

Digital Transformation in Public Services: Literature Review of E-Government Implementation in Indonesia

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ABSTRACT

Digital transformation has become a mainstream agenda in the reform of public services in Indonesia, marked by the widespread adoption of electronic government (e-government) across various levels of government. This study aims to map the development of research on the digital transformation of public services through a literature review approach on twenty previous studies published between 2023 and 2026. The method used is a library research with thematic analysis of the focus, objectives, and findings of each study. The results show that the existing literature can be grouped into six major themes: (1) e-government implementation at various levels of government; (2) the contribution of e-government to service efficiency and effectiveness; (3) the utilization of smart technologies such as artificial intelligence, big data, and smart cities; (4) the Electronic-Based Government System (SPBE) and its regulatory aspects; (5) the relationship between digital transformation and the principles of good governance, transparency, and accountability; and (6) innovation and digital bureaucratic transformation. This study concludes that although the literature on e-government in Indonesia is growing rapidly, research gaps remain in the evaluation of long-term impacts, human resource readiness, and the equitable distribution of digital infrastructure in non-urban areas.

ABSTRACT

Digital transformation has become mainstream in public service reform in Indonesia, marked by the widespread adoption of electronic government (e-government) at various levels of government. This study aims to map the development of studies on the digital transformation of public services through a literature review approach of twenty previous studies published between 2023 and 2026. The method used is a library study with thematic analysis of the focus, objectives, and findings of each study. The results of the study indicate that the existing literature can be grouped into six major themes, namely: (1) implementation of e-government at various levels of government; (2) the contribution of e-government to the efficiency and effectiveness of services; (3) the use of intelligent technologies such as artificial intelligence, big data, and smart cities; (4) Electronic-Based Government Systems (SPBE) and their regulatory aspects; (5) the relationship between digital transformation and the principles of good governance, transparency, and accountability; and (6) innovation and transformation of digital bureaucracy. This study concludes that although the literature on e-government in Indonesia is growing rapidly, there are still research gaps in the aspects of long-term impact evaluation, human resource readiness, and equitable distribution of digital infrastructure in non-urban areas.

1. Introduction

The development of information and communication technology (ICT) has driven fundamental changes in the way governments provide services to the public. Globally, this trend was confirmed by the United Nations (2024) in its UN E-government Survey 2024, which reported that digital transformation of government continues to accelerate in various countries as part of efforts to support sustainable development. (United Nations, 2024). The OECD (2020) has also formulated a digital government policy framework through The OECD Digital Government Policy Framework, which emphasizes the importance of user-driven and data-driven digital governance. (Peña-López, 2020).

In addition, the World Bank (2022) through the GovTech Maturity Index 2022 also maps the maturity level of government technology implementation in various countries, including Indonesia, as an indicator of the readiness of the public sector for digital transformation. (World Bank, 2022) The demand for fast, transparent, accountable, and easily accessible public services has encouraged governments at various levels to adopt electronic government (e-government) systems. (Suryani et al., 2024) This transformation is not only technical in nature, but also touches on institutional, regulatory, and bureaucratic cultural aspects as a whole. (Mirza et al., 2023).

In Indonesia, the agenda for digital transformation of public services has been strengthened since the issuance of Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE), which requires all government agencies, both at the central and regional levels, to integrate their business processes and public services into digital platforms. (Choirunnisa et al., 2023). Evaluation results conducted by the Ministry of Administrative and Bureaucratic Reform (2024) show that the national implementation of SPBE continues to experience increasing achievement indexes from year to year, although gaps in achievement between agencies and regions remain a challenge. Various studies indicate that the implementation of e-government has a significant impact on bureaucratic efficiency, cost savings, accelerated service times, and increased public satisfaction as service recipients.

Nevertheless, studies on the digital transformation of public services are still scattered across various focuses and perspectives, from technical implementation, legal and regulatory aspects, and governance dimensions. Therefore, a systematic literature review is needed to map the development of these studies, identify dominant patterns and themes,

and identify research gaps that can guide further research.

Based on this background, this article was written with the following objectives: (1) to map the main themes in research on digital transformation and e-government in public services in Indonesia; (2) to analyze the contribution of each previous study to the collective understanding of this topic; and (3) to identify research gaps that can serve as recommendations for the development of future studies.

2. Methods

This research uses a literature review approach with a descriptive qualitative method, referring to the principles of literature review as a systematic research methodology. (Snyder, 2019) The data sources used are twenty articles and previous research results that discuss the themes of e-government, digitalization, and public services, published between 2023 and 2026. The selection of sources was based on the relevance of the topic to the focus of the study, namely digital transformation in public services, and paying attention to the principles of writing a literature review that emphasizes the importance of clarity of purpose, transparency of the source search process, and structured synthesis. (Paul & Criado, 2020).

Data analysis was conducted in three stages, adopting a systematic approach. First, the identification stage, which involves collecting and compiling a matrix of previous research containing information on the author, year, title, focus/objective of the research, and its relevance to the study theme. Second, the thematic categorization stage, which involves grouping the studies into broad themes based on shared focus. Third, the synthesis stage, which involves analyzing and connecting findings from various studies to generate a comprehensive understanding and identify existing research gaps. (Booth et al., 2022)

3. Findings and Discussion

Based on the results of a search of twenty previous studies, studies on digital transformation and e-government in public services can be grouped into six major themes, namely: (1) implementation of e-government at various levels of government; (2) the contribution of e-government to the efficiency and effectiveness of public services; (3) the use of intelligent technology in public services; (4) Electronic-Based Government Systems (SPBE) and their regulatory aspects; (5) the relationship between digital transformation and good governance, transparency, and accountability; and (6) innovation and digital bureaucratic transformation. These six themes are described sequentially in the following

subsections.

Implementation of E-government at Various Levels of Government

Several studies have highlighted how e-government policies are concretely implemented in government agencies, both at the regional and central levels. The implementation of e-government policies in population administration and civil registration services in Dogiyai Regency, Central Papua Province, provides a concrete illustration of the challenges of implementing digital systems in a region with still-developing geography and infrastructure.(Badii, 2025). In line with this, the use of e-government applications to improve the effectiveness of public services in local government shows that the success of digitalization is highly dependent on the readiness of the application and the capacity of its managers.(Ichsan et al., 2025).

At a higher level, the implementation of e-government in the Administrative Services Unit at the Bureau of Organization and Administration of the Ministry of Home Affairs, which provides an implementation perspective for central government agencies.(Suhartono et al., 2025). As for digital transformation through the implementation of e-government in public sector organizations in general(Hidayat & Guntur, 2025). These three study groups emphasized that e-government implementation is contextual, influenced by the level of government, regional characteristics, and institutional readiness of each agency, in line with the World Bank's (2022) findings, which show that digital maturity of government varies greatly between regions and countries.(World Bank, 2022).

E-government, Efficiency, and Effectiveness of Public Services

The second widely studied theme is the relationship between e-government and increased efficiency and effectiveness of services. E-government increases the efficiency and effectiveness of public services in Indonesia and is one of the most relevant references to the main theme of this study.(Rizky et al., 2025). Similar findings were also put forward by Tambunan and Dompak (2025), who analyzed the contribution of e-government to increasing the efficiency and effectiveness of public services from different but mutually reinforcing perspectives.(Tambunan & Dompak, 2025).

In addition, the impact of digitalization on public services in local government provides a concrete example of how the digitalization process changes the pattern of interaction between the government and the community.(Fauzi & Hakim, 2024). These three studies consistently show that service digitalization is

positively correlated with reduced waiting times, simplified procedures, and increased public satisfaction with the services received, in line with global achievements reported by the United Nations (2024) in the UN E-government Survey 2024 regarding the acceleration of the efficiency of digital-based public services in various countries.(United Nations, 2024).

Utilization of Smart Technology in Public Services

Recent developments in e-government studies are beginning to shift toward the use of more complex intelligent technologies. The AI-driven digital public service transformation model in local government demonstrates a new direction in e-government development, no longer limited to the digitization of administrative procedures but rather transforming into a system capable of learning and adapting.(Achmad & Achmad, 2025). This development is in line with the view(Dwivedi et al., 2021), which emphasizes that the application of artificial intelligence presents both opportunities and multidisciplinary challenges for various types of organizations, including government organizations, in formulating future research and policy agendas.

In line with this,(Mozin et al., 2025)examines the use of intelligent technologies such as Information and Communication Technology (ICT), Big Data, Artificial Intelligence, and the Smart City concept to support public service delivery. These two studies demonstrate that future e-government trends will increasingly integrate data-based technology and artificial intelligence, making public services not only electronic but also predictive and adaptive to community needs.

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Electronic-Based Government System (SPBE) and Regulatory Aspects

The fourth theme relates to the policy framework that governs the implementation of e-government in Indonesia, namely the Electronic-Based Government System (SPBE) as mandated in Presidential Regulation of the Republic of Indonesia Number 95 of 2018. The role of SPBE in increasing the accessibility of public services in Indonesia, emphasizes that SPBE functions as a cross-agency integration framework that allows public services to be accessed more evenly.(Choirunnisa et al., 2023). The implementation of SPBE from a legal aspect provides an important perspective regarding the suitability of regulations with implementation practices in the field.(Suryana et al., 2025).

These two studies complement each other: one focuses on the functional impact of SPBE on service accessibility, while the other highlights the strengths and gaps in the underlying legal framework. Synergy between technical and regulatory aspects is key to the successful and sustainable implementation of SPBE, as confirmed by the results of the national SPBE evaluation by the Ministry of Administrative and Bureaucratic Reform (2024), which showed that alignment between regulations and agency technical readiness is a determining factor in the success of the SPBE index in various regions.

Digital Transformation, Good Governance, Transparency, and Accountability

The fifth theme highlights the link between digital transformation and the principles of good governance. The concept of good governance itself has long been developed by the UNDP (1997), which defines good governance as the exercise of economic, political, and administrative authority to manage state affairs at all levels, emphasizing the principles of participation, transparency, and accountability as its primary foundation.(UNDP, 1997)Wardana, Putri, and Fatati (2025) analyzed the implementation of good governance through digital transformation, using the Sumedang Regency Government as a model for public service transformation. This study demonstrated that the success of digital transformation is inseparable from the commitment of local leadership and policy consistency.(Wardana et al., 2025).

This study is strengthened by(Susniwati et al., 2025)which analyzes the implementation of e-government from a good governance perspective through case studies in Indonesia more broadly, as well as(Shabihah et al., 2025)which examines the role of e-governance as an instrument for increasing government transparency and accountability. These three studies consistently emphasize that the digitalization of public services is not merely a technological transformation, but also an instrument for realizing a more open and accountable government, in line with the basic principles of governance formulated by the UNDP (1997) several decades earlier.

Innovation and Transformation of Digital Bureaucracy

The sixth theme relates to the innovation process and changes in bureaucratic work patterns towards digitalization.(Saputra et al., 2024)This study examines the transformation of digital bureaucracy in public services, highlighting fundamental changes in the work patterns of government officials resulting from the implementation of electronic systems.(Sangaji & Irianto, 2025)also examines the transformation of public service innovation towards digital government, while(Hasanah et al., 2025)examine the transformation of public services based on digital innovation at the local government level.

On a more macro policy aspect,(Sagai et al., 2026)examines Information and Communication Technology (ICT)-based policy innovation as a driver of e-government transformation in Indonesia, and(Haris & Zahrati, 2026)analyze the impact of digitalization on governance and public services more broadly. These two more recent studies indicate that the direction of national digital policy continues to move toward a more comprehensive integration of policy, institutional, and technological aspects, in line with the direction of global digital policy as mapped out.(Peña-López, 2020)within the framework of its digital governance.

As a conceptual basis,(Irfan & Anirwan, 2023)Through its literature study, it examines the development of public services in the digital era in general, which is one of the basic references in understanding the direction of the development of digital transformation of public services discussed by subsequent research.

Based on the mapping of the six themes above, it can be concluded that studies on the digital transformation of public services in Indonesia have progressively evolved, from an initial descriptive-conceptual focus to more specific and applied studies in subsequent years,

including the use of artificial intelligence and big data. This development indicates a shift in research orientation from merely technical implementation to more strategic and governance-oriented studies, in line with global trends reported by the United Nations (2024).

Nevertheless, several research gaps can be identified. First, most research is still case studies of a single agency or region, so the generalizability of findings to a broader context is still limited. Second, studies on the readiness of human resources of civil servants and the digital literacy of the public as determining factors for the success of e-government are still relatively rarely discussed in depth. Third, the issue of equitable distribution of digital infrastructure between urban areas and underdeveloped, frontier, and outermost (3T) regions has not been a primary focus of research, even though this aspect is crucial in the context of Indonesia's diverse geography, as highlighted in the World Bank's GovTech maturity assessment (2022), which showed disparities in digital readiness between regions. Fourth, evaluating the long-term impact of e-government implementation on changes in bureaucratic behavior and public trust still requires a more comprehensive and longitudinal study.

4. Conclusion

A literature review of twenty previous studies shows that digital transformation in public services in Indonesia has become a rapidly developing and multidimensional topic of study. The existing literature can be mapped into six major themes: e-government implementation at various levels of government, its contribution to service efficiency and effectiveness, the use of smart technology, the implementation of SPBE and its regulatory aspects, its relationship to the principles of good governance and accountability, and innovation and digital bureaucratic transformation.

In general, previous studies agree that e-government makes a positive contribution to the quality of public services, although its success is highly dependent on institutional readiness, supportive regulations, and leadership commitment. For future research, it is recommended that studies be more directed at evaluating long-term impacts, human resource readiness, and equitable distribution of digital infrastructure, especially in areas with limited access to technology, to ensure that the digital transformation of public services can be felt inclusively by all levels of society, in line with the sustainable development agenda emphasized by the United Nations (2024) and the digital maturity framework formulated by the World Bank (2022).

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