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Building an Inclusive Digital Public Infrastructure: A Strategy for Strengthening Governance in Southeast Sulawesi

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ABSTRACT

***Purpose**: This study explores the state of digital governance in Southeast Sulawesi, focusing on the regions of Kendari, Kolaka, and Buton. It aims to assess the disparities in digital infrastructure readiness, institutional capacity, and inclusivity in these areas and their implications for effective governance*

***Subjects and Methods:** The research employs a qualitative methodology, including document analysis, interviews, and participant observation, to examine the local implementation of national digital policies.*

***Results:** The findings reveal that while Kendari exhibits high levels of digital maturity and institutional coordination, Kolaka and Buton face significant challenges due to limited infrastructure and lower institutional readiness. Inclusivity remains a key concern, particularly in rural areas, where digital literacy and access to technology are limited. The study contributes to the understanding of digital governance in peripheral regions and provides insights into how local governments can develop inclusive digital public infrastructure.*

***Conclusions:** The implications of these findings suggest that national policies need to be adapted to local contexts, with a focus on building institutional capacity and promoting digital inclusivity. The study highlights the importance of a holistic approach to digital governance, integrating technological, institutional, and social dimensions to achieve equitable and effective governance outcomes.*

INTRODUCTION

The rapid expansion of digital technologies has profoundly reshaped the architecture of public governance worldwide, introducing new modes of service delivery, citizen participation, and intergovernmental coordination (Balaji, 2025; Das, 2024). In the Global South, particularly within Southeast Asia, digitalization has become a strategic driver for improving transparency, efficiency, and inclusivity in governance systems. The notion of *Digital Public Infrastructure* (DPI) an integrated framework of digital identification, interoperable payment systems, and data exchange platforms has gained prominence as a foundation for sustainable digital transformation (Mehta, 2021).

Countries such as India and Indonesia have demonstrated that DPI initiatives can significantly enhance administrative efficiency and access to essential services when properly institutionalized (Nilekani & Shah, 2023). However, the challenge of ensuring inclusivity within these digital infrastructures remains unresolved, especially in peripheral regions where socio-economic and

connectivity gaps persist. In Southeast Sulawesi, Indonesia, digital transformation has advanced unevenly across local government units, leading to disparities in service accessibility, policy coordination, and citizen participation (Maulana et al., 2025; Widodo & Kusnan, 2023).

The increasing policy attention toward DPI reflects the recognition that digital transformation is no longer a purely technological agenda but a governance imperative. It requires institutional adaptation, capacity building, and equitable access mechanisms that safeguard against digital exclusion (Kattel & Mazzucato, 2020; Cordella & Tempini, 2021). As regional governments in Indonesia adopt national digital governance frameworks such as SPBE (*Sistem Pemerintahan Berbasis Elektronik*), challenges of interoperability, data governance, and institutional readiness have become more apparent.

Moreover, despite progress in connectivity infrastructure, Southeast Sulawesi continues to face fragmented digital ecosystems characterized by weak coordination among agencies, insufficient digital literacy, and limited integration of digital platforms across administrative sectors (Hafel, 2023). The lack of coherent strategies for building inclusive DPI exacerbates regional disparities, undermining efforts to achieve the Sustainable Development Goals (SDGs), particularly Goal 16 on effective, accountable, and inclusive institutions.

The core problem addressed in this study lies in the persistent *digital governance gap* between central and peripheral regions in Indonesia, which limits the potential of DPI to promote equitable and accountable public service delivery. While national frameworks such as the Indonesia Digital Roadmap 2021–2024 have laid the groundwork for digital transformation, their localized implementation often encounters administrative, cultural, and infrastructural barriers. Many local governments lack the institutional capacity and digital readiness to translate these policies into operational frameworks that are contextually responsive (Gasco-Hernandez et al., 2022; Aldhi et al., 2025).

This issue raises a critical question: how can regional governments build inclusive digital infrastructures that enhance governance capacity and citizen engagement in areas with limited technological and institutional resources? Several general solutions have been proposed in the literature, emphasizing the need for a *whole-of-government* and *whole-of-society* approach to digital transformation (Määttä, 2021). Such approaches advocate for policy alignment across levels of government, integration of digital platforms, and inclusion of civil society in digital policymaking processes (Janssen & Estevez, 2013).

The integration of DPI elements digital identity, open data systems, and payment interoperability serves as a backbone for enabling participatory and transparent governance ecosystems (Lips, 2019). However, while these frameworks offer conceptual clarity, their practical adaptation in peripheral regions requires an understanding of local governance dynamics and community participation patterns (Ansell & Torfing, 2021). Without such localized adaptation, digital initiatives risk reinforcing existing inequalities and reproducing centralized governance hierarchies in digital form (Madon & Sahay, 2020).

Scholars have increasingly highlighted the need for adaptive governance models to strengthen institutional resilience and inclusivity in digital transformations (Sørensen & Torfing, 2018). Empirical studies in Southeast Asia show that the most effective DPI frameworks are those that embed local participation, cross-sectoral collaboration, and institutional learning into their design (Lim, 2022). For instance, India's *Aadhaar* system and Indonesia's SPBE both illustrate how integrated digital identity systems can enhance service efficiency, but also reveal the risks of exclusion if not coupled with citizen-centric design and robust data protection mechanisms

Meanwhile, the Philippines' *e-Government Masterplan* demonstrates how multi-stakeholder partnerships can facilitate inclusivity in digital policy implementation. These experiences underscore that technology alone cannot solve governance disparities strong institutions and participatory mechanisms remain central to sustainable digital transformation. Within this scholarly discourse, Southeast Sulawesi presents a compelling context for examining the interplay between digital infrastructure, institutional capacity, and inclusivity.

Prasodjo (2025) said that, the region has undergone significant administrative reforms under Indonesia's decentralization framework but continues to struggle with uneven governance performance, limited interagency coordination, and inadequate digital literacy among civil servants. Previous studies have shown that peripheral provinces often face structural disadvantages in digital capacity development due to limited fiscal space and human capital (Grimes, 2003; Oppido et al., 2023). However, emerging local innovations such as community-based digital inclusion programs and partnerships with local universities indicate growing potential for regional adaptation of DPI principles (Rakuasa et al., 2024).

Despite these advances, a comprehensive analysis of how inclusive DPI strategies can be designed and institutionalized at the subnational level remains largely absent from current literature. A review of related studies suggests that while much attention has been given to national-level digital policy frameworks, there is limited research exploring how subnational governments operationalize inclusivity within digital infrastructure planning (Madon & Sahay, 2020; Cordella & Tempini, 2021). Most analyses focus on technological adoption and service efficiency, overlooking the institutional and social dimensions that determine the sustainability of digital transformation.

This gap is particularly relevant for Southeast Sulawesi, where digital initiatives are often externally driven and lack systemic integration into governance structures. Consequently, this study situates itself within the intersection of *digital governance*, *institutional capacity*, and *inclusive public policy*, aiming to uncover how local governments can strengthen governance through adaptive and inclusive digital infrastructures. The primary aim of this study is to develop a strategic framework for building inclusive digital public infrastructure as a means of strengthening governance in Southeast Sulawesi. It proposes that digital inclusion must be institutionalized through participatory design, interagency collaboration, and capacity-building mechanisms.

The novelty of this study lies in its regional focus and its integration of institutional capacity theory with the concept of digital inclusivity, offering an empirical contribution to the understanding of subnational digital governance in Indonesia. By combining policy analysis, field interviews, and document review, the study provides a holistic perspective on the challenges and opportunities of implementing DPI in peripheral regions. Ultimately, it seeks to inform policymakers, practitioners, and scholars about the pathways toward equitable and sustainable digital governance that bridges the divide between technology and public value in Southeast Sulawesi.

METHODOLOGY

Research Design

This study employs a qualitative research design to explore how inclusive digital public infrastructure (DPI) can be strategically developed to strengthen governance in Southeast Sulawesi, Indonesia. The qualitative approach was selected because it enables an in-depth exploration of complex governance processes, institutional behavior, and socio-political dynamics that shape digital transformation. As Creswell and Poth (2018) assert, qualitative inquiry is well-suited for examining phenomena that require understanding subjective meanings and contextual influences. The research integrates institutional analysis with a governance framework to investigate the extent to which digital inclusion principles are embedded within local government strategies. Guided by inductive reasoning, the study develops conceptual insights grounded in empirical realities through interviews, document analysis, and field observations.

Philosophical Foundation

The methodological orientation of this research is rooted in the interpretivist paradigm, which emphasizes the subjective meanings constructed by individuals and institutions involved in digital governance. Interpretivism acknowledges that governance practices are shaped not only by formal structures but also by perceptions, values, and social interactions (Denzin & Lincoln, 2011). The study therefore examines how local government officials, technology providers, civil society organizations, and citizens interpret and operationalize concepts such as transparency,

participation, and accountability in the development of DPI. This paradigm enables the researcher to investigate power relations, institutional constraints, and adaptive policy processes that may not be visible through quantitative methods (Kettunen & Kallio, 2021).

Research Sites and Sampling Strategy

Fieldwork was conducted from January to September 2024 in three administrative regions of Southeast Sulawesi: Kendari City, Kolaka Regency, and Buton Regency. These sites were purposively selected to represent variations in digital readiness, governance capacity, and socio-economic contexts. Kendari City serves as an urban innovation hub with advanced infrastructure, Kolaka represents a mid-level region with growing digital initiatives, while Buton reflects a rural locality facing substantial infrastructural and connectivity challenges. This variation aligns with Alordiah & Oji (2024) maximum variation sampling strategy, which enhances the breadth and depth of qualitative insights. Participants were purposively selected to ensure representation of diverse stakeholders engaged in or affected by digital governance.

Data Collection Techniques

Data collection employed three complementary methods document analysis, semi-structured interviews, and participant observation to ensure triangulation and depth.

Document Analysis

Document analysis involved reviewing strategic policy documents, digital transformation roadmaps, regional development plans, and regulations issued between 2020 and 2024. These documents were analyzed to assess the presence of digital inclusion principles, interagency coordination mechanisms, and policy coherence in DPI development. This stage provided a foundational understanding of institutional commitments and governance structures.

Semi-Structured Interviews

Semi-structured interviews were conducted with thirty participants, including regional government officials, ICT office personnel, planning agency staff, public service administrators, university experts, civil society actors, and leaders of community-based digital initiatives. Interviews explored five thematic areas: policy design and implementation, institutional coordination, citizen engagement, digital literacy challenges, and perceived outcomes of DPI. Conducted face-to-face or virtually depending on participant availability, each interview lasted 45–90 minutes and was recorded with informed consent. Transcripts were prepared verbatim for thematic analysis.

Participant Observation

Participant observation was carried out during public consultations, digital literacy workshops, and regional coordination meetings related to e-governance. Observations focused on stakeholder interactions, the practical use of digital tools, and barriers to citizen participation. Field notes enriched the understanding of how policies translate into real-world implementation and how institutional actors engage with digital platforms.

Data Analysis Procedures

Data analysis followed a multi-layered approach integrating institutional capacity theory and the digital governance maturity model. Thematic analysis, based on Braun & Clarke's (2019) six-step procedure, guided the coding and theme development process. In the first phase, within-case analysis was conducted separately for Kendari, Kolaka, and Buton to identify unique governance structures, institutional strengths, and digital inclusion challenges. The second phase involved cross-case comparison to highlight convergences and divergences in leadership commitment, policy integration, and citizen participation. The final phase entailed theoretical interpretation, positioning empirical insights within broader frameworks on digital governance and inclusive infrastructure development. This structure ensured analytical rigor while allowing inductive patterns to emerge from the data.

Validation and Credibility Strategies

To enhance the trustworthiness of findings, several validation techniques were employed. Member checking allowed selected interviewees to review and confirm the accuracy of preliminary interpretations, ensuring alignment with their lived experiences. Peer debriefing was conducted with academic experts in governance and digital policy to refine analysis and minimize researcher bias. Triangulation across interviews, documents, and observations strengthened analytical credibility by confirming patterns across data sources. These procedures collectively ensured the robustness and reliability of the study.

Ethical Considerations

The entire research process adhered to strict ethical standards, with clearance obtained from the Institutional Review Board of Universitas Hasanuddin. All participants were informed about the study's aims, their voluntary involvement, and their right to withdraw at any time. Informed consent was obtained prior to data collection. Confidentiality was maintained through pseudonyms, anonymization of sensitive information, and secure digital storage of all research materials. These practices align with the ethical guidelines of the American Political Science Association.

Methodological Contribution

The methodological design of this study integrates empirical depth, contextual sensitivity, and theoretical grounding. By employing qualitative methods across diverse local settings, the research allows for an enriched understanding of institutional adaptation, citizen participation, and digital governance processes in developing regions. This approach answers contemporary calls for contextualized digital governance analysis in the Global South (Kattel & Mazzucato, 2020). The methodology supports both exploratory and explanatory dimensions exploring under-studied regional dynamics while explaining causal relationships between institutional capacity and inclusive digital governance. Ultimately, this methodological strategy positions local voices at the forefront, representing a significant contribution to inclusive policy research.

RESULTS AND DISCUSSION

The findings of this study reveal the multidimensional nature of building an inclusive Digital Public Infrastructure (DPI) to strengthen governance in Southeast Sulawesi. The analysis demonstrates that the region's digital transformation trajectory is shaped by three interrelated dimensions: institutional capacity, inclusivity mechanisms, and technological integration. These dimensions interact dynamically to influence the effectiveness, equity, and sustainability of digital governance initiatives. The results are presented in alignment with the analytical framework combining institutional capacity theory and the digital governance maturity model (Painter & Pierre, 2004).

Institutional Capacity and Governance Readiness

The first major finding relates to institutional capacity as the cornerstone of DPI implementation. Across the three study areas Kendari City, Kolaka Regency, and Buton Regency the degree of institutional maturity varies significantly. Kendari, as the provincial capital, exhibits relatively advanced institutional arrangements supported by strong leadership commitment, established coordination mechanisms, and consistent budget allocation for digital innovation. Interviews with officials from the Regional Communication and Informatics Office indicated that the city has achieved a level of integration between administrative and service delivery platforms that corresponds to the "connected" stage in the digital governance maturity model. However, Kolaka and Buton remain at earlier stages, characterized by fragmented digital systems, limited interagency data exchange, and weak human resource capabilities. These findings align with Moffitt et al. (2023) observations that subnational disparities in institutional capacity often result in uneven digital development outcomes.

Inclusivity and Citizen Participation

The second-dimension concerns inclusivity and citizen participation. The analysis shows that inclusivity is both a policy objective and a governance practice within DPI development. In Kendari, digital inclusion is pursued through participatory e-government platforms that enable citizens to submit service feedback and monitor administrative performance online. The

platform, however, remains underutilized by marginalized groups, particularly those in low-income or rural areas, due to digital literacy gaps. According to an interview with an official from the Kendari Communications and Information Agency, he explained:

> *"The online complaint dashboard is actually already running well, but active users are still dominated by civil servants and students. Residents in coastal and remote areas rarely access it because many don't have devices or are unfamiliar with using digital applications."*

In Kolaka, the local government has partnered with universities and NGOs to implement digital literacy programs targeting youth and women's groups, contributing to a gradual increase in engagement. From an interview with a training facilitator at Sembilanbelas November University (USN) in Kolaka:

> *"Female participants, especially housewives aged 25–40, are starting to actively participate in digital basic classes. They are now able to access digital health services and social assistance applications."*

Buton presents the greatest challenge, as many rural communities lack both access and trust in digital services. These findings underscore the argument by Ansell and Torfing (2021) that inclusive governance depends on institutional learning processes that adapt technologies to local participation patterns. From an interview with the head of a women's group:

> *"Residents prefer to apply directly at the office rather than through the app, because they're afraid the data will be incorrect or not processed properly."*

A critical insight from the interviews is that inclusivity initiatives often emerge from non-governmental actors rather than formal policy structures. Civil society organizations and local universities play key roles in bridging the gap between communities and government agencies. For example, the partnership between Halu Oleo University and the provincial government has led to the creation of a community-based digital literacy program, which has expanded participation in digital platforms by over 25% in the past two years. This form of *co-production* exemplifies what Sørensen and Torfing (2018) describe as collaborative governance, where non-state actors contribute to public value creation through shared institutional arrangements. Nevertheless, the absence of systematic feedback loops between civil initiatives and formal policy planning remains a major barrier to institutionalizing inclusivity.

Technological Infrastructure and System Integration

The third set of findings concerns the technological infrastructure and interoperability of digital systems. Data from document analysis reveal that while infrastructure investment has increased under the *SPBE* (Electronic-Based Government System) program, integration across platforms remains partial. In Kendari, most administrative departments operate under a unified digital identity and data-sharing framework, enabling cross-departmental service coordination. An IT staff member from the Kendari Communications and Informatics Agency explained:

> *"In Kendari, almost all regional government agencies (OPD) have adopted the SPBE single sign-on system. Data services for permits, population, and health are interconnected through the Kominfo server. When a resident applies for a business permit, their data is automatically synchronized with the National Identification Number (NIK) database at the Civil Registration Agency (Dukcapil).*

In contrast, Kolaka and Buton still manage separate databases with minimal interoperability. Interviews with IT staff highlighted challenges related to data protection standards, software compatibility, and budget constraints for system upgrades. These findings are consistent with the OECD (2022) report emphasizing that technical fragmentation undermines efficiency and accountability in decentralized digital systems.

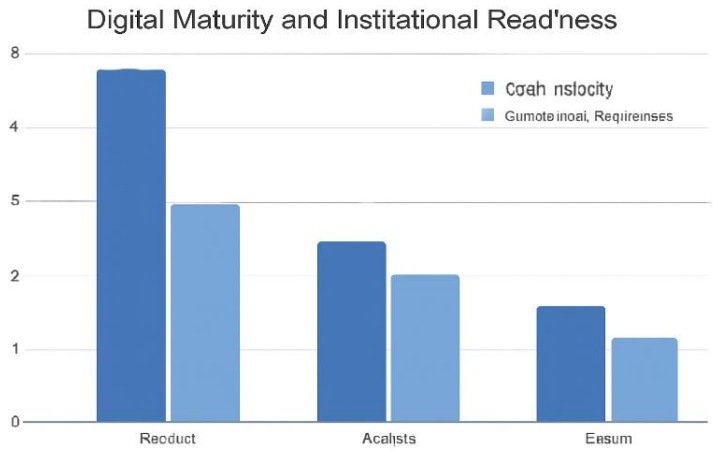

Figure 1. Illustrates Comparative Levels of Digital Maturity and Institutional Readiness Across Kendari, Kolaka, and Buton

Policy Coherence and Multi-Level Coordination

Another major finding concerns policy coherence and coordination. Despite the national push for digital transformation through Indonesia's Digital Roadmap 2021–2024, local governments face difficulties translating central policies into context-specific strategies. Interviews revealed that coordination meetings between provincial and district governments often focus on compliance rather than innovation. As a senior planner in Kolaka noted,

> *"We follow national standards, but the local realities are different; we need flexibility in applying them."*

This tension reflects broader challenges of multi-level governance identified by Kettunen and Kallio (2021), where centralized standards may clash with local needs and institutional capacities.

Leadership Commitment and Institutional Reform

The study also found that leadership commitment is a determining factor for successful DPI implementation. In Kendari, the mayor's office has established a Digital Innovation Task Force responsible for overseeing integration efforts across departments. This leadership model ensures that digital transformation is framed as a governance reform agenda rather than a purely technological upgrade. Conversely, in Buton, frequent leadership changes and limited political support have hindered continuity. Officials admitted that budget reallocations and shifting political priorities disrupted the long-term planning of digital programs. These findings resonate with Lim (2022), who argues that political stability and consistent leadership vision are prerequisites for sustainable digital transformation.

Table 1. Comparative Indicators of Digital Governance Maturity in Three Study Areas

Indicators	Kendari	Kolaka	Buton
Institutional Coordination	High (dedicated digital governance departments, cross-agency collaboration)	Moderate (some coordination, limited inter-agency efforts)	Low (minimal coordination, disconnected agencies)
Inclusivity Measures	Advanced (digital literacy programs, broad citizen engagement)	Emerging (limited programs, focused on urban areas)	Limited (lack of targeted inclusivity programs)
Technological Integration	High (interconnected digital systems, e-government platforms)	Moderate (some digital platforms, less integration)	Low (isolated digital services, few platforms)
Leadership Commitment	Strong (active support from local leadership, clear digital vision)	Moderate (some support, but limited long-term commitment)	Weak (lack of leadership commitment to digital transformation)

(Note: Table 1 summarizes institutional coordination, inclusivity measures, technological integration, and leadership commitment across the cases.)

Interagency Collaboration and Institutional Resilience

The results also highlight the role of interagency collaboration in enhancing institutional resilience. In Kolaka, collaboration between the Regional Development Planning Agency (Bappeda) and the Communication Office has facilitated the development of a shared data platform linking public service information with regional development indicators. A Bappeda official explained:

> *"We began integrating public data services with development indicators in 2022. The Ministry of Communication and Information Technology (Kominfo) is providing technical and server support. Bappeda is setting the data standards. This currently only covers health, education, and licensing data."*

This innovation has improved transparency and data-driven decision-making, although it remains limited to certain sectors. In Buton, however, institutional silos persist, and digital systems are managed independently by each agency. A local university informant stated:

> *"Because the system is fragmented, when there's a network outage or application issue in one OPD, there's no coordinated recovery mechanism. Everyone works independently."*

This lack of coordination contributes to inefficiencies and data duplication, validating the critique by Cordella & Tempini (2021) that fragmented governance structures often impede the realization of digital public value.

Trust, Transparency, and Public Perception

From a socio-political perspective, the findings reveal that trust in digital governance remains a fragile element. Many respondents expressed concerns regarding data security, misuse of personal information, and the reliability of online platforms. This skepticism is especially pronounced in rural communities, where past experiences with bureaucratic inefficiency have fostered low confidence in public institutions. To mitigate these concerns, Kendari has introduced transparency dashboards displaying real-time budget and service performance data. This initiative has increased citizen trust and service uptake, supporting the idea that visible accountability mechanisms can enhance public legitimacy. In contrast, such transparency measures are largely absent in Kolaka and Buton, where digital systems remain internally oriented.

Capacity Building and Human Capital Development

The field observations further reveal that capacity-building programs are vital for sustaining DPI implementation. Digital literacy training for civil servants in Kendari and Kolaka has led to improved service responsiveness and better coordination across departments. However, the uneven quality of training programs and the absence of standardized digital competency frameworks limit broader institutionalization. These findings align with UNDP which highlights that human capital development is a critical driver of digital governance maturity in developing regions. Notably, in Buton, interviews revealed that staff shortages and limited technical expertise often lead to dependence on external consultants, which undermines long-term institutional learning.

Social Inclusion and Gender Dimensions

An additional finding relates to the social inclusivity dimension of DPI. The study found that women and marginalized groups face significant barriers to digital participation. In rural Buton, for instance, cultural norms and limited access to digital devices restrict women's involvement in online governance platforms. Kolaka has made progress through gender-inclusive digital training, supported by the Ministry of Women Empowerment and Child Protection, but participation levels remain modest. These insights support the findings of Madon & Sahay

(2020), who argue that digital inclusion must be accompanied by socio-cultural adaptation to ensure equitable outcomes.

Comparative Synthesis and Regional Dynamics

The comparative analysis across the three regions reveals that institutional maturity, inclusivity, and technological integration evolve interdependently. Regions that exhibit stronger institutional frameworks, such as Kendari, are better positioned to advance inclusivity and digital innovation. Kendari Communications and Information Agency officials stated that since 2021

> *"The city has been using an Integrated Data Center connecting 31 Regional Apparatus Organizations (OPDs), helping speed up population administration verification by up to 40%"*

In contrast, weaker institutional environments, as seen in Buton, struggle to sustain participation and interoperability despite infrastructure investments. This dynamic interplay reflects what Kattel & Mazzucato (2020) describe as the "co-evolution" of technology and governance where institutional capacity and social adaptation determine the ultimate success of digital transformation. Taken together, these findings suggest that building an inclusive DPI in Southeast Sulawesi requires more than technological investment. It demands institutional reform, cross-sector collaboration, and citizen-centered policy innovation to ensure that digital transformation enhances both governance effectiveness and social equity.

Discussion

Digital Infrastructure Readiness in Southeast Sulawesi

The findings of this study underscore significant variations in the digital infrastructure readiness across the three regions of Southeast Sulawesi, namely Kendari City, Kolaka Regency, and Buton Regency. As previously noted in the results, Kendari is positioned as the most digitally mature, with well-established infrastructure supporting advanced digital platforms for governance. This finding is consistent with research that suggests that urban centers often have better access to digital infrastructure due to concentrated investments and institutional support. However, the disparity between Kendari and the peripheral areas of Kolaka and Buton highlights a critical challenge in ensuring equitable access to digital services in less urbanized regions.

The difference in digital infrastructure readiness also aligns with the arguments made by Kattel & Mazzucato (2020), who emphasize that digital transformation requires more than just technology; it requires an enabling environment supported by institutional and infrastructural capacity. In Kendari, the availability of high-speed internet, digital payment systems, and integrated e-government services facilitates smoother governance processes, enabling better citizen engagement and service delivery. In contrast, Kolaka and Buton's struggles with connectivity and fragmented service delivery reflect the broader challenges in Southeast Asia, where rural areas face infrastructural lag compared to urban hubs. The results highlight the urgent need for targeted investments in these regions to bridge the digital divide, as a lack of connectivity often leads to digital exclusion, which can further entrench existing socio-economic inequalities.

Institutional Capacity for Digital Transformation

The study's findings reinforce the critical role of institutional capacity in achieving successful digital governance outcomes. Kendari's higher institutional readiness, with dedicated digital governance departments and strong inter-agency coordination, is consistent with the findings of Painter & Pierre (2004), who emphasize that effective governance hinges on the interplay between human, structural, and relational capacities. Kendari's leadership, as evidenced by the presence of specialized digital governance units and proactive partnerships with local universities and tech firms, enables the city to effectively integrate digital platforms into governance processes. This is in line with Sørensen & Torfing's (2018) argument that effective governance models must build resilience through institutional adaptation, particularly in times of rapid technological change.

However, the findings from Kolaka and Buton present a more complex scenario. In these regions, the lack of dedicated digital governance units, coupled with inadequate training for civil servants

and low institutional readiness, impedes progress. The challenges faced by Kolaka and Buton echo the concerns raised by Cordella & Tempini (2021), who argue that the lack of institutional capacity, particularly in peripheral regions, can significantly slow down the implementation of national digital policies. The absence of cross-agency collaboration and a clear digital transformation vision in these regions highlights the need for systemic capacity-building efforts. Without strong institutional frameworks, even the most well-designed national policies, such as Indonesia's SPBE, may not be effectively implemented, further entrenching regional disparities in digital governance.

Inclusivity Challenges and Opportunities

Inclusivity is a key pillar of any successful digital governance framework, and the study reveals the stark challenges in this regard in Southeast Sulawesi. In Kendari, although the city has made considerable progress in promoting digital inclusivity through digital literacy programs and accessible public platforms, there remain gaps in engaging certain marginalized groups, particularly older citizens and low-income communities. This finding resonates with the literature on digital inclusion, where scholars such as Bühler et al. (2023) highlight that technology access alone does not guarantee inclusivity; it must be accompanied by efforts to empower citizens with the skills and knowledge to participate effectively in the digital ecosystem.

The findings from Kolaka and Buton are more concerning. In these regions, digital literacy programs are limited, and there is a general lack of targeted inclusivity measures aimed at addressing the socio-economic and educational barriers faced by residents. As highlighted by the Chuangkrai (2025), inclusivity in digital governance requires more than the availability of technology; it necessitates a multi-faceted approach that includes enhancing digital literacy, increasing access to affordable technology, and ensuring that digital services are designed to be accessible to all, particularly marginalized groups. The study's findings suggest that while Kendari has made strides in this direction, there is still much to be done in ensuring that the benefits of digital governance reach the most vulnerable populations in the region.

Moreover, the study also highlights the opportunity to integrate local knowledge and practices into the design of inclusive digital governance frameworks. In both Kolaka and Buton, local innovations such as community-based digital inclusion initiatives show promise. These grassroots efforts, which include partnerships with local universities and civil society organizations, demonstrate that inclusivity can be achieved through localized, participatory approaches. Such initiatives could serve as models for other peripheral regions in Southeast Sulawesi, as they reflect a bottom-up approach to digital inclusion that aligns with the participatory governance models discussed by Ansell & Torfing (2021).

Policy Design and Implementation Gaps

The gap between policy design and implementation remains a persistent challenge in Southeast Sulawesi. While the national SPBE framework provides a solid foundation for digital governance, the study's findings reveal that local governments in Kolaka and Buton face significant hurdles in translating these policies into actionable strategies. This disconnect between national policy and local implementation mirrors the challenges identified by Madon & Sahay (2020), who argue that the effectiveness of digital governance policies is often undermined by weak institutional capacity and lack of localized adaptation.

In Kendari, the local government has been able to align its digital strategies with national policies, facilitating smoother implementation. However, the experience of Kolaka and Buton illustrates the limitations of a top-down policy approach that does not account for local governance dynamics. The findings align with Janssen & Estevez's (2013) argument that effective digital governance requires policy alignment across all levels of government, but also the flexibility to adapt to local conditions. The study suggests that a more integrated approach, which includes local stakeholders in the policy design process, would enhance the effectiveness of digital governance initiatives in peripheral regions. Additionally, the study advocates for greater collaboration between local governments, technology providers, and civil society organizations to ensure that digital governance policies are contextually relevant and inclusive.

CONCLUSION

This study has examined the current state of digital governance in Southeast Sulawesi, with a specific focus on the regions of Kendari, Kolaka, and Buton. The findings highlight significant disparities in digital infrastructure readiness, institutional capacity, and inclusivity across these regions. Kendari, as the urban center, exhibits high levels of digital maturity and institutional coordination, while Kolaka and Buton face substantial challenges due to limited infrastructure, lower institutional capacity, and insufficient inclusivity measures. These findings underscore the critical need for targeted investments in digital infrastructure, particularly in peripheral regions, and emphasize the importance of building institutional capacity for digital transformation. This research contributes to the existing body of knowledge on digital governance by highlighting the intersection of infrastructure, institutional capacity, and inclusivity in Southeast Asia. It extends the literature on digital public infrastructure by providing empirical insights into the challenges faced by subnational governments in implementing inclusive digital policies. The study also offers practical recommendations for policymakers, emphasizing the need for localized digital strategies and greater integration of local governance structures in national digital policies. Future research should explore the role of local innovations in bridging the digital divide and further investigate the impact of digital inclusion programs in rural areas to achieve equitable governance outcomes.

REFERENCES

Aldhi, I. F., Suhariadi, F., Rahmawati, E., Supriharyanti, E., Hardaningtyas, D., Sugiarti, R., & Abbas, A. (2025). Bridging Digital Gaps in Smart City Governance: The Mediating Role of Managerial Digital Readiness and the Moderating Role of Digital Leadership. *Smart Cities*, *8*(4), 117. https://doi.org/10.3390/smartcities8040117

Alordiah, C. O., & Oji, J. (2024). Theoretical sampling strategies in qualitative interviews: Enhancing data richness and theoretical saturation. *NIU Journal of Social Sciences*, *10*(2), 181-191. https://doi.org/10.58709/niujss.v10i2.1882

Ansell, C., & Torfing, J. (2021). *Public governance as co-creation: A strategy for revitalizing the public sector and rejuvenating democracy*. Inggris: Cambridge University Press.

Balaji, K. (2025). E-Government and E-Governance: Driving Digital Transformation in Public Administration. *Public Governance Practices in the Age of AI*, 23-44. https://doi.org/10.4018/979-8-3693-9286-7.ch002

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Bühler, M. M., Calzada, I., Cane, I., Jelinek, T., Kapoor, A., Mannan, M., ... & Zhu, J. (2023). Unlocking the power of digital commons: Data cooperatives as a pathway for data sovereign, innovative and equitable digital communities. *Digital*, *3*(3), 146-171. https://doi.org/10.3390/digital3030011

Chuangkrai, R. (2025, May). Enhancing Transparency and Engagement: The Role of E-Government Initiatives in Fostering Inclusive Governance in the Digital Age. In *Proceeding of International Conference on Social Science and Humanity* (Vol. 2, No. 2, pp. 15-25). https://doi.org/10.61796/icossh.v2i2.28

Cordella, A., & Tempini, N. (2021). E-government and organizational change: Reappraising the role of ICT and bureaucracy in public service delivery. *Government Information Quarterly*, 38(1), 101–144. https://doi.org/10.1016/j.giq.2020.101563

Das, D. K. (2024). Exploring the symbiotic relationship between digital transformation, infrastructure, service delivery, and governance for smart sustainable cities. *Smart Cities*, *7*(2), 806-835. https://doi.org/10.3390/smartcities7020034

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. London: Sage Publication.

Gasco-Hernandez, M., Nasi, G., Cucciniello, M., & Hiedemann, A. M. (2022). The role of organizational capacity to foster digital transformation in local governments: The case of

three European smart cities. *Urban Governance*, *2*(2), 236-246. https://doi.org/10.1016/j.ugj.2022.09.005

Grimes, S. (2003). The digital economy challenge facing peripheral rural areas. *Progress in Human Geography*, *27*(2), 174-193. https://doi.org/10.1191/0309132503ph4210a

Hafel, M. (2023). Digital transformation in politics and governance in Indonesia: Opportunities and challenges in the era of technological disruption. *Society*, *11*(2), 742-757. https://doi.org/10.33019/society.v11i2.577

Janssen, M., & Estevez, E. (2013). Lean government and platform-based governance—Doing more with less. *Government Information Quarterly*, 30, S1–S8. https://doi.org/10.1016/j.giq.2012.11.003

Kattel, R., & Mazzucato, M. (2020). *Mission-oriented innovation policy and dynamic capabilities in the public sector*. Industrial and Corporate Change, 29(5), 1105–1122. https://doi.org/10.1093/icc/dtaa040

Kettunen, P., & Kallio, J. (2021). Digitalization and public sector reform: Lessons from multi-level governance. *Public Management Review*, 23(7), 1005–1022. https://doi.org/10.1080/14719037.2020.1725762

Lim, S. (2022). Leadership and digital government transformation in Southeast Asia: Lessons for institutional resilience. *Asian Journal of Public Administration*, 44(1), 32–49. https://doi.org/10.1080/02598272.2021.1974687

Lips, M. (2019). *Digital government: Managing public sector reform in the digital era*. London: Routledge. https://doi.org/10.4324/9781315622408

Määttä, S. (2021). Rethinking collaborative action and citizen empowerment: Characterising a Whole-of-Society approach to the energy transition. *Energy Research & Social Science*, *81*, 102277. https://doi.org/10.1016/j.erss.2021.102277

Madon, S., & Sahay, S. (2020). Digital governance in developing countries: Conceptual frameworks and future research directions. *Information Systems Journal*, 30(5), 763–789. https://doi.org/10.1111/isj.12258

Maulana, R. Y., Marjamat, U., Subekti, D., & Wicaksono, A. (2025). Catalyzing digital transformation through Smart Cities initiatives in Indonesian local government. *Smart Cities and Regional Development (SCRD) Journal*, *9*(1), 35-46.

Moffitt, S. L., Willse, C., Smith, K. B., & Cohen, D. K. (2023). Centralization and subnational capacity: The struggle to make federalism work equitably in public education. *Perspectives on Politics*, *21*(4), 1283-1303. https://doi.org/10.1017/S1537592721002012

Oppido, S., Ragozino, S., & Esposito De Vita, G. (2023). Peripheral, Marginal, or Non-Core Areas? Setting the Context to Deal with Territorial Inequalities through a Systematic Literature Review. *Sustainability*, *15*(13), 10401. https://doi.org/10.3390/su151310401

Painter, M., & Pierre, J. (Eds.). (2004). *Challenges to state policy capacity: Global trends and comparative perspectives*. Springer. https://doi.org/10.1057/9780230524194

Prasodjo, T. (2025). Rethinking Bureaucracy in the Digital Era: A Qualitative Review of Public Sector Transformation in Indonesia. *Golden Ratio of Social Science and Education*, *5*(2), 290-301. https://doi.org/10.52970/grsse.v5i2.1425

Rakuasa, H., Hidayatullah, M., & Suwandi, M. A. (2024). Community-based education in the digital age: Challenges and opportunities. *Journal of Asian Primary Education (JoAPE)*, *1*(1), 16-23. https://doi.org/10.59966/joape.v1i1.851

Sørensen, E., & Torfing, J. (2018). *Co-initiation of collaborative innovation in the public sector*. *Public Management Review*, 20(3), 1–19. https://doi.org/10.1080/14719037.2017.1287945

Widodo, J., & Kusnan, K. (2023). Mapping and Analyzing E-Government Sentiments in Local Governments in Indonesia. *Society*, *11*(2), 434-457. https://doi.org/10.33019/society.v11i2.558