

Research on the Current Situation and Optimization Strategies of Grid Management in Megacities' Communities: An Analysis Based on Survey Statistics

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Abstract: *The megacity community is a large-scale local community with a large population and a complex structure, which places significant pressure on its management. To achieve efficient management goals, the community has continuously strengthened its application of grid management, leading to improvements in management efficiency and resident satisfaction with management. However, the implementation of the grid management model is a long-term and systematic project, and some shortcomings have been exposed during the community's promotion of this model. Relying on the theory of good governance, the theory of fine governance, and the new public service theory, this paper clarifies the management dilemmas of grid management in this community by employing the semi-structured interview method. Finally, in response to the grid management problems exposed in the community, targeted suggestions for grid management in megacity communities are proposed.*

Keywords: *urban community, grid management, community governance, citizen participation*

1. Introduction

With the advancement of new-type urbanization and the increasing complexity of megacity governance, community grid management has emerged as a key lever in the innovation of the primary-level governance system. Its significance lies in the refinement of management units and the downward delegation of resources, enabling the delivery of precision services and the preemptive prevention and control of risks. The necessity of this research is evident in its potential to effectively address challenges such as the digital divide and population aging, thereby facilitating the transformation of the governance system from an extensive to an intensive model and from passive response to proactive intervention. This paper aims to advance the understanding of community governance approaches and to explore the application of new public service theory within the context of modern urban community governance. Existing studies have examined the pathways to achieving intensive governance and the mechanisms for innovating public service optimization^[1]. The new public service theory advocates for collaborative interaction between state and societal institutions and community residents, activating pathways for community self-governance^[2] and realizing precision in public services, thus highlighting the interactive value of grid management. The theory of intensive management promotes the use of scientific methods and technological means for the rational division and efficient allocation of community resources. Through community-based grid divisions, the integration of digital and intelligent technologies propels the in-depth development of intensive governance^[3] and enables the precise alignment of public services with residents' needs, thereby validating the practical value of this theory in community governance^[4].

The theory of good governance, in contrast, aims for citizens to cooperate with the state and social institutions in managing public life, thereby maximizing the public interest. It promotes fairness, justice, and transparency in community governance, advocates for the construction of a coupled governance model, and utilizes the grid platform to address governance challenges. This theory not only explains how grid management enhances the flexibility and efficiency of responses by state and social institutions and departments but also clarifies how intensive management optimizes resource allocation to ensure the precise implementation of services and management measures. The megacity community is a large and medium-sized residential area, possessing the distinct characteristics of a resettlement community. It is equipped with infrastructure such as fitness equipment, a service hall, and a mediation room. Through professional services provided by social worker service stations, it offers assistance to families with subsistence allowances and those with disabled members. The community is divided into

12 grids, serving 2,256 households of residents. It has a relatively high degree of population aging, with elderly people accounting for approximately 70% to 80% of the population. There are no left-behind children in the community. Renters constitute about 20% to 30% of the population, and the community provides care for 290 disabled individuals. Its public security situation is good, with the residents' committee undertaking the work of mediating conflicts among residents, frequently resolving neighborhood disputes. In the past five years, not a single criminal case has occurred.

2. Major Dilemmas in Community Grid Management

2.1 A Significant Digital Divide Leads to an Adaptation Gap for the Elderly Population

The community's information dissemination relies heavily on online platforms such as WeChat groups and official accounts. While this facilitates improvements in community governance efficiency, it simultaneously excludes a large number of elderly people who are not familiar with smart devices from the information channel. Complex operating interfaces and intricate functions present a technical barrier for the elderly. The natural decline in their physical functions makes it difficult for them to recognize and remember information, even when they do have access to devices. Furthermore, their fear of new technologies and a long-standing path dependence on traditional channels collectively exacerbate their state of information marginalization. The digital divide not only makes it difficult for the elderly to access critical policy notifications and resident services but also, on a deeper level, erodes the foundation of residents' trust in community management. During interviews, some elderly individuals mentioned that, being unable to operate electronic devices like smartphones and computers, they cannot receive the latest community information in a timely manner, leading to poor communication. In the community's pursuit of efficiency and modernization, a structural deviation has appeared in its service design. The disproportionate allocation of governance resources towards online channels, coupled with the significant reduction or outright cancellation of offline channels, essentially represents a mismatch between service supply and the needs of core users. This ultimately excludes elderly people who are not adept at using technology from effective information networks.

2.2 Shortage of Elderly Care and Childcare Services, and Insufficient Resource Supply

The community faces a severe shortfall in the provision of core public services for the elderly and children, manifested as insufficient services, structural imbalances, and a low level of specialization. In terms of elderly care services, the lack and obsolescence of hardware facilities, such as the absence of basic amenities like barrier-free facilities and rehabilitation training rooms within the community, limit the conditions for home-based care. Software services are superficial and monotonous in content, with existing services mostly confined to basic daily care such as meal delivery and cleaning. In contrast, urgently needed specialized services like medical care, psychological counseling, and emergency assistance are almost entirely absent. Service provision is overly reliant on volunteers or low-skilled personnel, leading to a severe shortage of professional caregivers and making service quality difficult to guarantee. Activities like health talks, due to inappropriate scheduling and monotonous information delivery methods, fail to truly meet the needs of the elderly, showing a clear tendency towards formalism. Regarding childcare services, resource scarcity is the core issue. The supply rate of inclusive childcare resources for children aged 0-3 is below 5%, and there is a complete lack of emergency childcare services for unexpected situations. Concerns about fire safety, educational qualifications, and other issues in some childcare facilities further exacerbate parental anxiety and distrust. During an interview, Grandpa Liu mentioned that community elderly care services lack true professionals in the medical field and suffer from a shortage of rehabilitation equipment, and that there are no childcare facilities in the community. The underlying reasons lie in the insufficient resources constraining the development of elderly care and childcare: the community's fiscal budget is limited, and state and social institutions prioritize administrative offices over facilities for the elderly and children, treating the latter as non-essential expenditures, leading to a lack of funds for facility construction. Social capital shows low willingness to participate because high fees are unaffordable for residents, while low fees cannot cover costs, coupled with the absence of tax breaks and site preference policies from state and social institutions. Currently, the community lacks social organizations such as elderly care and childcare cooperatives, making service provision dependent on administrative power and thus difficult to accurately match demand. Grid workers, due to their insufficient capabilities, are unable to provide services such as referrals for serious illnesses or guidance on specialized medical care.

2.3 Insufficient Service Efficacy of Primary-Level Personnel and Prominent Formalism

Community workers, serving as the capillary ends of governance, face limitations in their functional roles and find themselves mired in a quagmire of endless tasks and formalism, leading to internal friction in governance effectiveness. This situation stems, on one hand, from role alienation within a pressure-based system. Their primary task is to respond to various targets, inspections, and formalistic tasks assigned by higher authorities: writing reports and filling out numerous complex forms. This substantially occupies the time that should be spent solving practical problems for the residents, shifting their work focus to being accountable to superiors rather than to the community members. The home visits conducted merely to complete visitation records and the environmental health inspections evidenced only by taking photos, as mentioned in the interviews, are concrete manifestations of this alienation. On the other hand, they also suffer from a systemic deficiency in capacity and resources: the number of personnel is mismatched with their heavy responsibilities, such as information collection, dispute mediation, and safety inspections; they lack professional competence, feeling inadequate in areas like guiding residents to specialized medical care or mediating complex conflicts; and the absence of sustained and effective training, coupled with insufficient resource support, means they can only provide standardized services when faced with demands for specialized assistance, struggling to meet individualized needs. Furthermore, an imperfect incentive system fails to ignite their work enthusiasm and creativity, resulting in services that are merely "done" rather than "done well." The reasons for this situation are manifold. First, there is insufficient staffing; a small number of workers must undertake multiple responsibilities including information collection, dispute mediation, and safety patrols. Second, there is an imbalance between administrative dominance and resident autonomy, leading to task overload under the pressure-based system. Higher-level assessments focus on indicators such as home visit completion rates and form-filling accuracy, forcing workers to exhaust themselves with formalistic tasks and squeezing the time available for service^[5]. Third, there is a dual lack of resources and incentives; they lack funding and policy support when addressing problems, and even high-quality work is unlikely to be rewarded with bonuses or recognition for excellence, trapping them in a passive state where working hard or slacking off makes little difference.

2.4 Lack of Incentive Mechanisms and Low Resident Participation in Public Affairs

It is difficult to foster an ecosystem of grassroots democracy and co-governance, co-construction, and sharing in community governance, as residents generally lack enthusiasm for participating in community public affairs. Objectively, residents have no time to participate due to high work pressure, long commutes, and heavy family burdens related to childcare and elderly care. Subjectively, the monotonous formats and outdated content of community activities also make them "unwilling to participate." The residents' committee is not elected democratically but is mostly filled through examinations or appointments by higher authorities, which inherently lacks the impetus to be accountable to residents. Issues such as opaque decision-making processes and unfair resource allocation can easily breed resident distrust. More importantly, the community lacks effective incentive mechanisms; the time and effort invested by residents go unrecognized and unrewarded, dampening their willingness to participate. Digital barriers, such as online discussions and registrations, exclude many elderly people. Poor communication channels between the community and its residents, coupled with a lack of proper response to resident feedback, reinforce a negative mentality that "participation is useless"^[6]. This ultimately deprives community governance of a valuable mass foundation and endogenous momentum. During interviews, some elderly residents indicated they had neither the time nor the desire to participate in social and public activities. The low level of resident participation in community public affairs is essentially a manifestation of a broken feedback loop in community governance and a misalignment of perceived value. Spiritual incentives often degenerate into mere slogans and formalities, while material incentives lack systematic design, leading to a severe imbalance between the time and energy costs of resident participation and the actual returns. In the context of urbanization, atomized living patterns mean the community serves only as a residential space rather than an emotional community, resulting in a lack of sense of ownership among residents. Fragmented participation channels, opaque decision-making processes, and the absence of feedback mechanisms create a negative expectation of "expressions going unanswered, participation yielding no results," which weakens the motivation to participate. Furthermore, the insufficient execution capacity of some community organizations and irregular governance practices exacerbate residents' suspicions that participation is merely a formality, ultimately trapping the system in a vicious cycle.

3. Strategies for Resolving the Dilemmas in Community Grid Management

3.1 Bridging the Digital Divide and Building an Integrated Online and Offline Governance System

To address the difficulties elderly people face in accessing information, efforts should focus on three aspects: channels, technology, and assistance. On the online front, the community should promote age-friendly adaptations by developing a simplified community APP featuring large fonts, high-contrast icons, and voice assistance functions. This APP should simplify operations such as viewing notifications, participating in group activities, scanning codes, and signing up for events, thereby lowering the usage threshold for the elderly. On the offline front, the community should preserve and optimize physical bulletin boards and community broadcasts to ensure information reaches every corner without omission. To implement this, an assistance team composed of grid workers, community volunteers, and younger residents should be formed to conduct weekly basic smartphone courses. This team will provide guidance for elderly people who are unfamiliar with using phones and computers, teaching them skills such as scanning codes to join groups and checking pension certification information. When issuing important notices, the community should establish a coordinated mechanism that combines online information release with offline notification, ensuring that home visits are made to notify elderly people living alone or those with disabilities to prevent them from missing information. Furthermore, the community can regularly hold resident symposiums to gather opinions on information dissemination, thereby enhancing the transparency of grid management and ensuring that elderly people are no longer trapped in information silos.

3.2 Integrating Service Resources to Address Shortcomings in Elderly Care and Childcare Provision

The community should elevate the priority of community public services within the fiscal frameworks of state and social institutions at the primary level. It should incorporate the construction of elderly care and childcare facilities, as well as sports and leisure venues, into non-negotiable expenditures to ensure stable funding. The community should apply for special renovation subsidies for older communities to reduce the costs of modifying spaces for age-friendly facilities and childcare sites. It should also introduce policies to incentivize social capital participation, such as offering tax breaks to enterprises involved in community services and providing free use of idle community spaces. The community can design an inclusive childcare model, with a portion of the costs subsidized by the state to lighten the burden on residents. For elderly care services, it can introduce a time bank mechanism, encouraging young seniors to provide basic care for the older elderly, with the future option to redeem equivalent services for themselves. The community should foster social organizations such as elderly care cooperatives and childcare associations. It can guide residents to vote on topics for health talks and the timing of childcare services to prevent some residents from missing services due to scheduling conflicts. By collaborating with hospitals and professional elderly care institutions, the community can introduce nurses and rehabilitation therapists to provide in-home medical care and rehabilitation training for disabled seniors. Regular training sessions for grid workers should be conducted, covering needs assessment and service planning, to enhance their ability to connect with and utilize professional resources.

3.3 Freeing Primary-Level Staff from the Constraints of Formalism to Activate Their Effectiveness

The community should scientifically allocate human resources across its grids based on the size of the elderly population and the distribution of vulnerable groups. For example, grids with a larger elderly population should be assigned additional dedicated support staff to prevent a single grid worker from being responsible for too many areas, ensuring that residents' reported daily life issues can be addressed in a timely manner. The assessment of grid workers must adopt a people-oriented approach, replacing a single, quantity-oriented criterion with a comprehensive system that encompasses task completion, service quality, and resident satisfaction. It should incorporate resident evaluations into its core indicators and reduce formalistic tasks such as taking photos for documentation and repeatedly filling out forms. This approach will guide staff to focus on solving practical problems, thereby breaking the pattern of being accountable only to superiors rather than to the residents. The community should establish honors such as "Star Grid Worker" and "Outstanding Service Model," providing bonuses and priority in evaluations for those who perform well. At the same time, it should schedule tasks reasonably to avoid excessive overtime, provide mental health counseling to alleviate work pressure, and enable staff to concentrate wholeheartedly on serving the community.

3.4 Enhancing Resident Participation and Improving Democratic Incentive Mechanisms

To address the issue of low resident participation, the community should promote the establishment of a community council from three aspects: democratic construction, precision services, and incentive guidance. This council should hold regular meetings, inviting community residents, grid workers, and property management to participate together in discussions on matters such as facility renovations and resource allocation, thereby ensuring transparency in decision-making. The community should publicly disclose financial expenditures and activity plans in real time through its website and bulletin boards. It should maintain parallel channels for feedback, using both offline suggestion boxes and online platforms, and promptly publish the outcomes of feedback received, making residents feel that their opinions are valued and effective. The community can introduce a points-based system for participation in public affairs to boost residents' enthusiasm for self-governance. Residents can accumulate points by engaging in volunteer services, cultural performances, or providing feedback, which can then be exchanged for benefits such as discounts on medical check-ups or supermarket vouchers. Furthermore, the community should identify potential talent, such as homemakers and retired employees, provide them with training in organization and coordination skills, and cultivate core residents who are enthusiastic about public welfare, thereby encouraging more people to participate in community affairs.

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