Social Science and Management
Print ISSN: 3007-6854
Online ISSN: 3007-6862
DOI: https://doi.org/10.61784/ssm3102

ACCESSIBILITY OF ELDERLY CARE SERVICES IN DIGITAL COMMUNITY GOVERNANCE: MECHANISMS, STRUCTURAL BARRIERS, AND INSTITUTIONAL PATHWAYS

LiFeng Zheng*, HaoXuan Huang, GuanHong Chen
School of Management, Guangzhou Huashang College, Guangzhou 511300, Guangdong, China.
**Corresponding Author: LiFeng Zheng*

Abstract: The digital transformation of community-based eldercare services has altered the flow of service information and the methods for processing applications. Whether the expansion of digital channels can improve actual service opportunities for older adults depends on the integration of technology with organizational and institutional conditions. This paper employs a comprehensive review of the literature, conceptual analysis, and institutional analysis to define the accessibility of eldercare services as a process-oriented opportunity that spans needs identification, information comprehension, application processing, resource coordination, and service delivery. It constructs an analytical framework in which technology, organization, and institutions jointly shape accessibility. The analysis suggests that information integration, needs identification, resource coordination, support implementation, and feedback-driven course correction constitute the primary mechanisms through which digitalization influences service access. Imbalances between capability requirements and support provision, discrepancies between data categorization and actual needs, disconnects between platform connectivity and accountability, as well as biases in efficiency evaluations, may hinder these mechanisms. New digital barriers may compound economic constraints and supply shortages, while the effectiveness of platform optimization is limited by resource conditions. Governance restructuring aimed at improving accessibility should be guided by actual service access, refining arrangements for channel interoperability, routine assistance, organizational responsiveness, data correction, and equitable evaluation, thereby transforming digital conveniences into inclusive service opportunities.
Keywords: Digital community governance; Community-based elder care services; Service accessibility; Digital inclusion; Institutional coordination

1 INTRODUCTION

1.1 Research Background

Population aging and changes in family caregiving capacity have increasingly made communities a vital arena for expressing elder care needs, allocating public resources, and facilitating the integration of professional services. In the midst of the digital revolution, how can information technology effectively support the provision of elderly care services and enhance the well-being of older people? Thanks to the achievements of several industrial revolutions, the link between technology and social life has become increasingly close. Technology is regarded by countries around the world as a key means of promoting the development of human society [1]. The integration of digital technology into processes such as information dissemination, needs registration, appointment scheduling, and service referrals has transformed the delivery of elder care services and reshaped the capabilities and support conditions required for older adults to access these services. Dispersed information has been consolidated, certain administrative procedures have been streamlined, and cross-agency coordination now has a new technological foundation. At the same time, the tasks of explanation, verification, and coordination—which were previously handled by staff—may shift to older adults and their families as processes become digitized. Digitalization thus involves a redistribution of service costs, administrative responsibilities, and support resources, and its governance implications must be understood within the context of specific service access conditions.

1.2 Statement of the Problem

There is a transformative process—one that requires explanation—between the expansion of digital channels and improvements in the accessibility of elder care services. The mere fact that information is published does not mean that older adults can understand the fees, eligibility requirements, and application rules; nor does the submission of an application guarantee that their needs will be appropriately addressed. Differences in cognitive abilities, physical condition, financial resources, and family support can result in varying transaction costs for the same digital procedures. Whether community organizations can provide explanations and assistance, whether service agencies can respond in a timely manner, and whether information can be seamlessly transferred across different channels all collectively influence the actual effectiveness of technological conveniences. When process design assumes that users possess sufficient operational skills and the ability to manage matters independently, existing disparities in capabilities may

© By the Author(s) 2026, under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0).

translate into disparities in access to services. This raises the following questions: Through which stages does digitization improve the accessibility of elderly care services? What organizational and institutional conditions constrain its effectiveness? And how should community governance address the obstacles encountered in this transformation process?

1.3 Research Focus and Contributions

This paper adopts a research approach that combines literature review, conceptual analysis, and institutional analysis. It conceptualizes the accessibility of elderly care services as an interconnected process involving needs assessment, information comprehension, application processing, resource coordination, and service delivery, and examines how technology, organization, and institutions collectively shape the conditions for service access. The article focuses on explaining the mechanisms underlying information integration, needs identification, resource coordination, support translation, and feedback-driven course correction, and further analyzes structural barriers such as the imbalance between capability requirements and support provision, as well as the disconnect between platform connectivity and organizational accountability. Building on this foundation, it discusses institutional pathways involving channel integration, routine assistance, and the allocation of responsibilities. The study aims to broaden our understanding of the effectiveness of digital community governance, extend the evaluation of technology applications to actual service opportunities and their distribution conditions, and provide a theoretical framework and institutional basis for the inclusive development of community-based elder care services.

2 LITERATURE REVIEW AND DEFINITION OF CONCEPTS

2.1 Digital Community Governance

Research on digital transformation in the public sector provides a theoretical foundation for understanding digital community governance. Mergel et al. point out that digital transformation involves comprehensive changes in service processes, organizational culture, and stakeholder relationships, and its scope extends beyond the mere digitization of business processes [2]. Lee and Park believe that artificial intelligence (AI) and community management (CM) enable the automation, smartisation and remote control of home-based elderly care [3]. A systematic review by Haug et al. further demonstrates that changes driven by digital technologies are jointly influenced by organizational conditions, collaboration among actors, and implementation processes, and that governance outcomes must be interpreted through the lens of organizational operations [4]. Applying this understanding to the field of community-based elder care, digital community governance can be defined as a process in which digital technologies facilitate information flow, needs assessment, and resource coordination, thereby driving adjustments to the responsibilities of various actors and service relationships. Research in this area focuses on how technological connectivity shapes sustained organizational responses and how process adjustments alter the distribution of tasks among communities, families, and service providers.

2.2 The Accessibility of Elderly Care Services

Accessibility research focuses on the fit between service systems and users. Penchansky and Thomas explained this fit in terms of resource availability, spatial accessibility, organizational arrangements, affordability, and service acceptability, thereby overcoming the limitations of measuring service opportunities solely by the number of facilities [5]. Levesque et al. situate accessibility within a continuous process encompassing need identification, service seeking, service access, actual use, and need fulfillment, emphasizing the interaction between supply conditions and user capabilities [6]. These frameworks, originating from health services research, require consideration of the continuity of care, family involvement, and the multi-stakeholder nature of service provision when applied to community-based elder care. This paper defines the accessibility of elder care services as the actual opportunity for older adults—under given supply and institutional conditions—to identify appropriate services, understand the rules, complete necessary procedures, and obtain services at an affordable cost, thereby distinguishing between resource coverage, conditions of access, and outcomes of use.

2.3 Digital Inclusion

Research on digital inclusion reveals that widespread internet access does not eliminate digital inequality. van Deursen and van Dijk found that device availability and ongoing usage costs continue to influence digital skills, usage patterns, and outcomes [7]. Liu et al. reviewed research on digital inclusion among vulnerable groups from the perspective of public service ecosystems, incorporating institutional, organizational, and user factors into a multilevel analysis [8]. This approach suggests that older adults' access to digital services depends on the relationship between individual capabilities and external support. Assistance from family members, community-based explanations, and manual referrals can alleviate difficulties in accessing services, but their uneven distribution may also lead to disparities in service access. Based on this, this paper defines digital inclusion as the institutional and practical arrangements within a service system that enable older adults with varying levels of capability to effectively engage in the service process through channel selection, operational assistance, and organizational support.

2.4 Literature Review

The aforementioned studies have respectively revealed the organizational attributes of digital transformation, the relational attributes of service accessibility, and the enabling conditions for digital inclusion, providing complementary perspectives for analyzing community-based elderly care services. This paper aims to further integrate these explanations and examine how the convenience offered by digital channels is transformed into actual service opportunities through the processes of needs identification, understanding of rules, application processing, and resource coordination. It is important to note that insufficient operational capacity, organizational implementation bottlenecks, and service resource shortages stem from distinct underlying logics and cannot be uniformly attributed to the digital divide. Accordingly, this paper constructs an analytical framework in which technology, organization, and institutions jointly shape accessibility. It focuses on explaining the conditions for coordination across different stages and the consequences of such misalignments, thereby establishing a conceptual foundation for subsequent discussions on mechanisms of action, structural barriers, and institutional pathways.

3 ANALYTICAL FRAMEWORK

3.1 The Structural Process of Service Access

Access to elder care services is established through the ongoing interaction between older adults and the service system, involving interdependent stages such as needs assessment, information comprehension, application processing, resource coordination, and service delivery. Potential care needs must be identified and articulated, then transformed into specific requests to which the service system can respond; once an application enters the processing stage, its outcome still depends on resource allocation and institutional capacity. This process is not a one-way progression; unclear rules, insufficient documentation, or mismatched services can all lead to repeated inquiries, re-applications, or even withdrawal from the process. Based on this, this paper focuses on the interfaces between these stages to examine how technical, organizational, and institutional factors influence the continuity of service access.

3.2 Technical Requirements

Technical factors influence the visibility of service information and how it flows across different entities. Digital channels can consolidate service content, eligibility criteria, and processing status, thereby reducing search costs and providing a foundation for connecting service referrals. The practical effectiveness of these functions depends on whether the quality of the information, its presentation, and usage requirements are adapted to the capabilities of older adults. There is a gap between interface accessibility and the comprehensibility of rules; furthermore, the mere transmission of data does not guarantee that the receiving agency will be able to process the request accordingly. Technical analysis must therefore focus on whether the information can be understood and utilized, and whether digital records can support subsequent processing.

3.3 Organizational Requirements

Organizational conditions determine whether requests for access to the service system can be assessed, triaged, and addressed on an ongoing basis. Communities, neighborhood offices, elder care facilities, and social organizations each possess different resources; their collaboration requires clearly defined points of contact, referral procedures, and accountability for follow-up. Explaining rules, assisting with applications, and coordinating special matters constitute critical tasks that bridge digital capabilities with service access. If such tasks rely on ad hoc efforts by staff or are handled by family members, access to services becomes vulnerable to the influence of relational resources and staff workload. Organizational capacity should manifest as sustainable arrangements for service intake and collaboration, ensuring that needs are handled continuously even when they cross institutional boundaries.

3.4 Institutional Conditions

Institutional conditions define older adults' access to the service system through eligibility criteria, fee schedules, channel arrangements, and the allocation of responsibilities. Standardized procedures help create stable expectations; however, their application must accommodate differences in physical, cognitive, and family circumstances, and provide assistance and avenues for review in cases where individuals face difficulties in the application process. The boundaries of data use, information correction, and appeal mechanisms, in turn, influence whether the expression of needs is reasonably protected. Technology provides information and means of connection; organizations are responsible for specific responses; and institutional frameworks assign corresponding responsibilities and ensure resource support. These three elements interact and influence one another in the service acquisition process, and their degree of alignment collectively shapes the accessibility of elder care services.

4 MECHANISM OF ACTION

4.1 Information Integration Mechanism

Information on elderly care services is scattered across different departments, agencies, and communication channels. Older adults must independently determine service details, fee schedules, eligibility requirements, and application procedures; as a result, searching for information and interpreting rules constitute upfront costs in accessing these services. Digital community governance—by standardizing service catalogs, linking administrative information, and continuously updating regulations—can reduce the uncertainty caused by fragmented information, enabling older adults to form relatively stable expectations about services before entering the application process. The role of information integration is also reflected in the translation of administrative rules into real-life contexts—that is, explaining, based on the specific needs of older adults, what services they can apply for, what costs they must bear, and where they should seek assistance. Such translation can reduce ineffective inquiries, duplicate applications, and premature abandonment resulting from misunderstandings. The extent of its effectiveness depends on the consistency, comprehensibility, and credibility of the information; simply publishing a collection of unorganized information may still leave the burden of judgment and screening on the users. The key to improving accessibility through information integration lies in transforming scattered regulations into knowledge that supports specific service choices.

4.2 Demand Identification Mechanism

A service system that relies primarily on self-referral implicitly assumes that older adults are capable of identifying their own needs, understanding available services, and actively expressing their requests. Those experiencing cognitive decline, limited mobility, or insufficient social connections may find it difficult to navigate the formal application process, even if they have significant care needs. Digital community governance can identify clues to changing needs by linking routine visits, existing service records, and community feedback, thereby providing a basis for further outreach and assessment. Consequently, the responsibility for identifying needs shifts in part to service organizations, and the reliance of service opportunities on an individual's ability to express their needs is expected to decrease. It is important to note that digital records primarily reflect past interactions and easily categorized matters; unrecorded life difficulties still require understanding through home visits, conversations, and professional judgment. Proactive identification should form a seamless process linking clue identification, manual verification, confirmation of willingness, and service response. This prevents administrative categorization from replacing older adults' own explanations of their circumstances and avoids equating the absence of an application with the absence of a need.

4.3 Resource Coordination Mechanism

Community-based elder care needs often span areas such as daily living assistance, health support, social participation, and family care, making it difficult for a single organization to address these needs on its own. Digital community governance establishes a shared understanding of issues among different stakeholders by documenting the nature of needs, service capacities, referral destinations, and processing progress. This reduces repetitive inquiries and the need to resubmit materials, enabling needs to be handled seamlessly across organizations. The essence of improving accessibility through resource coordination lies in reducing the transition costs imposed on service users by organizational boundaries and ensuring that complex needs receive a relatively continuous response. This requires the coordination of information sharing and accountability, clearly defining who assesses needs, who confirms receipt, and who follows up when a referral is unsuccessful. Without these arrangements, information sharing may increase the number of steps in the process but fail to result in effective service delivery. Digital technology's support for resource coordination is also constrained by actual supply capacity. When service slots, professionals, or funding are insufficient, the platform can only increase the visibility of these shortages; resolving supply constraints still requires resource allocation and organizational coordination.

4.4 Mechanisms to Support Commercialization

Digital portals provide access to service procedures, but whether users can successfully complete the process still depends on their ability to understand the rules, prepare the required materials, operate the devices, and handle unexpected issues. Support mechanisms in digital community governance bridge the gap between the technical requirements of service procedures and the actual circumstances of older adults through in-person explanations, operational assistance, authorized proxy services, and process follow-up. Community workers and social workers can explain service options in the context of specific situations, help older adults articulate their needs, and coordinate follow-up actions when standard procedures are not applicable. This type of support ensures that individual capacity limitations do not directly result in a loss of service opportunities, and it allows digital processes to remain flexible enough to respond to diverse needs. Its long-term effectiveness depends on whether this support can become a routine service with clearly defined responsibilities and resource allocation. Overreliance on assistance from family members or acquaintances can easily place those lacking such social support at a disadvantage; assistance should also preserve older adults' right to informed consent and choice, ensuring that operational convenience does not supersede their personal

wishes. Support mechanisms thus involve balancing capacity building, accountability, and the safeguarding of autonomy.

4.5 Feedback and Correction Mechanism

Service accessibility must be continuously tested through actual interactions; application interruptions, repeated inquiries, delays in referrals, and service mismatches can all reveal discrepancies between process design and users' circumstances. Digital community governance can aggregate service records and feedback, providing a basis for identifying where barriers occur. Through manual review and organizational consultation, these individual challenges can be transformed into grounds for rule adjustments, process improvements, or resource coordination. The role of feedback in course correction lies in enabling the service system to adjust its own arrangements based on access barriers, rather than continuously requiring older adults to adapt to established procedures. Evaluations from those who have successfully completed the process cannot fully account for those who were unable to access services, dropped out along the way, or were unable to express their opinions; therefore, feedback channels must incorporate in-person follow-ups, proactive inquiries, and staff records to capture these experiences that are difficult to observe. Whether feedback can improve accessibility also depends on whether issues are acknowledged, whether responsibilities for handling them are clearly defined, and whether the results are communicated back to users. This provides a basis for refining information integration, needs assessment, resource coordination, and support for service processing, enabling the service system to enhance its adaptability through continuous responsiveness.

5 STRUCTURAL BARRIERS

The translation of digital convenience into access to services is constrained by a mismatch between technical procedures and user capabilities. As service access shifts online, tasks such as identity verification, document uploads, rule assessments, and status inquiries may shift from staff members to older adults and their families. Existing disparities in cognition, health, and education are thereby transformed into disparities in the cost of processing applications through procedural requirements. Even if older adults are able to use smartphones, they may not necessarily understand eligibility rules or handle application errors. In the absence of alternative channels and human assistance, the digitization of processes may create new barriers to access. These barriers stem from an imbalance between increasingly stringent administrative requirements and insufficient support services; therefore, service disruptions cannot be simply attributed to a lack of individual digital skills.

Discrepancies between data identification methods and organizational operating rules may also limit the flow of needs into the service system. Digital systems rely on existing contact records and standardized classifications, making it easier to identify needs that have already been expressed and can be coded; those lacking social connections or who find it difficult to accurately articulate their difficulties may be overlooked. Once needs span multiple domains—such as caregiving, medical care, and social support—they involve the eligibility criteria and jurisdictional authority of different agencies. While platforms can transmit information, they cannot independently determine responsibilities or facilitate the allocation of resources. If referrals lack confirmation of receipt and follow-up, the coordination costs between agencies will still fall back on older adults and their families. In this context, digitization may reinforce existing departmental silos, transforming complex matters—which were previously coordinated by staff—into procedures that users must complete on their own.

The tension between efficiency metrics and service equity creates the organizational conditions that allow these barriers to persist. Measuring performance based on the volume of online applications, processing speed, and case resolution rates may prompt service agencies to prioritize applications that are easy to categorize and process, while the labor required to explain rules, assist with procedures, and coordinate special needs is not adequately reflected. Some complex needs may be deferred due to higher processing costs, and withdrawal of applications may be recorded as individual abandonment. While digitization increases the measurability of processes, it may diminish attention to those who do not enter the system or whose needs remain unmet. In such cases, the benefits of technological convenience flow primarily to those with greater ability to navigate the system, while the time and assistance costs borne by those facing difficulties are not easily captured in evaluations.

New barriers created by digitization can compound existing economic constraints and service shortages. While online processes may reduce search and transportation costs, expenses for equipment, internet access, and family members acting as proxies may actually increase the financial burden; greater transparency in information aids in making choices but does not alter older adults' ability to pay. Shortages of professionals, limited service slots, or uneven spatial distribution will still restrict service delivery even if application procedures are well-designed. Therefore, it is necessary to distinguish between procedural bottlenecks, organizational coordination issues, and insufficient supply capacity: platform optimization primarily addresses the first two categories and can provide a basis for resource allocation, but it cannot directly create caregivers, funding, or service capacity. Only by maintaining this interpretive boundary can we accurately identify the scope of digital governance and avoid shifting the responsibility for resource allocation to excessive expectations of technological capabilities.

6 INSTITUTIONAL APPROACHES

6.1 Establish Governance Objectives Focused on the Delivery of Actual Services

A governance restructuring focused on accessibility requires establishing the actual opportunities for older adults to access appropriate services as a goal of digital development. Platform functionality, the volume of information, and the rate of online transactions should be evaluated in light of whether needs are being met, thereby preventing a disconnect between technological investment and service outcomes. Governance objectives should encompass the entire process—from needs identification to application processing and service delivery—while addressing disparities in access stemming from varying levels of capability. Separate improvement measures should be implemented to address procedural disruptions, financial hardship, and resource shortages, ensuring that process optimization, payment support, and supply investments each have clearly defined responsibilities. This will prevent grassroots organizations from using enhanced digital capabilities as a substitute for resolving substantive service constraints.

6.2 Establish a Service Access System That Facilitates Channel Interoperability

Channel arrangements should allow older adults to choose between online, telephone, in-person, or home-visit options based on their physical condition, operational capabilities, and support resources, while ensuring consistency across different channels regarding eligibility criteria and processing requirements. The key to channel interoperability lies in the continuity of processing information; after switching channels, older adults should not have to repeat their requests or resubmit documents they have already provided. Communities can handle consultations and initial intake, while specialized agencies are responsible for assessments and service delivery. A unified record of cases should be maintained to clarify processing progress and assign responsibilities for pending tasks. In-person service points must be granted actual processing authority to ensure they do not merely provide operational guidance, only to ultimately require applicants to return to the online process on their own.

6.3 Incorporate Digital Assistance into Routine Service Responsibilities

Digital assistance should have clearly defined service content, responsible entities, and resource guarantees, covering the interpretation of rules, preparation of materials, operational guidance, and coordination of exceptional issues. The level of assistance can be adjusted based on specific difficulties encountered during the process, thereby reducing the need for older adults to repeatedly prove their lack of capacity. A clear division of labor must be established among community workers, social workers, and service agencies to prevent assistance tasks from being indiscriminately concentrated on individual frontline staff. Staffing arrangements and workload calculations should account for the time required for explanations and follow-ups, with volunteer services and family assistance serving as supplementary measures. Throughout the assistance process, individuals' consent and freedom of choice must be upheld, ensuring that procedural convenience is built upon a foundation of respect for autonomy.

6.4 Establish Rules for Coordinating the Identification of Needs with the Organization's Response

Proactive identification of needs must be coordinated with service capacity. Issues identified through digital records, routine visits, and professional assessments should be confirmed through a willingness assessment before being incorporated into appropriate service procedures. For matters involving multiple agencies, responsibilities for acknowledging receipt, processing feedback, and coordinating unresolved issues must be clearly defined to prevent the completion of a referral from being mistaken for the conclusion of the response. The community should be responsible for maintaining ongoing contact and tracking progress, while service agencies should provide explanations regarding case acceptance based on their responsibilities and capabilities. For delays caused by insufficient resources, the reasons, available alternatives, and follow-up arrangements should be communicated, and the accumulated unmet needs should be reported to resource allocation departments to ensure that the identification of needs leads to adjustments in service provision.

6.5 Improve Arrangements for Data Usage and Service Error Correction

The scope of data collection and sharing should be determined based on specific service objectives, with clear definitions of usage permissions, retention requirements, and operational responsibilities, to minimize the need for older adults to disclose unnecessary information in order to access services. When services are handled by a representative, a distinction should be made between the individual's wishes, the scope of authorization, and the representative's authority. For information errors, eligibility identification discrepancies, and procedural anomalies, easily accessible channels for manual verification should be provided, allowing individuals to supplement their information with explanations of their actual circumstances. Service disputes must have a clearly defined entity responsible for handling them, a defined resolution process, and feedback on the outcome, to prevent existing errors from being perpetuated across different systems. Error-correction procedures should also allow staff to address special circumstances within the scope of their duties and retain necessary audit trails.

6.6 Establish an Evaluation Mechanism That Balances Efficiency and Fairness

The evaluation mechanism should simultaneously examine processing costs, response times, and disparities in service access, and include requests to withdraw, cases stuck in the referral process, and unmet needs within the scope of evaluation. For matters requiring significant explanation, assistance, and coordination, the effectiveness of the work should be assessed in light of their complexity to avoid a situation where the mere pursuit of processing speed undermines service opportunities for vulnerable groups. Evaluation data should encompass online records, in-person follow-ups, and the experiences of those whose cases remain unresolved, distinguishing between different causes such as individual choice, procedural barriers, and insufficient service provision. Evaluation results should be used to improve processes, allocate support staff, and adjust service resources, respectively, and the actual effectiveness of these adjustments should be verified to ensure that equity requirements receive sustained organizational and budgetary support.

7 DISCUSSION AND CONCLUSIONS

The impact of digital community governance on the accessibility of elderly care services depends on whether technological capabilities can be effectively integrated with organizational capacity and institutional safeguards. The theoretical analysis in this paper indicates that information integration, needs identification, and resource coordination can improve conditions for service access; however, their effectiveness still requires the implementation of rule interpretation, administrative assistance, and ongoing follow-up. Digitalization has also altered the distribution of administrative tasks and costs; in the absence of appropriate support, disparities in individual capabilities and family resources may further translate into disparities in service opportunities. Therefore, assessing the effectiveness of digital governance requires a comprehensive examination of the entire process, from the expression of needs to the delivery of services.

This paper defines accessibility as service opportunities jointly shaped by technology, organizations, and institutions, providing an analytical framework for explaining the gap between digital convenience and actual access. Governance improvements should ensure that channel integration, routine assistance, accountability allocation, and error-correction mechanisms work in concert, while distinguishing between procedural barriers, economic constraints, and supply shortages to clarify the boundaries of platform optimization. This paper constitutes a theoretical and institutional analysis; the proposed mechanisms still require empirical testing. Future research could compare different communities and service types to examine how support conditions influence the translation of needs and its distributional consequences, thereby further clarifying the scope of application of this framework.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

FUNDING

Guangzhou Huashang College 2023 Young Scholars Research Project (2023HSQX091).

REFERENCES

[1] Walsham G. Ict4d research: reflections on history and future agenda. Information Technology for Development. 2017. DOI: 10.1080/02681102.2016.1246406.

[2] Mergel I, Edelmann N, Haug N. Defining digital transformation: Results from expert interviews. Government Information Quarterly, 2019, 36(4): 101385. DOI: 10.1016/j.giq.2019.06.002.

[3] Lee E J, Park S J. A Framework of Smart-Home Service for Elderly's Biophilic Experience. Sustainability, 2020, 12. DOI: 10.3390/su12208572.

[4] Haug N, Dan S, Mergel I. Digitally-induced change in the public sector: A systematic review and research agenda. Public Management Review, 2024, 26(7): 1963-1987. DOI: 10.1080/14719037.2023.2234917.

[5] Penchansky R, Thomas J W. The concept of access: Definition and relationship to consumer satisfaction. Medical Care, 1981, 19(2): 127-140. DOI: 10.1097/00005650-198102000-00001.

[6] Levesque J F, Harris M F, Russell G. Patient-centred access to health care: Conceptualising access at the interface of health systems and populations. International Journal for Equity in Health, 2013, 12: 18. DOI: 10.1186/1475-9276-12-18.

[7] van Deursen A J A M, van Dijk J A G M. The first-level digital divide shifts from inequalities in physical access to inequalities in material access. New Media & Society, 2019, 21(2): 354-375. DOI: 10.1177/1461444818797082.

[8] Liu H, Zhou Q, Liang S. Digital inclusion in public services for vulnerable groups: A systematic review for research themes and goal-action framework from the lens of public service ecosystem theory. Government Information Quarterly, 2025, 42(2): 102019. DOI: 10.1016/j.giq.2025.102019.