the information through announcements, timely understand the information such as public transportation, weather, zip code, express delivery, etc.

Through the community service function, residents can timely understand the service announcement, service process and legal service. Through the questionnaire survey function, residents can fill in the questionnaire and statistics in time.

"Smart Government" is oriented to the "two foundations" of community neighborhood committees and street offices, to realize real-time updating and sharing with "information management" as the core, and make street and community management more standardized, thus improving the efficiency of street and community work. Based on the entry, maintenance, inquiries, statistics, etc. of resident basic information, the first is to realize the management of the basic data of the family planning including women and child care; the second is to realize the management of preschool management, nine-year obligation management, education and other cultural and educational aspects; the third is to achieve party building management, accelerate the work process of "Internet + party building", actively promote the construction of online party branches, comprehensive service platforms, grassroots electronic accounts, and strengthen the construction of virtual networks for organizational systems; fourth is to realize the basic information management of the civil society, such as the elderly, the weak, the disabled, the poor, the elderly, the migrants, and the important clues; the fifth is to realize the labor security management, including the employment management of the employed population, the reemployment management of the unemployed and retirees management, etc.

"Intelligent Community" is a platform set up for community property management in community jurisdictions, providing "property management" as a key service to create a safe, comfortable and convenient intelligent and informationized living environment, thus winning the satisfaction and recognition of community residents. One way is to combine with the characteristics of intelligent community through the construction of community information platform, and integrate community property system, such as: vehicle management, access control security system, intelligent consumption, elevator management, intelligent living services, closed-circuit monitoring management and other related community property intelligence management, to achieve the integration of their respective independent use of subsystems, and centralize the operation management. It can imitate the community neighborhood committee of nine towns three streets in Minhang Area to create "Social Communication". The notices such as water stoppage and power outage do not need to write blackboard newspapers or post notices. The information platform of the platform can send text messages to inform residents about the convenience and benefit of the people. On the road, if you find that the manhole cover is missing, you can send a "MMS" to the emergency response center. Finally, each department will perform its duties and solve the problem in real time.

The "Smart Home" is aimed at the vast number of residents and users. It integrates various residents' needs into a package based on the residential platform. It combines construction, communication, home appliances and

equipment, and integrates services and management to build a high-quality community residential environment. Based on the overall solution of providing home application services and hardware devices, it provides dynamic modular functions such as high-speed Internet access, cloud storage, high-definition IPTV, home global eyes, and cloud desktops, which can be added or deleted, to provide convenient and comprehensive and accurate service for the majority of residents.

"Smart Business Circle" faces neighboring businesses. Through the information platform to release product information and release marketing information, product reservation, product unsubscription, notification push, etc., it can achieve commercial trade within the community, which enables local residents to purchase online, realizing online transactions and electronic online payment between merchants for various business and banking transactions and financial activities. Other cities and communities can learn from the intelligent community network information platform jointly created by Zaozhuang Rural Commercial Bank and Shandong Zhirong, which can master local businesses, financial banks, property management, community information and other services to integrate commercial trade transactions on the Internet to provide a fast, safe and high-quality financial living environment for the citizens, businesses and property owners of Zaozhuang.

7) *Evaluation of standardization*: The introduction of foreign ISO9000 quality standards makes the evaluation results visualized and scientific. Relying on ISO9000, it can establish a scientific and effective service evaluation system, which has established a long-term mechanism and important guarantee for the smooth operation and development of the smart community management mode, mainly aiming at supervising and evaluating the service process, the main body of responsibility, and the standard of regulation to ensure the high-quality and orderly operation of the intelligent community platform, to improve the quality of service and to realize the management of the scientific system. ISO9000 has become the most popular standard in the ISO standard, and many countries have adopted it as a basic requirement. The establishment of intelligent community will introduce ISO9000, help the intelligent community platform service to establish a set of standardized, scientific and systematic service procedures and management systems, improve the awareness of service quality and quality assurance, and enhance the quality of service responsibility subjects to better adapt to the needs of residents and the market, thereby enhancing the corporate image and confidence of third-party interests. (See "Fig. 2")





Fig. 2. The logical relationship of ISO9000 evaluation index system.

8) *Establishing a safe protection system*: It will be a necessary thing to analyze and establish an effective security protection system from the security aspects of the physical layer, network layer, host system, application system and other aspects of system security, security audit, security management system, etc., as well as carrying on the design to ensure the confidentiality and integrity of system data. The first is to simplify the login process and realize the trust sharing of all systems. Users can obtain the information stored in all application systems when they log in once. Secondly, they can realize identity authentication, use the latest authentication and authorization methods to prevent network risks, and issue digital certificates to confirm user identity. The third is to encrypt the data through encryption algorithms, etc., and to achieve the conversion between plaintext and ciphertext. The fourth is to be able to achieve data recovery and backup, to restore data to a certain point in the failure of the database or to restore the initial state of the database failure.

## V. CONCLUSION

From the practice of Fengning sub-district office in Kunming, the system construction of the smart community is still in its infancy, and the community residents' awareness of the smart community is not high. In the construction of the smart community system, the related hardware and software construction system It is urgent to establish and upgrade, but from the practice of building smart communities in western China, this attempt is a pilot exploration, which has very positive practical significance for promoting the connotative development of urbanization in China and the deep transformation of social management.

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