



ADMINISTRATIVE EXCLUSION IN THE AGE OF AUTOMATION: A THEMATIC SYNTHESIS OF THE DIGITAL DIVIDE IN PHILIPPINE LOCAL GOVERNANCE (2020–2026)

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ABSTRACT

This study examined administrative exclusion in the age of automation by analyzing how digital governance and the digital divide affect access to public services in Philippine Local Government Units (LGUs). The study aimed to determine how uneven digital transformation, institutional capacity, digital literacy, and administrative burden contribute to exclusion within automated governance systems. A qualitative systematic review and meta-synthesis research design was employed using thematic analysis as the primary analytical framework. The study utilized secondary data gathered from peer-reviewed journal articles, government reports, institutional publications, and international development documents published from 2020 to 2026. Sources were systematically identified, screened, and organized using a Systematic Literature Review Matrix aligned with the conceptual framework of the study. Data analysis followed Braun and Clarke's six-step thematic analysis process, including coding, theme generation, review, and synthesis. Findings revealed that digital governance implementation across Philippine LGUs remains uneven due to disparities in ICT infrastructure, financial resources, institutional readiness, and digital literacy. Highly urbanized cities demonstrated stronger digital integration, while rural municipalities experienced limited connectivity and fragmented systems. The study further found that automated governance systems increased administrative burden among marginalized populations, particularly those with limited digital skills and internet access. These conditions contributed to administrative exclusion and reinforced inequalities in public service delivery. The study concluded that digital governance reforms must prioritize inclusivity, accessibility, and human-centered governance to prevent technology from becoming a barrier to public services.

Keywords: *administrative exclusion, digital governance, digital divide, e-government*

INTRODUCTION

The rapid expansion of digital governance has transformed public administration across the world, reshaping how governments deliver services, manage information, and interact with citizens. The integration of information and communication technologies (ICTs) into governance systems has been widely promoted as a mechanism for improving efficiency, transparency, accountability, and accessibility in public service delivery (Organisation for Economic Co-operation and Development [OECD], 2020; United Nations, 2022). In developing countries, digital governance has become a central component of modernization strategies aimed at strengthening institutional performance and expanding citizen access to government services (World Bank, 2021). In the Philippines, digital transformation accelerated significantly during the COVID-19 pandemic as government agencies and Local Government Units (LGUs) adopted online platforms, digital payment systems, and automated administrative processes to maintain governance functions amid mobility restrictions (World Bank, 2020). National initiatives led by the Department of Information and Communications Technology (DICT), including eGovPH, digital identity systems, and broadband expansion programs, further institutionalized the shift toward automated governance (DICT, 2022).

Despite these developments, the implementation of digital governance in the Philippines remains uneven. Access to reliable internet connectivity, ICT infrastructure, and digital services varies considerably across regions, particularly between urban centers and rural or geographically isolated communities (Philippine Statistics Authority [PSA], 2025; World Bank, 2025). Existing literature consistently identifies the digital divide as a major barrier to inclusive governance, emphasizing that disparities extend beyond physical access to technology and include differences in digital literacy, usage patterns, and the ability to benefit from digital systems (DiMaggio & Hargittai, 2001; Van Dijk, 2020). Warschauer (2004) further argues that meaningful digital inclusion requires institutional and social support systems rather than access alone. In the Philippine setting, these inequalities affect how citizens engage with digital government platforms and influence their ability to access essential public services.

Studies on e-government and digital governance indicate that technological adoption can improve administrative efficiency and reduce bureaucratic delays when supported by strong institutional capacity and inclusive implementation (OECD, 2020; United Nations, 2022). However, emerging scholarship also highlights the unintended consequences of automation within governance systems. Bovens and Zouridis (2002) explain that digital transformation shifts bureaucratic processes from human-centered decision-making toward system-level administration, increasing dependence on automated platforms. Similarly, Herd and Moynihan (2019) argue that administrative systems impose learning, compliance, and psychological costs on citizens, particularly when services require digital skills and technological access. These administrative burdens become more severe for marginalized populations with limited internet access, low digital literacy, or inadequate technological resources.

In the Philippine context, recent studies reveal that digital governance implementation across LGUs remains fragmented and dependent on local institutional capacity, fiscal resources, and technical readiness (Andaya et al., 2025; Del Rosario et al., 2025). Highly urbanized cities demonstrate stronger digital integration, while many municipalities continue to rely on hybrid or manual systems due to infrastructure limitations and shortages of ICT-skilled personnel. Research further shows that automation can unintentionally create administrative exclusion by limiting access to government services among vulnerable populations, including low-income households, rural residents, and older adults (Lagura, 2025; Andaya et al., 2025). These findings suggest that while digital governance promotes modernization, it may also reinforce socio-economic inequalities when inclusivity is not embedded within system design and implementation.

Although previous studies have examined digital governance, e-government adoption, and ICT inequality in the Philippines, limited research synthesizes how these factors collectively contribute to administrative exclusion within automated local governance systems. Much of the existing literature focuses on technological innovation and efficiency outcomes, with less attention given to the human consequences of digital transformation, particularly in terms of accessibility, equity, and citizen experience. There remains a need for a comprehensive analysis that integrates discussions on digital divide conditions, institutional capacity, administrative burden, and governance outcomes within a single analytical framework.

This study addresses this gap by examining administrative exclusion in the age of automation through a qualitative systematic review and thematic synthesis of literature published from 2020 to 2026. The study is timely due to the continuing expansion of digital governance initiatives in the Philippines and the increasing dependence on automated systems in public administration. By analyzing how digital transformation shapes access to public services in LGUs, the research contributes to broader discussions on inclusive governance and human-centered public administration. The study also proposes the need for governance frameworks that prioritize accessibility, equity, and digital inclusion to ensure that technology functions as a bridge rather than a barrier to public service delivery.

Research Questions

In this context, this study sought to examine administrative exclusion in the age of automation by conducting a qualitative systematic review and thematic synthesis of literature from 2020 to 2026. Specifically, it aimed to answer the following research questions:

1. How has digital transformation in Philippine local governance reshaped access to public services?
2. What structural and institutional factors contribute to the digital divide in the context of LGU service delivery?

3. How do administrative burdens manifest in digital governance systems, and how do they affect different population groups?
4. In what ways does digital governance contribute to administrative exclusion among marginalized sectors?
5. What policy and institutional strategies can be identified to promote inclusive and human-centered digital governance in the Philippines?

Through these questions, the study sought to provide a comprehensive understanding of how automation in public administration influenced equity in service delivery and to identify pathways toward a more inclusive digital governance framework.

METHODOLOGY

Research Design

This study employed a Qualitative Systematic Review (Meta-Synthesis) design using Thematic Analysis as the primary analytical framework. The design was appropriate for synthesizing fragmented literature on digital governance, administrative exclusion, and the digital divide in Philippine local governance from 2020 to 2026. The study integrated findings from scholarly articles, government reports, and institutional publications to generate higher-order explanations regarding the effects of automation and digital governance on public service accessibility.

Locale of the Study

The study was conducted within the context of the Philippines, focusing on Local Government Units (LGUs) operating under varying administrative, technological, and socio-economic conditions. The analysis considered differences between highly urbanized cities and rural or geographically isolated areas to examine disparities in digital governance implementation and access to digital public services.

Sampling Method and Data Sources

Purposive sampling was used in selecting literature relevant to the objectives of the study. The study utilized secondary data sources, including peer-reviewed journal articles, articles, institutional reports, policy documents, and government publications gathered from Google Scholar, Scopus-indexed journals, SSRN, institutional repositories, and official government websites. Key sources included publications from the Department of Information and Communications Technology (DICT), the Philippine Statistics Authority (PSA), and international development institutions such as the World Bank.

Inclusion and Exclusion Criteria

Included studies were those published from 2020 to 2026 that discussed digital governance, e-government implementation, ICT access, administrative burden, digital

divide conditions, and public service delivery in the Philippine or comparable developing-country context. Studies unrelated to governance, public administration, or digital access were excluded from the review.

Data Gathering Procedure

The study followed a structured systematic review procedure. Relevant literature was first identified through keyword searches using terms such as “digital governance,” “e-government,” “digital divide,” “administrative exclusion,” “ICT inequality,” and “LGU automation.” Retrieved materials underwent screening based on the inclusion and exclusion criteria. Selected studies were then subjected to full-text review and organized according to thematic relevance aligned with the conceptual framework.

Research Instrument

The primary research instrument was a researcher-made Systematic Literature Review Matrix (SLRM). The matrix contained the following categories:

- Author and year of publication
- Title of the study
- Country or context
- Research design
- Key findings
- Identified themes
- Policy implications
- Source reference or DOI

A coding guide was also developed to classify literature into thematic categories such as digital divide conditions, institutional capacity, administrative burden, and governance outcomes. Since the study relied on secondary data, pilot testing and respondent validation were not applicable.

Data Analysis

Data were analyzed using Braun and Clarke’s (2006) six-step thematic analysis procedure. The process involved familiarization with the data, generation of initial codes, identification of themes, review of themes, definition and naming of themes, and synthesis of findings. Thematic synthesis was applied to identify recurring patterns and relationships across multiple studies. Triangulation of literature sources was used to improve consistency, reliability, and credibility of interpretation.

Scope and Limitations

The study focused on literature published from 2020 to 2026 concerning digital governance, administrative exclusion, and the digital divide in Philippine local governance. The analysis centered on automation, e-government systems, ICT

accessibility, and governance outcomes in LGUs. The study was limited by its reliance on secondary data and the varying methodologies of the selected sources. It did not involve surveys, interviews, or field observations. In addition, the rapidly evolving nature of digital governance policies and technologies means that findings reflect developments only within the specified timeframe.

RESULTS AND DISCUSSION

Uneven Digital Governance Implementation

The analysis reveals a consistent pattern of uneven digital governance implementation across local government units (LGUs) in the Philippines. This variation is strongly influenced by geographic, institutional, and socio-economic factors, resulting in differentiated levels of digital adoption between urban and rural areas, as well as between highly urbanized cities and municipalities.

Variation Across LGUs

Empirical evidence demonstrates a persistent urban–rural divide in digital governance implementation. Urban LGUs exhibit higher levels of digital maturity, characterized by more advanced ICT infrastructure, broader internet penetration, and greater access to digital platforms. In contrast, rural LGUs continue to face structural barriers that limit digital adoption. Studies indicate that rural areas experience unstable internet connectivity, limited access to digital devices, and lower levels of digital literacy, all of which constrain the effective implementation of e-governance systems (Andaya et al., 2025; DICT, 2022; World Bank, 2021).

A second layer of variation emerges when comparing highly urbanized cities (HUCs) with municipalities. Highly urbanized cities have implemented comprehensive digital platforms that integrate multiple services, including business permitting, tax collection, and civil registration. These systems enable real-time data processing, inter-agency coordination, and improved service delivery efficiency (OECD, 2020; World Bank Group, 2021). In contrast, municipalities exhibit partial digitalization, where digital systems coexist with manual processes. Studies highlight that many municipalities still depend on paper-based workflows or standalone digital tools that lack interoperability (Agcaoili, 2020; Yumen, 2025).

Institutional capacity emerges as a central determinant of uneven digital governance implementation. The analysis identifies three key dimensions: financial resources, human capital, and organizational readiness. LGUs with higher revenue streams are able to invest in infrastructure, system development, and maintenance, whereas resource-constrained LGUs struggle to sustain digital initiatives (ADB, 2022; Agcaoili, 2020). Studies reveal a shortage of ICT-skilled personnel within many LGUs, particularly in rural areas, leading to challenges in system operation, maintenance, and innovation (Andaya et al., 2025; ITU, 2021).

Table 1 shows the summary of uneven digital governance implementation across Philippine LGUs, highlighting differences in infrastructure, system integration, and digital service delivery between urban and rural areas.

Table 1
Summary of Uneven Digital Governance Implementation

Dimension	Key Findings	Evidence	Implications
Urban vs Rural Divide	Urban LGUs show advanced digital systems; rural LGUs face infrastructure and access limitations	Andaya et al. (2025); DICT (2022); ITU (2021); World Bank (2021)	Unequal access to digital services; rural exclusion
HUCs vs Municipalities	HUCs implement integrated systems; municipalities rely on hybrid/manual processes	OECD (2020); Agcaoili (2020); Yumen (2025)	Service delivery inefficiency in municipalities
Financial Capacity	Budget disparities affect ICT investments and sustainability	ADB (2022); Agcaoili (2020)	Resource inequality drives uneven implementation
Platform Usage	Nationwide standardized adoption	Bejer (2026); BusinessWorld (2026); DAP (2025), Dela Cruz (2025)	Uneven regional and LGU usage intensity
Human Capital	Shortage of ICT-skilled personnel in many LGUs	Andaya et al. (2025); ITU (2021)	Limits system functionality and innovation
Organizational Readiness	Leadership and governance structures influence adoption	OECD (2020); UNDP (2022)	Strong institutions achieve better outcomes
System Fragmentation	Lack of interoperability across platforms and agencies	Agcaoili (2020); World Bank (2022)	Inefficiency and duplication of processes
National Policy Gaps	Policies exist but uneven local implementation	Conchas et al., 2025	Inconsistent digital transformation outcomes

Policy vs Local Execution Gap

The analysis identifies a persistent structural gap between national digital governance policy design and LGU execution capacity. While national-level initiatives, particularly the eGovPH integrated platform, demonstrate strong policy ambition toward unified digital public service delivery, implementation outcomes across LGUs remain uneven. Recent reports indicate rapid scaling of the platform, reaching tens of millions of users and integrating over a thousand government systems across agencies (PCO, 2025a, 2025b). However, despite this expansion, policy implementation at the subnational level reveals significant inconsistencies. LGUs vary widely in technical capacity, connectivity, and administrative preparedness (ADB, 2022). Evidence shows that LGU-level implementation is influenced by institutional readiness, ICT infrastructure availability, and local leadership capacity (Ramos et al., 2022). LGUs with stronger fiscal capacity and dedicated ICT units are more likely to fully operationalize national platforms, while lower-income municipalities lag behind in integration (Bejer, 2026; DAP, 2025).

The evidence demonstrates a clear disconnect between national digital governance ambitions and local implementation realities. While eGovPH represents a significant advancement in centralized digital service delivery, its effectiveness is constrained by uneven LGU capacity, fragmented system integration, and inconsistent adoption patterns.

This results in a dual-layer governance system:

- A highly digitalized national policy framework
- A fragmented and uneven local implementation landscape

The gap between these layers reflects a broader challenge in digital governance transformation: the difficulty of aligning centralized technological systems with decentralized administrative structures. Table 2 shows the gap between national digital governance policies and actual implementation at the LGU level, particularly in the adoption and usage of eGovPH systems.

Table 2
Policy vs Local Execution Gap in Digital Governance (eGovPH Case)

Dimension	National Policy Intent	LGU Implementation Reality	Evidence
Digital Integration	Unified eGovPH platform across all agencies	Partial and uneven LGU integration	PCO (2025b), World Bank (2022)
Service Delivery	Seamless end-to-end digital services	Hybrid and fragmented service delivery	Agcaoili (2020), Yumen (2025)

System Interoperability	Full cross-agency data integration	Weak interoperability across systems	Ramos et al., (2022), Andaya et al. (2025)
Platform Usage	Nationwide standardized adoption	Uneven regional and LGU usage intensity	Bejer (2026); BusinessWorld (2026); DAP (2025), Dela Cruz (2025)
Institutional Capacity	Assumed uniform readiness	Varying ICT skills and staffing levels	UNDP (2022)
Infrastructure Support	Stable nationwide digital infrastructure	Rural-urban connectivity disparities	Gusinga (2026), ITU (2021)

Determinants of Uneven Implementation

The analysis identifies three core determinants shaping uneven digital governance implementation: budget allocation, leadership capacity, and technical expertise. Evidence indicates that LGU funding for digital transformation remains limited and unevenly distributed, with many local governments prioritizing traditional administrative expenditures over ICT investment (Agcaoili, 2020). LGUs with strong executive leadership and institutional commitment to digital transformation exhibit higher levels of system adoption and integration (OECD, 2021). Many LGUs face significant shortages of ICT-skilled personnel capable of managing, maintaining, and optimizing digital systems (Quimba et al., 2025).

The determinants of uneven digital governance implementation in Philippine LGUs are rooted in structural and institutional inequalities. Budget constraints limit infrastructure development, leadership capacity shapes policy execution, and technical expertise determines operational sustainability.

These factors collectively produce a fragmented digital governance landscape characterized by uneven adoption, partial implementation, and inconsistent service delivery outcomes. While national digital governance policies such as eGovPH provide a unified framework, their effectiveness is contingent upon local-level capacity conditions. Table 3 shows the key determinants affecting uneven digital governance implementation, including budget limitations, leadership capacity, and technical expertise.

Table 3
Determinants of Uneven Digital Governance Implementation

Determinant	Key Findings	Evidence (2020–2026)	Effect on Implementation
Budget Allocation	Limited and uneven ICT funding across	Agcaoili (2020); Quimba et al.,	Delayed implementation,

Leadership Capacity	LGUs constrains digital adoption Political will and governance commitment determine adoption success	(2025) World Bank (2022); ADB (2022) OECD (2021); Rahmansya et al., (2025); Edale (2025)	partial system deployment Uneven policy execution and system utilization
Technical Expertise	Shortage of ICT-skilled personnel limits system operation and maintenance	Agcaoili (2020); UNDP (2022); ITU (2021)	Weak system sustainability and functionality

Persistent Digital Divide

Infrastructure Inequality

The analysis identifies infrastructure inequality as a central driver of the persistent digital divide in the Philippines. Despite sustained national investments in digital transformation and connectivity programs, access to reliable internet and broadband services remains uneven across geographic and socio-economic contexts. Recent global and national assessments indicate that millions of Filipinos continue to lack regular internet access, limiting their ability to participate in digital public services and e-governance systems (World Bank, 2025). Fixed broadband penetration in the Philippines remains low compared to regional benchmarks, with access heavily concentrated in urban centers (World Bank, 2024). Rural municipalities often rely on mobile data networks, which are less stable, more expensive relative to income, and subject to connectivity disruptions. Government initiatives such as the National Broadband Program aim to address these disparities, but implementation remains gradual (BusinessWorld, 2025).

The infrastructure inequality remains a core determinant of the persistent digital divide in the Philippines. The findings demonstrate that internet availability, broadband access, and rural–urban disparities collectively shape unequal access to digital governance systems.

Three key patterns emerge:

- Uneven Internet Availability
 - Large segments of the population, particularly in rural areas, remain unconnected or underconnected.
- Broadband Infrastructure Gaps
 - Fixed broadband access is concentrated in urban areas, while rural regions rely on limited mobile connectivity.
- Rural–Urban Divide

- Structural differences in infrastructure investment and deployment reinforce geographic inequality in digital access.

These conditions collectively produce a fragmented digital landscape in which access to governance services is unevenly distributed, reinforcing broader socio-economic disparities. Table 4 shows the infrastructure inequalities contributing to the digital divide, particularly differences in internet access and broadband availability between urban and rural areas.

Table 4
Infrastructure Inequality and the Digital Divide

Dimension	Key Findings	Evidence (2020–2026)	Governance Impact
Internet Availability	Millions remain unconnected, especially in rural areas	World Bank (2025), World Bank (2020)	Limited access to e-government services
Broadband Access	Low fixed broadband penetration, urban concentration	World Bank (2024), OECD (2026)	Unequal digital participation
Rural–Urban Divide	Urban areas have stable connectivity; rural areas rely on mobile data	World Bank (2020), OECD (2026)	Uneven LGU digital capacity
Structural Constraints	Market-driven infrastructure investment and geographic barriers	World Bank (2024), BusinessWorld (2025)	Persistent regional inequality
Government Response	National broadband expansion and fiber backbone projects	BusinessWorld (2025)	Gradual but uneven improvement

Affordability Constraints

The analysis identifies affordability constraints as a persistent and structurally embedded determinant of digital exclusion in the Philippines. Global and national assessments consistently show that internet access in the Philippines remains relatively expensive compared to income levels, particularly for households in lower income brackets (World Bank, 2020). The Shanahan et al. (2025) emphasizes that affordability is not only a function of data pricing but also device ownership costs, where the combined burden of handset acquisition and recurring data expenses creates a structural barrier to digital inclusion. Low-income households face persistent barriers to internet adoption due

to the recurring cost of mobile data and limited disposable income (Mirandilla-Santos, 2021).

The affordability constraints represent a critical barrier to equitable digital governance implementation in the Philippines. The findings demonstrate three key patterns:

- High cost of mobile data limits continuous digital access among low-income populations.
- Low-income households experience structural exclusion from digital services due to recurring connectivity costs.
- LGU-level digital governance outcomes are uneven, as citizen participation in e-services is shaped by affordability rather than system availability.

These conditions collectively produce a situation where digital governance systems are structurally inclusive in design but uneven in actual accessibility and usage. Table 5 shows the affordability constraints affecting digital access, including high mobile data costs and limited access among low-income populations.

Table 5
Affordability Constraints in Digital Access

Dimension	Key Findings	Evidence (2020–2026)	LGU Implications
Mobile Data Cost	High relative cost limits sustained connectivity	Shanahan et al. (2025), World Bank (2020)	Reduced citizen engagement in e-services
Low-Income Access	Poor households have limited internet usage	Mirandilla-Santos (2021), World Bank (2025)	Unequal participation in digital governance
Device + Data Cost Burden	Combined cost of devices and data restricts access	Shanahan et al. (2025)	Digital exclusion among vulnerable groups
Market Pricing Structure	Limited competition sustains high prices	OECD (2026), World Bank (2024)	Persistent affordability gap across regions
LGU Service Delivery Impact	Uneven usage of digital platforms across populations	Ramos et al. (2022), World Bank (2025)	Reduced efficiency of digital governance systems

Digital Literacy Gaps

The analysis identifies digital literacy gaps as a persistent structural barrier shaping unequal participation in digital governance systems. Empirical evidence shows that only a portion of the population possesses sufficient digital skills for effective participation in digital environments, while a significant proportion remains limited to basic operational

use such as messaging or social media (Guisinga, 2026). Age emerges as a significant factor influencing digital literacy levels, with younger populations generally demonstrating higher levels of digital proficiency (Wong & Sy, 2025). Educational attainment plays a critical role, as individuals with higher levels of education tend to have greater exposure to ICT tools and structured learning environments (Alegado, 2025). Rural populations face limited access to ICT training, weaker educational infrastructure, and fewer opportunities for digital engagement (Olipas & Alegado, 2025).

The findings demonstrate that digital literacy gaps are a critical determinant of uneven digital governance outcomes in the Philippines. Three key patterns emerge:

- Skills differences persist across population groups, limiting meaningful digital engagement.
- Age significantly influences digital capability, with older populations at higher risk of exclusion.
- Educational attainment strongly predicts digital literacy levels, creating structural inequality in access to e-government services.

These conditions collectively result in a governance environment where digital systems are available but not uniformly usable, reinforcing disparities in public service access and administrative participation. Table 6 shows the digital literacy gaps among users and the factors influencing these differences, such as age, education, and socioeconomic status.

Table 6
Digital Literacy Gaps and Determinants

Dimension	Key Findings	Evidence	Implications
Urban vs Rural Divide	Urban LGUs show advanced digital systems while rural LGUs face infrastructure limitations	Andaya et al. (2025); World Bank (2022); Bank (2021)	Unequal access to digital services
HUCs vs Municipalities	HUCs implement integrated systems while municipalities rely on hybrid processes	OECD (2020); Yumen (2025)	Service delivery inefficiency
Financial Capacity	Budget disparities affect ICT investments	ADB (2022)	Uneven implementation
Human Capital	ICT-skilled personnel remain limited in many LGUs	Andaya et al. (2025)	Limits innovation and maintenance
Organizational Readiness	Leadership and governance structures influence adoption	UNDP (2022)	Better institutional outcomes
System Fragmentation	Lack of interoperability across agencies	World Bank (2022)	Duplication and inefficiency

Access vs Meaningful Use

The analysis identifies a critical layer of the digital divide that extends beyond access to infrastructure and affordability. Empirical studies show that although device ownership is widespread, many users restrict their activity to basic functions such as messaging and social media, with limited engagement in higher-order digital tasks such as online transactions, form submissions, and e-government services (Quimba et al., 2022). Studies in digital health and public service delivery highlight that a significant proportion of users with internet access still lack the capacity to fully engage with digital systems (Hegeman et al., 2024). Evidence shows that many users who have access to digital devices and internet connectivity still struggle to complete online transactions due to limited digital literacy and unfamiliarity with system processes (Santos, 2021).

The findings demonstrate that the digital divide is not limited to access or connectivity but extends to functional capability and meaningful use. Three key patterns emerge:

- Device ownership does not guarantee meaningful digital engagement, as many users remain limited to basic functions.
- Access does not ensure transactional capability, with many users unable to complete digital government processes independently.
- LGU digital governance systems are unevenly utilized, depending on citizen capability rather than system availability.

These conditions produce a governance environment where digital systems exist but are not uniformly effective across populations. The result is a structurally unequal digital governance landscape where service delivery efficiency depends on user capability rather than institutional design alone.

Table 7 shows the difference between digital access and meaningful use, emphasizing that device ownership does not always result in successful use of digital government services.

Table 7
Access vs Meaningful Use and LGU Governance Implications

Dimension	Key Findings	Evidence (2020–2026)	LGU Implications
Device Ownership vs Use	Ownership does not ensure advanced digital use	Quimba (2022), Wenz & Keusch (2022)	Uneven utilization of LGU digital platforms
Access vs Meaningful Use	Many users cannot perform complex digital tasks	Hegeman et al., (2024), World Bank (2025)	Limited effectiveness of e-government systems

Dimension	Key Findings	Evidence (2020–2026)	LGU Implications
Transaction Completion	Users struggle to complete online processes	Santos (2021), Pesa et al., (2026).	Persistent manual transactions
Functional Exclusion	Digital systems underutilized by low-skill users	Pesa at al. (2026).	Inequitable service delivery outcomes

Administrative Burden in Digital Systems

Learning Costs

The analysis identifies learning costs as a central and persistent form of administrative burden in Philippine local government digital systems. Local studies confirm that e-governance systems in Philippine municipalities require significant user adaptation due to interface complexity and limited user guidance (Dela Peña, 2025). Studies on Philippine e-government websites highlight that poor interface design and inconsistent navigation structures increase cognitive load for users (Bokingkito et al., 2025). Account creation represents one of the most critical entry points for digital administrative burden, with research indicating that complex onboarding processes contribute to user dropout during initial engagement stages (Yumen, 2025). Rural LGUs face additional challenges related to learning costs due to lower levels of ICT exposure and training access (Bete & Collera, 2025).

The analysis demonstrates that learning costs are a fundamental barrier in Philippine LGU digital governance systems. Three key patterns emerge:

- Platform understanding requires sustained cognitive effort, particularly in fragmented systems.
- Account creation processes act as entry barriers, limiting initial adoption.
- System navigation challenges reduce transaction completion rates, leading to partial or failed digital service use.

These conditions collectively produce a governance environment where digital systems exist but are not fully accessible, resulting in uneven service delivery outcomes across populations. Table 8 shows the learning costs experienced by citizens when using LGU digital systems, including account creation difficulties and system navigation challenges. Table 8 shows the learning costs experienced by citizens when using LGU digital systems, including account creation difficulties and system navigation challenges.

Table 8
Learning Costs in Philippine LGU Digital Systems

Dimension	Key Findings (Philippines)	Evidence	LGU Implications
Platform Understanding	Users struggle with system structure and navigation	Dela Peña (2025); Bokingkito et al. (2025)	Low adoption of e-services
Account Creation	Multi-step registration increases dropout rates	Abales et al. (2024); Yumen (2025)	Reduced onboarding success
System Navigation	Complex interfaces reduce completion rates	Dela Peña (2025)	Transaction failure and delays
Rural Constraints	Lower ICT literacy increases dependency on assistance	Bete & Collera (2025)	Uneven LGU digital adoption

Compliance Costs

Compliance costs represent the procedural effort required from citizens to complete digital government transactions. Studies on Philippine e-governance implementation show that digital systems introduce structured compliance requirements that increase transaction complexity for users, particularly in municipalities with limited ICT capacity (Dela Peña, 2025). A central component of compliance costs is the requirement to upload supporting documents in digital format. Empirical studies show that users with limited access to scanning tools, stable internet, or digital devices face significant challenges in completing document upload requirements (Abales et al., 2024). Verification processes constitute another major component of compliance costs, with studies indicating that these verification layers increase processing time and introduce additional procedural complexity for users (Convocar et al., 2025). Technical requirements, including stable internet connection, compatible file formats, and accurate data encoding, create additional barriers for users with limited access to reliable internet or modern digital devices (Lagura, 2025).

Three core patterns define compliance costs in Philippine LGU digital systems:

1. Document uploading requirements increase user responsibility, requiring technical preparation and correct formatting.
2. Verification processes introduce delays and procedural complexity, reducing system efficiency.
3. Technical requirements create infrastructure-dependent barriers, limiting access for low-resource users.

These factors collectively result in a governance environment where digital systems exist but impose significant procedural demands on citizens, limiting their effectiveness. Table 9 shows the compliance costs associated with digital government services, including document uploads, verification procedures, and technical requirement.

Table 9
Compliance Costs in Philippine LGU Digital Systems

Dimension	Philippine Evidence	Key Finding	LGU Impact
Document Uploading	Dela Peña (2025); Bokingkito et al. (2025)	File formatting and submission complexity	High error rates and resubmissions
Verification Processes	Abales et al. (2024); Espiritu et al. (2023)	Multi-step validation delays transactions	Slow service delivery
Technical Requirements	Ramos et al. (2022); Lagura (2025)	Infrastructure and interoperability gaps	System access inequality
ICT Capacity	Yumen (2025)	Low digital literacy increases failure rates	Dependence on assistance

Psychological Costs

The findings identify psychological costs as a decisive constraint on the effectiveness of digital governance in Philippine LGUs. Philippine evidence shows that users often approach LGU digital platforms with hesitation, reporting uncertainty regarding procedures, outcomes, and system reliability (Barrios & Moreno, 2024). Frustration emerges as a primary psychological response to digital system interaction, driven by difficulties in understanding processes, navigating interfaces, and interpreting system feedback (Faller, 2025). Fear of errors represents a second major psychological cost, with research showing that perceived system risk significantly reduces willingness to engage with digital services (Elisa et al., 2020). Trust is a central determinant of digital governance adoption, with evidence showing that once trust is reduced, users are less likely to return to digital platforms and more likely to rely on traditional service channels (Kala et al., 2024).

The findings demonstrate that psychological costs operate as an internal barrier within digital governance systems. Frustration arises from system complexity and poor usability. Fear of errors is driven by perceived risk and lack of feedback. Trust deficits stem from inconsistent system performance and institutional uncertainty. These factors interact in a cumulative manner. System complexity increases frustration, which reduces trust. Reduced trust heightens fear of errors, which leads to avoidance of digital systems. This cycle limits user engagement and undermines the objectives of digital governance.

In the Philippine LGU context, where digital literacy and system integration vary widely, psychological costs play a critical role in shaping governance outcomes. Without addressing these factors, digital transformation efforts risk reinforcing existing inequalities rather than improving service delivery. Table 10 shows the psychological costs experienced by users, including frustration, fear of errors, and low trust in digital systems.

Table 10
Psychological Costs in Philippine Digital Governance Systems

Dimension	Key Findings	Evidence (2020–2026)	LGU Implications
Frustration	System complexity and unclear processes increase stress	Barrios & Moreno (2024); Faller (2025)	Low adoption and negative user experience
Fear of Errors	Perceived risk discourages independent transactions	Elisa et al. (2020)	High dropout rates and incomplete processes
Trust Deficits	Low confidence in system reliability and security	Kala et al., (2024)	Preference for manual transactions
Digital Inequality Link	Low ICT skills increase psychological barriers	Philippine LGU studies	Unequal access to services
Frustration	System complexity and unclear processes increase stress	Barrios & Moreno (2024); Faller (2025)	Low adoption and negative user experience

Institutional Capacity Constraints

ICT Infrastructure Capacity

The findings indicate that institutional capacity constraints in Philippine LGUs are strongly shaped by ICT infrastructure capacity. Studies consistently show that LGU digital performance is strongly influenced by infrastructure availability and quality. In many Philippine LGUs, ICT systems remain underdeveloped, fragmented, or inconsistently implemented, resulting in uneven digital governance outcomes (Bithay et al., 2025). The Philippine Institute for Development Studies emphasizes that ICT infrastructure is a core requirement for effective digital governance, yet many LGUs remain at low to moderate readiness levels due to insufficient investment and weak system integration (Quimba et al., 2025). System quality issues reflect weaknesses in software integration, technical maintenance, and human resource capacity. Evidence shows that many LGUs operate with outdated or fragmented systems that limit data integration and service efficiency (De Leon, 2023).

The findings demonstrate that ICT infrastructure capacity is a foundational determinant of digital governance effectiveness in Philippine LGUs. System quality limitations, connectivity gaps, and institutional disparities collectively shape the

performance of e-government systems. System quality issues reflect weaknesses in software integration, technical maintenance, and human resource capacity. Connectivity gaps highlight uneven access to both external internet services and internal LGU networks. Together, these constraints produce a fragmented digital governance environment where system performance varies widely across jurisdictions.

The evidence suggests that digital governance outcomes are not determined solely by policy adoption but by the underlying infrastructure that supports system functionality. Without addressing these capacity constraints, digital transformation efforts risk reinforcing existing inequalities rather than improving public service delivery. Table 11 shows the ICT infrastructure capacity constraints faced by LGUs, including weak connectivity and poor system quality.

Table 11
ICT Infrastructure Capacity Constraints in Philippine LGUs

Dimension	Key Issues	Evidence (2020–2026)	LGU Impact
System Quality	Outdated systems, poor integration, weak ICT staffing	De Leon (2023)	Low efficiency and frequent system errors
External Connectivity	Uneven internet access across regions	PSA (2025); ADB (2022)	Limited service accessibility
Internal Connectivity	Fragmented LGU systems, weak inter-department links	Quimba (2025)	Data duplication and inefficiency
Infrastructure Inequality	Uneven investment across LGUs	Bithay et al. (2025)	Unequal service delivery outcomes
System Sustainability	Weak maintenance and upgrade capacity	Ramos et al. (2021)	System degradation over time

Human Resource Capacity

The findings indicate that human resource capacity is a central determinant of digital governance performance in Philippine LGUs. Evidence shows that many LGUs operate with limited ICT staffing structures. Smaller municipalities often lack dedicated IT units and instead assign digital system responsibilities to general administrative personnel (Sanier & Tuble, 2025). Studies of barangay and municipal personnel reveal uneven ICT competency levels across regions. While some employees possess basic digital skills such as email use and document processing, advanced competencies such as system management, data analytics, and cybersecurity remain limited (Maturan & Heria, 2024). The Department of Information and Communications Technology has implemented capacity-building programs such as eLGU training initiatives, but evidence suggests that while these initiatives improve basic competencies, they are not sufficient to address long-term skill requirements (Edale, 2025).

The findings demonstrate that human resource capacity is a critical constraint in Philippine LGU digital governance systems. IT staff availability and training levels directly influence system performance, service delivery efficiency, and institutional sustainability.

The absence of sufficient ICT personnel forces LGUs to rely on non-specialized staff or external support, reducing system effectiveness. Similarly, inadequate training limits the ability of personnel to fully utilize digital platforms, resulting in inefficient implementation and frequent system errors.

These constraints highlight that digital transformation is not solely a technological process but also an institutional and human resource challenge. Without addressing workforce capacity, investments in ICT infrastructure alone are insufficient to achieve effective digital governance. Table 14 shows the human resource capacity constraints in LGUs, particularly the shortage of IT personnel and

Table 12
Human Resource Capacity Constraints in Philippine LGUs

Dimension	Key Issues	Evidence (2020–2026)	LGU Impact
IT Staff Availability	Lack of dedicated ICT personnel, reliance on general staff	Sanier & Tuble (2025); Quimba (2025)	Weak system maintenance and slow response
Training Levels	Limited ICT competency among LGU employees	Maturan & Heria (2024)	Inefficient system use and errors
Training Programs	Short-term and uneven capacity-building initiatives	Edale (2025)	Persistent skill gaps
Institutional Dependency	Reliance on external IT support	Quimba (2025)	Reduced autonomy and sustainability
Regional Disparities	Urban LGUs outperform rural LGUs	Multiple studies	Unequal service delivery outcomes

Administrative Exclusion Outcomes

Service Access Barriers

The findings confirm that service access barriers remain a major form of administrative exclusion in Philippine digital governance systems. Research shows that accessibility problems in Philippine e-government systems prevent users from fully engaging with digital platforms, leading to partial or failed service completion (Bokingkito et al., 2025). A recurring outcome of service access barriers is incomplete application submission. Studies on Philippine digital government platforms confirm that users frequently drop out before completing transactions, resulting in unfinished applications

and delayed services (Jou et al., 2024). PSA data shows that a significant portion of households remain unconnected due to cost and infrastructure limitations, directly affecting their ability to access digital services (PSA, 2025). The Anti-Red Tape Authority reports that a majority of agencies still receive low efficiency ratings, indicating widespread challenges in delivering seamless digital services (Paunan, 2025).

The combined effect of infrastructure gaps, literacy limitations, and system inefficiencies produces administrative exclusion outcomes.

These include:

- failed transactions
- incomplete applications
- delayed benefits
- inability to access services

Administrative exclusion is therefore not a single-point failure but a cumulative process of barriers at multiple levels of the digital governance system. Table 13 shows the service access barriers that contribute to administrative exclusion outcomes, including failed applications and incomplete transactions.

Table 13
Service Access Barriers and Administrative Exclusion Outcomes

Barrier Type	Evidence	Outcome
Infrastructure gaps	PSA (2025)	No or unstable access
System usability issues	Bokingkito et al. (2025)	Failed navigation
Digital literacy gaps	Jou et al. (2024)	Incomplete applications
Institutional inefficiency	Paunan (2025)	Delayed processing

Delayed or Denied Benefits

The findings show that even when citizens are eligible for government services, actual delivery is frequently delayed due to administrative bottlenecks, procedural complexity, and institutional inefficiencies. Cash aid programs such as the Social Amelioration Program (SAP) during the COVID-19 crisis revealed significant delays in distribution, with LGUs required to verify beneficiary lists, validate household eligibility, coordinate distribution schedules, and comply with documentation requirements (Cervantes, 2020). Findings indicate that administrative overload during crisis conditions contributed to delayed and incomplete distribution of social assistance programs (Siar & Lorenzo, 2025). Beyond emergency aid, routine government services such as business permits also experience persistent delays, with studies showing that complex permitting systems contribute to slow approval cycles and increased administrative burden for applicants (Dalanon, 2026).

The findings confirm that delayed or denied benefits represent a systemic form of administrative exclusion in Philippine governance. Both cash aid distribution and permit processing demonstrate how bureaucratic procedures, institutional fragmentation, and partial digitalization generate persistent delays.

These delays function as indirect denial mechanisms, where access exists in principle but is not realized in practice due to time-based barriers. Administrative delay therefore operates as a structural inequality mechanism, disproportionately affecting vulnerable populations and small-scale economic actors. Table 14 shows the administrative delays and exclusion mechanisms experienced in digital governance systems, including processing delays and service denial.

Table 14
Administrative Delay and Exclusion Mechanisms

Service Type	Cause of Delay	Evidence	Outcome
Cash Aid (SAP)	LGU validation bottlenecks	Cervantes (2020)	Delayed financial assistance
Emergency Aid	Administrative overload	Siar & Lorenzo (2025)	Unequal distribution
Business Permits	Multi-step processing	Dalanon (2026)	Delayed operations
Government Procurement	Planning inefficiencies	Malang et al. (2026)	Service delays
Digital Permits	Partial automation	Paunan (2025)	Hybrid system inefficiency

Reliance on Intermediaries

This section analyzes reliance on intermediaries as a persistent form of administrative exclusion in Philippine digital governance systems. Research on ICT inequality in governance systems confirms that digital exclusion increases reliance on third-party assistance for service access, especially among low-skilled users (Asimakopoulos et al., 2025). The most common form of intermediary support comes from within households, where younger or more digitally literate family members assist older adults and less skilled users in completing government transactions (Gusinga, 2026). Beyond households, individuals rely on peers and neighbors for assistance in completing digital government processes, with research showing that users with low digital literacy depend heavily on social networks for ICT use in governance systems (Asimakopoulos et al., 2025). Local government personnel often provide direct assistance to citizens who cannot complete digital transactions independently, with studies on Philippine e-government usability showing that assisted access remains a common feature of service delivery in LGUs (Jou et al., 2024).

The findings confirm that reliance on intermediaries is a structural feature of Philippine digital governance. Instead of eliminating mediation, digital systems redistribute it across households, communities, and government offices. This creates a socially mediated governance system where access depends on digital literacy, social networks, and availability of assistance. Administrative exclusion persists because users do not engage directly with systems but rely on intermediaries to do so.

Digital governance therefore produces a paradox: increased system availability does not guarantee independent access. Instead, it strengthens dependency relations that shape who benefits from public services. Table 15 shows the different forms of intermediary dependence in digital governance systems, including reliance on fixers, relatives, and tech-savvy individuals.

Table 15
Forms of Intermediary Dependence in Digital Governance Systems

Intermediary Type	Function	Evidence	Outcome
Tech-savvy relatives	Account creation, form completion	Gusinga (2026)	Household dependency
Peers/community	ICT troubleshooting	Asimakopoulos et al. (2025)	Socially distributed access
LGU staff	Assisted processing	Jou et al. (2024)	Hybrid service delivery
Informal brokers (fixers)	Full transaction handling	Structural ICT literature	Externalized access
System complexity	Forced mediation	Combined studies	Reduced autonomy

Disengagement from Government Services

Disengagement from government services emerged as one of the most significant manifestations of administrative exclusion within Philippine digital governance systems. Studies on Philippine digital governance platforms found that users frequently encounter unclear interfaces, confusing instructions, fragmented workflows, and inaccessible design features that complicate transactions (Jou et al., 2024). Poor interface design contributes directly to incomplete applications, repeated submission failures, and user frustration. The findings show that disengagement is uneven across local government units, with weaker LGUs experiencing lower adoption rates and declining platform usage over time (Lagura, 2025). Del Rosario et al. (2025) found that weak trust in digital governance systems significantly contributes to user reluctance and inconsistent adoption across LGUs. Users with low digital literacy frequently avoid digital transactions, depend on relatives or intermediaries, discontinue usage after failed attempts, and prefer traditional service channels (Asimakopoulos et al., 2025).

Dual Governance Outcomes

Benefits for Digitally Capable Users

The findings demonstrate that digital governance systems in Philippine LGUs produce differentiated outcomes depending on user capability. Evidence from Philippine LGU case studies shows that e-government systems streamline permits, payments, and certifications by eliminating redundant steps and reducing manual encoding requirements (Moreno & Barrios, 2025). The eGov PH system integrates multiple government services into a unified platform, enabling users to access services such as business permits, tax payments, and civil registration through a single digital interface (Jou et al., 2024). Studies in Philippine LGUs indicate that digital systems enhance public trust by providing users with visibility over transaction status and documentation processes (Lagura, 2025). Electronic collection systems generate automatic records that can be audited, reducing errors and increasing financial transparency (Yumen, 2025).

Disadvantages for Marginalized Groups

The findings demonstrate that marginalized groups in the Philippines experience systematic disadvantages in accessing digital governance services. Research in the Philippine context shows that inequality in ICT access is strongly shaped by socio-demographic factors such as income level, geographic location, and educational attainment (Alampay, 2006). Rural and geographically isolated areas experience weaker internet connectivity, unstable network coverage, and lower availability of broadband services (Corpuz, 2026). Research shows that affordability is a major determinant of digital exclusion, particularly in low-income communities where digital access competes with basic survival needs (Kamutuezu et al., 2021). Studies in rural Philippine communities show that users often struggle with account creation processes, form completion requirements, navigation of government portals, and understanding system instructions (Guisinga, 2026). A study on Philippine e-government accessibility highlights that system design limitations significantly reduce usability for disadvantaged populations (Bokingito et al., 2025).

The findings confirm that digital governance systems in the Philippines generate unequal outcomes for marginalized groups due to structural, economic, and institutional barriers. These barriers operate simultaneously, producing compounded disadvantages that limit meaningful access. Rather than eliminating inequality, digital transformation often shifts the form of exclusion from physical access barriers to digital capability barriers. Marginalized groups are formally included in digital systems but remain functionally excluded due to constraints in infrastructure, affordability, literacy, and system design. This suggests that digital governance reform requires not only technological deployment but also targeted inclusion strategies to address structural inequality. Table 16 shows the disadvantages experienced by marginalized groups in digital governance systems, including increased barriers and lower access to services.

Table 16
Disadvantages Faced by Marginalized Groups in Digital Governance

Dimension	Barrier Type	Evidence (2020–2026)	Outcome
Infrastructure Access	Weak connectivity and rural gaps	Corpuz (2026)	Limited or no access to services
Affordability	High cost of data and devices	Kamutuezu et al. (2021)	Reduced usage frequency
Digital Literacy	Low skills and navigation difficulty	Gusinga (2026)	Failed or incomplete transactions
System Design	Poor accessibility and usability	Bokingito et al. (2025)	Exclusion of vulnerable users
Structural Inequality	Digital divide effects	Andaya (2026)	Unequal service outcomes

Emergence of Two-Tier Governance

The findings explain the emergence of a two-tier governance system as a structural outcome of digital transformation in Philippine public administration. Evidence shows that digital divide issues such as poor internet access and infrastructure gaps continue to affect e-government performance in the Philippines (Agcaoili, 2020). Studies show that LGUs differ significantly in digital system readiness, availability of ICT personnel, budget allocation for digital infrastructure, and level of system integration, producing unequal implementation of e-government systems across regions (Lagura, 2025). Research confirms that ICT inequality leads to differentiated participation in digital governance systems, where only digitally skilled users fully benefit from e-government services (Asimakopoulos et al., 2025). Studies on Philippine e-government usability show that accessibility barriers lead to unequal participation and reduced system usage among disadvantaged groups (Jou et al., 2024). Evidence shows persistent gaps in digital transformation readiness and implementation across Philippine LGUs (Del Rosario et al., 2025).

The emergence of two-tier governance in the Philippines reflects structural inequality embedded within digital transformation processes. While e-government systems aim to standardize and improve public service delivery, actual implementation produces differentiated outcomes across user groups and local government units. Digitally included users experience efficient, direct, and autonomous access to services, while digitally excluded users rely on intermediaries, face delays, or remain outside digital systems entirely.

This dual structure demonstrates that digital governance does not eliminate inequality but reorganizes it into a new administrative form. Governance becomes stratified based on digital capability, infrastructure access, and institutional readiness. As

a result, digital transformation produces parallel governance realities rather than a unified system of service delivery. Table 17 shows the emergence of a two-tier governance structure in Philippine digital systems, where digitally capable users experience better access and efficiency compared to digitally excluded populations.

Table 17
Two-Tier Governance Structure in Philippine Digital Systems

Dimension	Tier 1: Included Users	Tier 2: Excluded Users
Access mode	Direct digital access	Assisted or offline access
Literacy level	High ICT skills	Low ICT skills
Processing speed	Fast	Delayed
Dependency	Independent	Intermediary-dependent
Service outcome	Complete transactions	Partial or failed access

Conclusions

The study concludes that digital governance in Philippine local government units does not produce uniform improvements in public service delivery. Instead, it generates a dual system where efficiency and exclusion coexist. While digital systems improve speed and accessibility for certain groups, they simultaneously create structural barriers that disadvantage users with low digital literacy, limited infrastructure access, and weak institutional support.

The findings confirm that digital transformation reinforces rather than eliminates inequality. Infrastructure disparities, institutional capacity gaps, and uneven implementation across LGUs create significant differences in service delivery outcomes. Digital literacy plays a central role in shaping user experience, as individuals with limited skills face higher administrative burdens and greater risk of exclusion.

Administrative burden theory is strongly supported by the findings, as users encounter significant learning, compliance, and psychological costs when engaging with e-government systems. These burdens lead to avoidance behavior and disengagement from digital platforms. At the same time, administrative exclusion is evident in failed transactions, delayed services, and incomplete applications, showing that digital systems can reproduce traditional forms of inequality in new forms.

Institutional capacity is a decisive factor in determining the success of digital governance implementation. LGUs with stronger resources and leadership capacity are able to implement more effective systems, while weaker LGUs experience fragmented and less functional digital services. This contributes to the emergence of a two-tier governance structure.

The study confirms that digital governance in the Philippine context is characterized by structural inequality embedded within technological, institutional, and social systems. Rather than producing uniform modernization, it results in differentiated governance experiences across populations and regions.

Recommendations

The study recommends a multi-level approach to address structural inequality in digital governance systems. At the national level, there is a need to strengthen ICT infrastructure investment, particularly in rural and low-income regions. Expanding broadband access and ensuring stable connectivity should be prioritized to reduce geographic disparities in service delivery.

Government agencies should focus on system integration and simplification of e-government platforms. Standardized interfaces, reduced procedural complexity, and improved interoperability across agencies can reduce administrative burden and improve usability. National digital platforms should be designed with consistency across LGUs to minimize fragmentation.

Capacity-building programs for LGU personnel should be expanded. Training in ICT management, system maintenance, and digital service delivery is necessary to reduce institutional disparities. LGUs with limited technical expertise require targeted support to ensure effective implementation of digital systems.

Digital literacy programs should be institutionalized at the community level. Public education initiatives focusing on basic digital skills, online safety, and e-government navigation can reduce reliance on intermediaries and improve independent access to services. Special attention should be given to older adults, low-income groups, and rural populations.

User-centered design principles should be integrated into all government digital platforms. Systems must be simplified, accessible, and inclusive of users with varying levels of digital capability. Feedback mechanisms should be strengthened to continuously improve system usability based on citizen experience.

Finally, hybrid service delivery systems should be improved during the transition phase of full digitalization. While digital systems expand, offline and assisted channels must remain available to ensure that no group is excluded. However, the long-term goal should be gradual reduction of dependency on manual processes through inclusive digital transformation.

These recommendations aim to reduce inequality reinforcement mechanisms and move Philippine digital governance toward a more inclusive, efficient, and equitable system of public service delivery.

Compliance with Ethical Standards

The author declares that this study, a qualitative systematic review of secondary data from publicly available sources, involved no direct human participation; therefore, informed consent, withdrawal rights, and respondent well-being safeguards were not applicable. Anonymity and data privacy were inherently maintained as no personal information was collected. The author affirms no conflict of interest exists in the conduct of this research. Plagiarism was strictly avoided through proper APA 7th citation of all sources. No bias influenced the interpretation of findings, as systematic coding and source triangulation were employed.

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