



Review Article

# Administrative Capacity in the Implementation of Digital Population Administration Services: A Literature Review of the KNG Program in Surabaya City Government

Dimas Rahmatullah <sup>1</sup>, Amirul Mustofa <sup>2\*</sup>, Sarwani <sup>3</sup>, and Dian Ferriswara <sup>4</sup>

<sup>1</sup> Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia, Email: [dimasrahmatullah14@gmail.com](mailto:dimasrahmatullah14@gmail.com)

<sup>2</sup> Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia, Email: [amirul.mustofa@unitomo.ac.id](mailto:amirul.mustofa@unitomo.ac.id)

<sup>3</sup> Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia, Email: [sarwani@unitomo.ac.id](mailto:sarwani@unitomo.ac.id)

<sup>4</sup> Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia, Email: [dianferriswara@unitomo.ac.id](mailto:dianferriswara@unitomo.ac.id)

\* Corresponding Author: [amirul.mustofa@unitomo.ac.id](mailto:amirul.mustofa@unitomo.ac.id)

**Abstract:** Digital transformation has become a central agenda in local governments seeking to improve the effectiveness, accessibility, and reliability of public service delivery, particularly in population administration services that constitute the legal foundation of citizenship. In Indonesia, the Surabaya City Government has implemented the Klampid New Generation (KNG) program as an integrated digital platform for population administration services, aiming to streamline civil registration processes, enhance service quality, and expand citizen access. Despite its technological ambition, the implementation of digital population administration services continues to face persistent challenges related to administrative capacity, especially at the municipal level where services are operationalized and directly experienced by citizens. This issue raises an urgent academic and practical question regarding how administrative capacity shapes the performance and sustainability of digital public services within the broader digital government transformation. This article aims to synthesize and critically evaluate the existing scholarly literature on administrative capacity in the implementation of digital population administration services, with analytical relevance to the KNG program in Surabaya City Government. Employing an integrative literature review design, the study systematically examines peer-reviewed journal articles published between 2021 and 2025, retrieved from Scopus, DOAJ, Google Scholar, and SINTA databases. Articles were selected based on predefined inclusion and exclusion criteria and analyzed using thematic and conceptual synthesis techniques. The review identifies key dimensions of administrative capacity that consistently influence digital service implementation, including institutional and organizational arrangements, human resource competence, technological and infrastructural readiness, regulatory and procedural alignment, inter-organizational coordination, and the role of street-level bureaucrats in frontline service delivery.

**Keywords:** Administrative Capacity; Digital Government; Digital Population Administration; Good Governance; Local Government.

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## 1. Introduction

Digital transformation has become a defining agenda in contemporary public administration, reshaping how governments design, deliver, and govern public services. Across both developed and developing countries, digital government initiatives are increasingly promoted as mechanisms to enhance administrative efficiency, improve service quality, and strengthen transparency and accountability in public sector performance (United Nations Department of Economic and Social Affairs [UNDESA], 2024; OECD, 2023). Within this transformation, population administration services—such as civil registration,

identity management, and demographic data management—represent a foundational function of the state, as they underpin citizens' legal identity, access to public services, and participation in governance processes. Recent literature emphasizes that digitalization of population administration is not merely a technical modernization effort, but a strategic reform aimed at addressing long-standing challenges of bureaucratic complexity, service delays, and unequal access to basic administrative rights (Gasco-Hernandez et al., 2022; Chen & Lee, 2024). As governments increasingly adopt digital platforms to manage population data and service delivery, the effectiveness of these initiatives is closely linked to broader digital government capacities rather than technological deployment alone. Consequently, understanding how administrative systems adapt to and govern digital population administration has become a critical issue within the digital government and public administration literature.

The development of digital population administration services reflects a broader evolution from conventional e-government toward more integrated and citizen-oriented digital government models. Digital population administration typically involves the use of online platforms, interoperable databases, and digital identity systems to streamline civil registration and population-related services (Sedlmeir et al., 2021; Zainudin, 2025). In many countries, these systems are implemented at the local government level, where municipalities serve as the primary interface between the state and citizens. This local dimension is particularly salient in developing country contexts, where administrative capacity varies significantly across regions and institutional arrangements remain fragmented (Xu et al., 2024). In Indonesia, local governments play a central role in population administration, making municipal-level digital initiatives especially consequential. The Klampid New Generation (KNG) program implemented by the Surabaya City Government represents an advanced local digital government initiative that integrates multiple population administration services into a single digital platform. Academically, KNG provides a valuable case for examining how digital population administration operates within complex local bureaucratic environments. Practically, it illustrates the challenges and opportunities faced by city governments attempting to institutionalize digital service delivery while maintaining service inclusivity and administrative reliability (Wessiani et al., 2025).

While digital platforms are often portrayed as drivers of efficiency and innovation, a growing body of public administration research underscores that the success of digital government initiatives fundamentally depends on administrative capacity. Administrative capacity encompasses the ability of public organizations to mobilize human resources, organizational structures, institutional rules, and technological systems to implement policies effectively (Haug et al., 2024; Gasco-Hernandez et al., 2022). In the context of digital population administration, capacity constraints frequently emerge in the form of limited digital skills among civil servants, fragmented organizational coordination, inadequate regulatory frameworks, and uneven technological infrastructure. Moreover, the role of street-level bureaucrats remains crucial, as frontline officials continue to exercise discretion in processing applications, assisting citizens, and resolving system-related issues despite increasing digitalization (Marienfeldt, 2024). The literature further highlights that digital government reforms may unintentionally shift administrative burdens onto frontline workers and citizens if organizational capacity is insufficiently developed (Administration & Society, 2024). Therefore, administrative capacity should be understood as a multidimensional construct that mediates the relationship between digital systems and service outcomes, particularly in local government settings where institutional complexity and resource disparities are pronounced.

Despite the expanding literature on digital government and population administration, existing studies reveal several conceptual and empirical limitations. First, much of the research remains technology-centric, emphasizing system adoption, usability, or service outcomes while paying limited attention to the administrative capacity required to sustain digital services over time (Mora et al., 2021; Chen & Lee, 2024). Second, studies that address capacity issues often focus on isolated dimensions, such as human resource skills or infrastructure readiness, without integrating organizational, institutional, and governance perspectives into a unified analytical framework. Third, empirical evidence from local governments—particularly in developing countries—is still fragmented, with limited synthesis across cases and theoretical approaches (Xu et al., 2024; Fitriani et al., 2025). As a result, there is a lack of comprehensive understanding of how administrative capacity shapes the implementation of digital population administration services at the municipal level. This gap is particularly evident in the Indonesian context, where innovative programs such as KNG have been implemented, yet

systematic literature-based analysis linking administrative capacity to digital population administration outcomes remains scarce.

In response to these gaps, this article aims to systematically synthesize existing literature on administrative capacity in the implementation of digital population administration services, using the Klampid New Generation (KNG) program in Surabaya City Government as an analytical reference point. Specifically, this literature review seeks to identify key dimensions of administrative capacity, examine their interaction with digital government mechanisms, and assess their implications for service implementation at the local government level. Theoretically, the study contributes to the digital government and public administration literature by integrating administrative capacity theory with perspectives from digital era governance, street-level bureaucracy, good governance, and digital divide research. Practically, the findings offer policy-relevant insights for local governments seeking to strengthen institutional readiness and service inclusivity in digital population administration initiatives. The article is structured as follows: the next section outlines the theoretical foundations of administrative capacity and digital government; this is followed by the methodology of the integrative literature review; subsequent sections present the thematic results and discussion, a comparative analysis across contexts, and concluding reflections on implications and future research directions.

## 2. Literature Review

### Administrative Capacity

Administrative capacity is widely recognized in public administration literature as a multidimensional construct that determines the ability of public organizations to design, implement, and sustain public policies and services effectively, particularly in contexts of digital transformation. Classical and contemporary studies conceptualize administrative capacity as encompassing institutional arrangements, human resource competence, technical and infrastructural readiness, regulatory frameworks, and coordination mechanisms across organizational units (Gasco-Hernandez et al., 2022; Haug et al., 2024). In the domain of digital government, administrative capacity extends beyond managerial routines to include digital skills of civil servants, organizational adaptability to technology-driven workflows, and the capability to integrate digital systems with existing bureaucratic processes (Xu et al., 2024). Empirical evidence from local government contexts demonstrates that insufficient human resource capacity and fragmented institutional coordination frequently undermine the effectiveness of digital public services, even when advanced technologies are available (Wessiani et al., 2025). Moreover, studies on street-level bureaucracy highlight that frontline officials' discretion, problem-solving ability, and understanding of digital systems remain central to service delivery outcomes, reinforcing the importance of administrative capacity at the operational level (Marienfeldt, 2024). In the context of digital population administration, such as integrated civil registration and digital identity services, administrative capacity functions as a critical mediating factor that shapes whether digital initiatives improve service efficiency, inclusiveness, and governance quality or instead reproduce existing bureaucratic constraints (Chen & Lee, 2024; Zainudin, 2025).

### Digital Government

Digital government represents an evolutionary shift from earlier e-government initiatives toward a more integrated, data-driven, and citizen-centered approach to public service delivery and governance. While e-government initially emphasized the digitization of administrative processes and online service provision, digital government extends this focus by reconfiguring organizational structures, intergovernmental coordination, and decision-making processes through the strategic use of digital technologies (Haug et al., 2024; OECD, 2023). The primary objectives of digital government include improving bureaucratic efficiency, enhancing service quality, strengthening public accountability, and generating public value through more responsive and transparent governance mechanisms (Chen & Lee, 2024; UNDESA, 2024). In the context of digital population administration, digital government enables the integration of civil registration, identity management, and population data systems, thereby reducing administrative fragmentation and service delays (Sedlmeir et al., 2021; Zainudin, 2025). However, empirical studies consistently show that local governments in developing countries face significant challenges in implementing digital

government, including uneven administrative capacity, limited digital skills among civil servants, and inadequate institutional coordination (Gasco-Hernandez et al., 2022; Xu et al., 2024). These constraints often undermine the anticipated gains in efficiency and accountability, indicating that digital government reforms must be accompanied by organizational and institutional capacity-building efforts to effectively transform population administration services at the municipal level (Wessiani et al., 2025).

### **Digital Era Governance**

Digital Era Governance (DEG) is conceptualized as a post–New Public Management (NPM) paradigm that reorients public administration away from fragmentation, marketization, and managerial disaggregation toward reintegration, citizen-centeredness, and digitalization of core state functions (Dunleavy et al., 2006). DEG emphasizes three interrelated characteristics: reintegration of government functions across organizational boundaries, needs-based holism that prioritizes citizens' life events rather than agency silos, and digitalization as the default mode of service delivery. In contrast to NPM's emphasis on efficiency through outsourcing and quasi-markets, DEG highlights the strategic role of the state in coordinating digital infrastructures, data integration, and service coherence (UNDESA, 2024). This paradigm is particularly relevant to digital population administration services, where civil registration, identity management, and demographic data require high levels of institutional integration and policy coherence. Empirical studies indicate that DEG-oriented reforms place substantial demands on administrative capacity, especially in terms of inter-organizational coordination, digital skills of public servants, and the alignment of regulatory frameworks with digital processes (Gasco-Hernandez et al., 2022; Haug et al., 2024). In local government contexts, such as municipal population administration, insufficient administrative capacity often constrains the realization of DEG principles, resulting in partial integration and uneven service outcomes (Wessiani et al., 2025). Consequently, strengthening administrative capacity is a prerequisite for translating Digital Era Governance from a normative ideal into effective digital population administration practice.

### **Street-Level Bureaucracy**

Street-level bureaucrats play a decisive role in shaping the real-world outcomes of digital public service implementation, as they remain the primary interface between government systems and citizens. Although digital population administration systems are designed to standardize procedures and reduce discretion, empirical studies show that frontline officials continue to exercise significant judgment in interpreting rules, assisting users, and resolving system-related problems (Marienfeldt, 2024). In digital service environments, street-level bureaucrats are required not only to apply administrative regulations but also to adapt to technological workflows, troubleshoot digital platforms, and translate system logic into understandable guidance for citizens (Administration & Society, 2024). Their digital competence, problem-solving capacity, and attitudes toward technology therefore directly affect service accessibility, processing speed, and user satisfaction. Research on local governments indicates that limited training, high workloads, and rigid organizational structures often constrain frontline officials' ability to effectively support digital services, resulting in informal workarounds or unequal service outcomes (Gasco-Hernandez et al., 2022; Wessiani et al., 2025). In the context of digital population administration, such as civil registration and identity services, street-level bureaucrats also function as mediators of inclusion for citizens facing digital literacy barriers, thereby influencing whether digitalization reduces or reinforces administrative exclusion (Haug et al., 2024). Consequently, the success of digital population administration initiatives depends not only on system design but also on the administrative capacity, discretion, and adaptive practices of street-level bureaucrats who operationalize digital policies at the frontline.

### **Good Governance**

Good governance constitutes a normative and analytical framework for assessing how public institutions exercise authority, manage public resources, and deliver services in ways that are transparent, accountable, participatory, and effective. In the context of digital government, these principles acquire renewed significance, as digital platforms are expected not only to improve efficiency but also to strengthen accountability mechanisms, reduce information asymmetries, and enhance public trust (UNDESA, 2024; OECD, 2023).

Transparency in digital public services is reflected in clear procedures, accessible information, and traceable service processes, while accountability is reinforced through digital records, audit trails, and performance monitoring systems (Chen & Lee, 2024). Participation, although often less emphasized in administrative services, remains relevant through feedback channels, complaint mechanisms, and citizen engagement in service improvement. Empirical studies show that the realization of good governance principles in digital services is highly contingent on administrative capacity, including the ability of public organizations to design user-oriented systems, enforce regulatory standards, and coordinate across institutional boundaries (Gasco-Hernandez et al., 2022). In digital population administration, such as civil registration and identity services, weak administrative capacity may undermine governance outcomes by producing opaque processes, delayed responses, or unequal access for vulnerable groups (Wessiani et al., 2025). Consequently, strengthening administrative capacity is essential to ensure that digital population administration initiatives translate technological innovation into effective, accountable, and inclusive governance outcomes rather than merely digitizing existing bureaucratic inefficiencies.

### 3. Materials and Method

#### Research Design and Type of Literature Review.

This study adopts an integrative literature review (ILR) design to examine administrative capacity in the implementation of digital population administration services. The integrative approach was selected because it allows the synthesis of heterogeneous bodies of knowledge, including conceptual frameworks, qualitative case studies, and quantitative empirical findings, which are characteristic of the digital government and public administration literature. Unlike systematic reviews that prioritize narrowly defined research questions and homogeneous study designs, ILR is particularly suitable for theory development, conceptual integration, and policy-oriented synthesis across diverse contexts (Haug et al., 2024). This design is appropriate for analyzing administrative capacity, a multidimensional construct encompassing institutional, human resource, technological, regulatory, and coordination dimensions that cannot be adequately captured through a single empirical lens (Gasco-Hernandez et al., 2022). Accordingly, this article is positioned as a review article, not an empirical field study, aiming to consolidate and interpret existing scholarly evidence rather than generate primary data. By integrating insights from digital government, digital era governance, street-level bureaucracy, good governance, and digital divide perspectives, the review seeks to develop a comprehensive understanding of how administrative capacity shapes the implementation of digital population administration initiatives, with specific analytical relevance to the Klampid New Generation (KNG) program in Surabaya City Government.

#### Data Sources and Literature Search Strategy.

Secondary data for this review were collected through a structured literature search across multiple academic databases to ensure comprehensive coverage and scholarly rigor. The primary databases included Scopus, DOAJ, Google Scholar, and SINTA, reflecting a balance between international peer-reviewed journals and high-quality national publications relevant to the Indonesian public sector context. The search was limited to articles published between 2021 and 2025 to capture recent developments in digital government and administrative capacity research. Keyword combinations were constructed using Boolean operators to reflect the core concepts of the study, including “administrative capacity,” “digital government,” “digital population administration,” “digital era governance,” “street-level bureaucracy,” “good governance,” and “digital divide” (Haug et al., 2024; UNDESA, 2024). Boolean strings such as (“administrative capacity” AND “digital government”) and (“population administration” OR “digital identity”) AND “local government” were applied iteratively to refine results. Reference lists of key articles were also screened to identify additional relevant studies. This multi-database, iterative strategy was designed to minimize omission bias and ensure that the literature pool reflected both conceptual depth and empirical diversity.

### **Inclusion, Exclusion Criteria, and Article Selection Process.**

Clear inclusion and exclusion criteria were established prior to the screening process to enhance transparency and methodological consistency. Included studies were peer-reviewed journal articles published in English or Indonesian between 2021 and 2025, focusing on public sector digitalization, administrative capacity, or digital public services at the national or local government level. Studies explicitly addressing population administration, digital identity, or civil registration systems were prioritized. Excluded sources comprised non-peer-reviewed materials, opinion pieces, purely technical information systems studies without public administration relevance, and duplicated records. The selection process followed four sequential stages: identification, initial screening based on titles and abstracts, full-text eligibility assessment, and final inclusion. This process resulted in 32 articles forming the core analytical corpus (Pustaka Dimas Pool). To minimize selection bias, inclusion decisions were guided by predefined criteria and applied consistently across databases, aligning with international standards for review articles in public administration and digital government research (Gasco-Hernandez et al., 2022; Xu et al., 2024).

### **Analytical Technique and Literature Synthesis.**

The selected articles were analyzed using thematic analysis combined with conceptual synthesis, enabling systematic identification of recurring patterns and theoretical linkages across studies. The analysis proceeded through iterative coding stages, beginning with open coding to identify key concepts related to administrative capacity, digital governance mechanisms, and service outcomes. These codes were subsequently grouped into higher-order themes corresponding to human resource capacity, organizational and institutional arrangements, technological infrastructure, regulatory frameworks, coordination mechanisms, street-level practices, governance outcomes, and citizen readiness (Marienfeldt, 2024; Wessiani et al., 2025). Administrative capacity and digital government served as the primary analytical lenses, while digital era governance, street-level bureaucracy, good governance, and digital divide theories were employed as complementary perspectives to interpret variations in implementation processes and outcomes. This integrative synthesis enabled cross-study comparison and theoretical consolidation, facilitating the development of a coherent conceptual understanding of how administrative capacity mediates the effectiveness of digital population administration services across different governance contexts.

### **Validity, Reliability, and Methodological Limitations.**

To enhance validity and reliability, this review employed transparent selection criteria, systematic search procedures, and theory-driven analysis. Triangulation across multiple databases and theoretical perspectives helped strengthen construct validity and reduce interpretive bias (Haug et al., 2024). Nevertheless, several methodological limitations should be acknowledged. First, the review is constrained by the availability and scope of published literature, which may reflect publication bias toward successful digital government initiatives. Second, the reliance on English and Indonesian language sources may have excluded relevant studies published in other languages. Third, while the integrative approach allows broad synthesis, it does not provide statistical generalization. These limitations imply that findings should be interpreted as analytically generalizable rather than empirically exhaustive. Despite these constraints, the methodological rigor applied ensures that the review offers a credible and policy-relevant synthesis of existing knowledge on administrative capacity in digital population administration, providing a robust foundation for future empirical research and comparative analysis (UNDESA, 2024; Gasco-Hernandez et al., 2022).

## **4. Result and Discussion**

### **Results**

The integrative literature review reveals a consistent set of thematic findings regarding administrative capacity in the implementation of digital population administration services. Across the reviewed studies, administrative capacity is repeatedly identified as the primary determinant shaping the effectiveness, sustainability, and equity of digital public service delivery. The synthesis identifies five dominant and recurring themes: (1) institutional and

organizational capacity, (2) human resource capacity, (3) technical and technological capacity, (4) regulatory and procedural capacity, and (5) coordination capacity across administrative units. Rather than treating these dimensions independently, the literature emphasizes their interdependence, suggesting that weaknesses in one dimension often undermine strengths in others (Gasco-Hernandez et al., 2022; Haug et al., 2024). Empirical studies consistently report that digital platforms alone do not guarantee service improvement; instead, digital initiatives succeed when embedded within capable administrative systems that can align organizational routines with digital workflows (Xu et al., 2024). Furthermore, research on digital government implementation at the local level highlights that population administration services are particularly sensitive to capacity constraints due to their legal significance, high transaction volume, and direct interaction with citizens (Sedlmeir et al., 2021; Zainudin, 2025). These findings indicate that administrative capacity functions as a foundational condition for translating digitalization efforts into effective population administration outcomes.

The literature consistently identifies institutional and organizational capacity as a central component influencing digital population administration performance. Studies demonstrate that local governments with clearly defined institutional mandates, stable organizational structures, and coherent governance arrangements are more capable of integrating digital services across administrative units (Gasco-Hernandez et al., 2022). Empirical evidence shows that fragmented organizational responsibilities and unclear authority structures frequently result in duplicated procedures, inconsistent service standards, and delays in digital service processing (Xu et al., 2024). In the context of population administration, organizational capacity is closely associated with the ability to integrate civil registration, identity management, and population data systems into unified service platforms (OECD, 2023). Several studies further indicate that institutional learning and incremental organizational adaptation play a critical role in sustaining digital services beyond the initial implementation phase (Wessiani et al., 2025). The reviewed literature thus suggests that digital population administration initiatives tend to perform more effectively in environments where organizational structures are aligned with digital service objectives and supported by clear institutional leadership and governance mechanisms.

Human resource capacity emerges as one of the most frequently cited constraints in the implementation of digital population administration services. The literature reports that digital government reforms place new demands on public servants, including digital literacy, data management skills, and the ability to operate hybrid service models combining online and face-to-face interactions (Haug et al., 2024). Empirical studies indicate that insufficient training, uneven skill distribution, and high workload pressures often limit frontline and managerial staff's ability to fully utilize digital systems (Gasco-Hernandez et al., 2022). In population administration services, where accuracy and legal compliance are critical, limited human resource capacity increases the risk of processing errors, service delays, and inconsistent decision-making (Sedlmeir et al., 2021). The literature also highlights that human resource capacity is not limited to technical skills, but includes adaptive capacity, problem-solving ability, and readiness to engage with organizational change (Xu et al., 2024). Overall, the findings indicate that sustained investment in human resource development is a necessary condition for effective digital population administration.

Beyond organizational and human dimensions, the reviewed studies emphasize the importance of technical, regulatory, and coordination capacity in shaping digital population administration outcomes. Technical capacity is commonly defined as the availability of reliable digital infrastructure, system interoperability, and data security mechanisms capable of supporting high-volume service transactions (UNDESA, 2024). Regulatory capacity refers to the ability of public organizations to translate legal and procedural requirements into digitally executable rules that ensure legality, transparency, and accountability (Chen & Lee, 2024). Several studies report that misalignment between regulatory frameworks and digital system design often leads to procedural bottlenecks and user confusion (OECD, 2023). Coordination capacity, particularly in local government contexts, is identified as a cross-cutting factor enabling synchronization among departments, subdistricts, and service units involved in population administration (Gasco-Hernandez et al., 2022). Empirical findings suggest that weak coordination frequently undermines the integrative potential of digital services, resulting in fragmented user experiences despite unified digital platforms (Wessiani et al., 2025). Collectively, these results indicate that digital population administration effectiveness depends on the simultaneous strengthening of technical reliability, regulatory coherence, and inter-organizational coordination.

## Discussion

The results of this literature review reaffirm administrative capacity as the central explanatory mechanism underlying the success or failure of digital population administration services. Rather than functioning as a background condition, administrative capacity actively mediates how digital government initiatives are translated into operational practices and service outcomes. This finding aligns with contemporary public administration scholarship that conceptualizes capacity as a multidimensional and dynamic construct encompassing institutional authority, organizational routines, human competencies, and system governance (Gasco-Hernandez et al., 2022; Haug et al., 2024). In the context of digital population administration, where services involve legal identity, civil rights, and inter-agency data exchange, insufficient capacity does not merely slow implementation but may compromise service reliability and citizen trust. The literature thus challenges technology-centric assumptions in digital government discourse by demonstrating that digital platforms amplify existing administrative strengths and weaknesses rather than neutralizing them (Xu et al., 2024). For local governments, this implies that digital transformation should be understood as an organizational reform process rather than a technical upgrade. Administrative capacity becomes the core variable that determines whether digital population administration initiatives achieve integration, consistency, and sustainability or instead reproduce fragmented bureaucratic practices in digital form.

The discussion of capacity dimensions highlights their interdependence and cumulative effects on implementation outcomes. Institutional and organizational capacity enables digital integration by clarifying mandates, authority, and accountability across service units, a prerequisite for unified population administration platforms (OECD, 2023). Human resource capacity operates as the main transmission channel through which digital systems are enacted in daily practice, shaping responsiveness, error management, and service continuity (Haug et al., 2024). Technical capacity, while necessary, is insufficient in isolation; without regulatory capacity to encode legal rules into digital procedures, technological systems risk generating procedural ambiguity and uneven enforcement (Chen & Lee, 2024). Coordination capacity emerges as a decisive factor in municipal contexts, where population administration typically involves multiple departments and territorial units. The literature suggests that digital population services succeed when coordination mechanisms are institutionalized rather than dependent on informal arrangements (Gasco-Hernandez et al., 2022; Wessiani et al., 2025). These insights underscore that capacity-building efforts must be holistic, targeting the alignment of organizational structures, human competencies, regulatory frameworks, and inter-unit collaboration to fully realize the potential of digital population administration.

The reviewed studies indicate that digitalization fundamentally reconfigures, rather than eliminates, street-level bureaucratic discretion. Digital systems standardize procedures and constrain certain forms of discretionary judgment, yet simultaneously generate new discretionary spaces related to exception handling, system interpretation, and citizen assistance (Marienfeldt, 2024). In digital population administration, frontline officials frequently act as intermediaries between rigid system logic and diverse citizen circumstances, particularly when users face documentation gaps or limited digital literacy. This reconfiguration places additional cognitive and administrative demands on street-level bureaucrats, making their capacity a critical determinant of service quality and equity (Administration & Society, 2024). The discussion thus extends classic street-level bureaucracy theory by demonstrating how discretion persists in digitally mediated forms of service delivery. Importantly, the literature suggests that frontline discretion becomes constructive or problematic depending on organizational support, training, and workload management—again pointing to administrative capacity as the enabling condition (Gasco-Hernandez et al., 2022). For digital population administration initiatives, strengthening frontline capacity is therefore not a peripheral concern but a core governance requirement.

The discussion of governance outcomes reveals that the relationship between digital government and good governance is conditional rather than automatic. While digital population administration systems have the potential to enhance transparency, accountability, and effectiveness through standardized procedures and digital traceability, these benefits materialize only when administrative capacity supports consistent implementation and oversight (OECD, 2023; UNDESA, 2024). The literature cautions that weak capacity may transform digitalization into a source of new opacity, as complex interfaces and fragmented responsibilities obscure accountability rather than clarify it (Chen & Lee, 2024). Moreover, governance quality is shaped by sociotechnical arrangements, meaning that technology

interacts with institutional norms and organizational cultures to produce varied outcomes (Mora et al., 2021). Local government studies demonstrate that digital reforms are most likely to improve service quality when they are accompanied by clear performance standards, monitoring mechanisms, and adaptive management practices (Wessiani et al., 2025). These findings suggest that good governance in digital population administration should be conceptualized as an outcome of capacity-enabled institutional design rather than as an inherent attribute of digital systems.

The literature further demonstrates that digital divide and citizen readiness function as external constraints that interact closely with governmental administrative capacity. Digital population administration services presuppose a minimum level of citizen access, literacy, and confidence in using digital platforms, conditions that are unevenly distributed across social groups (Fokovská et al., 2023). However, the review indicates that citizen readiness alone does not determine service effectiveness; rather, it is mediated by the government's capacity to design inclusive systems and provide supportive mechanisms such as hybrid service channels and frontline assistance (Isabella et al., 2025). When administrative capacity is strong, digitalization can reduce barriers and expand access; when capacity is weak, it can shift administrative burdens onto citizens and exacerbate exclusion (Gasco-Hernandez et al., 2022; Haug et al., 2024). This interaction effect underscores the governance responsibility of local governments to actively manage digital inclusion as part of service delivery, particularly in population administration where exclusion has far-reaching legal and social consequences.

Synthesizing these discussions, the literature review advances a refined theoretical understanding of administrative capacity in digital population administration. Administrative capacity emerges not only as a prerequisite but as an integrative mechanism linking digital government design, frontline implementation, governance outcomes, and citizen inclusion. Applied to the Klampid New Generation (KNG) program in Surabaya, the findings suggest that KNG's effectiveness depends on sustained institutional coordination, continuous capacity-building for frontline officials, and regulatory alignment between digital procedures and population administration law (Wessiani et al., 2025; Zainudin, 2025). The discussion thus positions KNG as a representative illustration of broader challenges faced by local governments implementing digital population services in developing country contexts. Theoretically, the review contributes to digital government scholarship by integrating administrative capacity, street-level bureaucracy, good governance, and digital divide perspectives into a single analytical framework. This integrated approach provides a robust foundation for future empirical research and offers policy-relevant insights for strengthening digital population administration at the municipal level.

## 5. Comparison

A comparative reading of the reviewed literature reveals both convergence and divergence in how administrative capacity is understood and empirically linked to digital public service implementation. Across studies conducted in different jurisdictions, there is broad agreement that administrative capacity—rather than technological sophistication alone—constitutes the primary determinant of digital government performance (Gasco-Hernandez et al., 2022; Haug et al., 2024). Most studies converge on the finding that digital platforms amplify existing organizational strengths and weaknesses, producing uneven outcomes when capacity is fragmented or underdeveloped (Xu et al., 2024). However, differences emerge in terms of analytical emphasis and empirical focus. Research grounded in European or OECD contexts often highlights organizational integration and data governance as dominant capacity issues, whereas studies from developing-country settings emphasize human resource gaps, coordination failures, and regulatory misalignment as more salient constraints (OECD, 2023; Wessiani et al., 2025). Moreover, while some studies frame digital government success primarily in terms of efficiency and service speed, others foreground equity, inclusiveness, and legal reliability—dimensions that are particularly critical in population administration services (Sedlmeir et al., 2021; Zainudin, 2025). These variations suggest that although administrative capacity is a shared explanatory factor, its operational manifestations and policy implications differ substantially across service domains and governance environments.

The literature also demonstrates variation in the conceptual and theoretical lenses used to analyze administrative capacity in digital public services. Studies rooted in administrative capacity theory emphasize institutional arrangements, organizational routines, and resource endowments as core explanatory variables, offering a structural understanding of

implementation performance (Gasco-Hernandez et al., 2022; Xu et al., 2024). In contrast, digital government frameworks focus more explicitly on process reengineering, service integration, and data-driven governance, often treating capacity as an enabling condition rather than an analytical object in its own right (OECD, 2023; UNDESA, 2024). Digital Era Governance (DEG) perspectives further shift attention toward reintegration, needs-based holism, and digital-by-default principles, highlighting how digital reforms reconfigure state–citizen relations and organizational boundaries (Haug et al., 2024). While these approaches are complementary, they are rarely integrated within a single analytical framework, resulting in partial explanations that either under-theorize organizational capacity or under-specify digital governance mechanisms. The present literature review bridges this gap by positioning administrative capacity as the connective tissue linking digital government design, DEG principles, and frontline implementation dynamics. This integrative positioning is particularly relevant for digital population administration, where legal, organizational, and technological dimensions intersect more tightly than in many other public services (Sedlmeir et al., 2021).

Comparative analysis across implementation contexts highlights significant differences between developed and developing countries, as well as between central and local levels of government. In high-income countries, studies tend to emphasize interoperability, data governance, and advanced analytics as key capacity challenges, reflecting relatively mature administrative systems (OECD, 2023). Conversely, literature from developing countries and subnational governments underscores more foundational capacity issues, including uneven digital skills among civil servants, limited institutional coordination, and gaps between regulatory frameworks and digital practices (Wessiani et al., 2025; Zainudin, 2025). At the local government level, these challenges are magnified by proximity to citizens and the operational complexity of frontline service delivery. Population administration services, which are predominantly delivered by municipal governments, illustrate how capacity constraints at the local level can directly affect citizens' access to legal identity and public rights (Xu et al., 2024). The reviewed studies consistently show that decentralization of digital service delivery without commensurate capacity-building can lead to fragmentation and inequality in outcomes. This comparative evidence reinforces the argument that administrative capacity must be analyzed contextually, with particular sensitivity to governance level and service domain.

Within the state of the art, this literature review occupies a distinct position by explicitly integrating administrative capacity theory with digital government and population administration scholarship. Unlike many prior reviews that address digital government in general terms, this study focuses on digital population administration services as a specific and high-stakes domain, where capacity deficits have direct legal and social consequences. The review's value added lies in its synthesis of dispersed findings into a coherent analytical framework that links institutional, human, technical, regulatory, and coordination capacities with frontline practices and citizen readiness. By contextualizing these insights through the lens of the Klampid New Generation (KNG) program in Surabaya City Government, the article extends the predominantly Western-centric digital government literature to a large metropolitan government in a developing-country context (Wessiani et al., 2025). Conceptually, the review advances the argument that administrative capacity should be treated as a dynamic and integrative construct rather than a background condition. Empirically, it provides a structured basis for future comparative and case-based research on digital population administration, positioning KNG not as an isolated innovation but as an illustrative case within broader debates on digital governance and public sector capacity (Haug et al., 2024; UNDESA, 2024).

## 6. Conclusion

This literature review demonstrates that administrative capacity constitutes the foundational determinant in the implementation of digital population administration services, particularly at the local government level. Across the reviewed studies, administrative capacity consistently emerges as a multidimensional construct encompassing institutional arrangements, human resource competencies, technological readiness, regulatory coherence, and coordination mechanisms that jointly shape digital service performance (Gasco-Hernandez et al., 2022; Xu et al., 2024). The synthesis shows that digitalization does not inherently resolve long-standing administrative challenges; instead, digital platforms tend to amplify existing organizational strengths and weaknesses. In the context of population administration—where services are legally binding, high-volume, and citizen-facing—

capacity deficiencies are associated with service delays, procedural inconsistencies, and diminished public trust (Sedlmeir et al., 2021; Zainudin, 2025). Moreover, the literature indicates that digital reforms reconfigure frontline practices rather than eliminate human mediation, reinforcing the importance of administrative capacity at both organizational and operational levels (Marienfeldt, 2024). Collectively, these findings confirm that administrative capacity is not a peripheral condition but a central mechanism through which digital population administration initiatives succeed or fail (Haug et al., 2024).

The findings of this review address the article's objective of advancing a more integrated understanding of administrative capacity within digital government scholarship. The review contributes theoretically by positioning administrative capacity as a connective analytical framework that links digital government design, institutional governance, frontline implementation, and citizen inclusion. It extends administrative capacity theory by demonstrating how capacity dimensions interact dynamically with digital infrastructures and governance reforms rather than operating in isolation (Gasco-Hernandez et al., 2022). At the same time, the review enriches digital government and digital era governance perspectives by showing that integration, digital-by-default service delivery, and citizen-centeredness remain contingent upon organizational and human capacities at the local level (OECD, 2023; UNDESA, 2024). The incorporation of street-level bureaucracy theory clarifies how discretion persists in digitally mediated services, while good governance theory explains why transparency and accountability outcomes depend on institutional capacity rather than technology alone (Chen & Lee, 2024). Furthermore, the inclusion of digital divide and citizen readiness perspectives highlights the relational nature of capacity, emphasizing that effective digital population administration requires alignment between state capabilities and societal conditions (Tokovská et al., 2023).

From a practical and policy standpoint, the review provides clear implications for local governments implementing digital population administration initiatives such as the Klampid New Generation (KNG) program in Surabaya. First, capacity-building strategies should be comprehensive, extending beyond infrastructure investment to include institutional redesign, regulatory harmonization, and inter-unit coordination (Gasco-Hernandez et al., 2022; OECD, 2023). Second, sustained human resource development is essential, particularly for frontline officials who act as intermediaries between digital systems and citizens; training programs should therefore emphasize adaptive problem-solving, legal literacy, and hybrid service delivery skills (Haug et al., 2024; Marienfeldt, 2024). Third, digital inclusion should be treated as an administrative responsibility rather than a purely citizen-side issue, requiring assisted service channels and user-oriented system design to mitigate digital divide effects (Tokovská et al., 2023; UNDESA, 2024). For KNG specifically, these implications suggest that long-term service effectiveness depends less on technological sophistication than on the Surabaya City Government's ability to continuously align administrative capacity with evolving digital service demands (Wessiani et al., 2025).

Despite its contributions, this literature review has several limitations that warrant consideration. Methodologically, the review relies on peer-reviewed literature indexed in selected databases and published in English or Indonesian, which may reflect publication bias toward more visible or successful digital government initiatives (Haug et al., 2024). Conceptually, while the integrative approach enables broad synthesis, it does not empirically test causal relationships between specific capacity dimensions and service outcomes. These limitations highlight important avenues for future research. Empirical studies—both qualitative and quantitative—are needed to examine how administrative capacity evolves over time within digital population administration programs and how different capacity dimensions interact in practice (Xu et al., 2024). Comparative research across municipalities and governance levels would further clarify contextual variations in capacity requirements, particularly in developing-country settings (UNDESA, 2024). Longitudinal studies could also illuminate processes of organizational learning and institutionalization in mature digital service systems. Advancing these research agendas will deepen scholarly understanding of administrative capacity as a dynamic governance resource and support more equitable and sustainable digital population administration reforms.

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