Research on the Construction Mode of "Smart Community" in the Digital Context

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Abstract: "Smart communities" enhance urban governance and resident life quality through digital and intelligent technologies. This paper explores their construction models, introduces a third-party operation coordinator, and optimizes public resource allocation via a "five increases and five reductions" governance model. Research indicates smart communities improve life quality, safety, and management efficiency. Despite challenges, with policy and tech support, they will advance towards greater intelligence, professionalism, and security, bolstering grassroots governance modernization and sustainability.

***Keywords*:** digitalization, smart community, community building

1. Introduction

With the rapid advancement of information technology, digitalization has made "smart communities" a key focus in urban management [1]. These communities use intelligent technologies to enhance management, services, and security, improving residents' quality of life and governance. By 2024, China will have over 600,000 communities addressing daily challenges like elderly care, healthcare, and sanitation, directly impacting residents' happiness [2]. This paper proposes a third-party operation coordinator to resolve conflicts among stakeholders, creating a professional, refined, and sustainable community management system aligned with digital construction and common prosperity.

2. Research status at home and abroad

Research on "smart communities" in China, though starting later, has advanced significantly due to policy support and technological growth. Zhang Hongyu and Yang Chunli (2023) detailed the goals, architecture, and implementation of smart home and community platforms, offering practical insights for such projects. Cai Ning and Zhao Dehai (2024) explored data protection and utilization in smart communities, proposing strategies to balance security and value mining [3].

Internationally, research emphasizes technological innovation, citizen participation, and sustainability. Domestically, it focuses on policy-driven practical exploration and the integration of technology with governance models. As digital technology evolves, smart community construction has shifted from single-tech applications to collaborative, people-centered governance, providing both theoretical and practical guidance for future development [4].

3. Construction of "smart community" model in the context of digitalization

"Smart community" is a new platform for people-centered urban modernization, high-quality development and high-quality life, and a new platform for "making people happy". It focuses on the three modernizations (humanism, ecology, and digitalization), and mainly builds nine scenarios: smart neighborhood, education, health, entrepreneurship, construction, transportation, low-carbon, service, and governance.

3.1 Introduce a third-party operation coordinator to build a new operation model

Under the guidance of the grassroots government and the community neighborhood committee, the third-party operation and coordination body is introduced to build a new integrated management service model. The model focuses on governance and service-driven, and focuses on the three major areas of the community: public welfare, benefiting the people and commerciality, fully tapping the operational potential and enhancing the overall value of the community. Through this model, residents can truly feel the warmth and beauty of the society, and truly experience the high-quality community life.

3.2 Optimize and integrate public resources, reduce costs and increase efficiency, and achieve a win-win situation

The "smart community" adopts a "five increases and five reductions" governance model. "Five increases" enhance space use, optimize structures, establish joint committees, appoint unified secretaries, and improve governance, services,

operations, property management, and digital governance. “Five reductions” cut office space, streamline staff, reduce law enforcement teams, consolidate units, and lower costs. Commercial revenue offsets public expenses, while better services boost property value, ensuring break-even or surplus and long-term sustainability.

3.3 Digitalization empowers the governance of “smart communities” and forms the efficiency of “digital governance”.

The third-party operation coordinator builds a digital twin of the community, enabling visualization of spatial elements and intelligent management of all scenes. Through cross-community collaboration, multi-department governance, and integrated digital intelligence, the “smart community” fosters a model of “all-people co-construction, multi-cross co-governance, cultural integration, and happiness sharing,” creating a harmonious and efficient living environment.

4. Advantages of “smart community” construction in the context of digitalization

4.1 Improve the quality of life and ensure the safety of residents

The construction of “smart communities” can improve the quality of life of residents, bring more convenient lifestyles, and greatly improve the safety of residents. On the one hand, it can provide residents with more convenient and efficient public services. Through the establishment of intelligent transportation systems, intelligent water supply and power supply systems, etc., it will provide residents with a better quality of life and bring a more convenient lifestyle. On the other hand, with the help of relevant technologies, video surveillance, intelligent security systems, etc., can be used to achieve real-time monitoring, timely reflection of problems in the community, and rapid response and handling of emergencies, enhance the sense of security of the community.

4.2 Realize the sharing of public resources and promote the sustainable development of the community

The construction of “smart communities” enables the sharing of public resources, enhancing convenience for residents and promoting sustainability. By establishing digital platforms and installing smart devices, communities can optimize resource utilization, reduce waste, and foster environmental awareness. Measures like energy conservation, emission reduction, and waste classification improve community environments, minimize ecological impacts, and create harmonious living spaces, aligning with sustainable development goals.

4.3 Strengthen community interaction and enhance community service experience

The construction of “smart communities” enhances residents’ quality of life, improves the community environment, and promotes sustainable development, offering a safer, more convenient, and comfortable living space. By digitizing community operations, it alleviates the complexity of traditional community work, inspiring managers and service providers to view community tranquility as a valuable endeavor. Thus, “smart communities” emerge as a new frontier for modernizing grassroots governance, creating harmonious living environments, and driving enterprise transformation.

5. The economic and social benefits brought by the construction of the “smart community” model

5.1 Economic benefits

Under the “smart community” model, smart elderly care utilizes telemedicine and intelligent health monitoring to manage seniors’ health, reducing medical costs and frequent hospital visits. This alleviates family caregiving burdens, allowing more time for work and boosting productivity. It also drives innovation in the elderly care industry, creating business opportunities and economic growth. Additionally, it increases employment by requiring professionals and stimulates consumer demand for related products and services. By enabling seniors to live independently, it reduces reliance on social welfare, easing fiscal pressures and promoting sustainable development.

5.2 Social benefits

The “smart community” enhances life services and safety management through intelligent systems, such as real-time monitoring and emergency response mechanisms, ensuring residents’ safety and property protection. It also fosters social engagement and cultural activities for the elderly, promoting their physical and mental well-being while driving innovation in the elderly care industry. This integration not only upgrades elderly care services but also injects vitality into societal sustainability, creating a safer, more inclusive, and dynamic community environment.

6. Conclusion

In the digital era, transforming traditional governance into “smart communities” is essential and feasible. These communities enhance residents’ quality of life, security, and happiness. Supported by government policies and technological advancements, they are becoming more intelligent, professional, and safe. Focusing on R&D, talent training, policy guidance, and data security ensures sustainable development, fostering long-term growth and improved living standards.

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