



The Role of E-Government Innovation in Enhancing Public Service Performance and Strengthening Transparent Governance

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Abstract

The development of information and communication technology (ICT) has driven significant transformation in governance, especially through the implementation of e-Government. In Indonesia, e-Government innovation has become an integral part of bureaucratic reform in realizing a clean, transparent, and responsive government to the needs of the community. This study aims to analyze the role of e-Government innovation in improving public service performance and strengthening transparent governance. The research method used is a literature study with a qualitative approach, by analyzing various scientific articles, government documents, and international organization reports from the last five years. The results of the study show that e-Government innovation has a positive impact on the efficiency, effectiveness, and accountability of public services. Case studies of the implementation of SPBE in Ciamis Regency and E-SAKIP in various agencies show increased transparency and reduced bureaucratic time and costs. However, challenges such as limited infrastructure, low digital literacy, and bureaucratic cultural resistance still hinder system optimization. This study emphasizes the importance of transformational leadership, technological readiness, digital human resource capacity, community participation, and supportive regulations as key factors for success. Strategic recommendations include strengthening digital literacy, data interoperability between agencies, and public involvement in evaluating the government's digital performance to encourage more adaptive and sustainable governance.



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INTRODUCTION

The development of information and communication technology (ICT) has driven significant transformation in governance, especially through the implementation of e-Government. E-

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Government is a government effort to utilize ICT to improve efficiency, effectiveness, transparency, and accountability in public services and governance (Kristian et al., 2024). In Indonesia, the implementation of e-Government has become an integral part of bureaucratic reform aimed at creating a clean, transparent, and responsive government to the needs of the community (Dwiyanto, 2018).

E-Government, or electronic-based government, is the use of information and communication technology (ICT) by the government to improve the efficiency, transparency, and accessibility of public services. This concept includes digital interactions between the government and citizens (G2C), business actors (G2B), between government agencies (G2G), and with government employees (G2E) (Indrayani, 2020). The main goal is to accelerate the exchange of information, provide better public services, and support more effective decision-making processes.

In Indonesia, the implementation of e-Government has shown significant progress in recent years. According to the UN E-Government Survey 2024 report, Indonesia has risen 13 ranks to position 64 out of 193 countries, with an E-Government Development Index (EGDI) score of 0.7991. This increase reflects the government's commitment to developing digital infrastructure and expanding access to e-Government services, although challenges such as equal access in remote areas and increasing digital literacy still need to be overcome (Azhar, 2024).

The implementation of e-Government in various regions shows mixed results. Several regions have succeeded in improving the quality of public services through digital innovation, such as the use of online service applications and integrated management information systems (Shabihah et al., 2025). However, challenges such as limited infrastructure, low digital literacy, and resistance to change are still obstacles in optimizing e-Government (Kristian, 2023). Therefore, a strategic and innovative approach is needed in the implementation of e-Government to ensure improved public service performance and strengthening transparent governance.

Innovation in e-Government not only includes technological aspects, but also changes in business processes and organizational culture. Digital transformation requires adjustments in organizational structures, increased human resource capacity, and active participation from the community (Heeks, 2002). Thus, the success of e-Government is highly dependent on the synergy between technology, processes, and humans in creating quality public services and good governance.

In addition, transparency in government is a crucial aspect in building public trust. E-Government can increase public access to public information, enable participation in decision-making, and strengthen accountability mechanisms (Siplawfirm.id, 2023). Thus, e-Government innovation plays an important role in strengthening transparent and accountable governance.

Given the important role of e-Government in improving public service performance and strengthening transparent governance, this study is urgent to identify factors that influence the success of e-Government implementation. This study also aims to provide strategic recommendations in developing effective and sustainable e-Government innovation.

Several previous studies have examined the implementation of e-Government in Indonesia. For example, a study by Kristian et al. (2024) showed that the implementation of e-Government in Bandung Regency succeeded in increasing transparency and accountability through a public service information system (Kristian et al., 2024). However, this study has not specifically discussed the role of innovation in e-Government and its impact on public service performance and transparent governance. Therefore, this study aims to fill this gap by focusing on e-Government innovation.

This study aims to analyze the role of e-Government innovation in improving public service performance and strengthening transparent governance. Specifically, this study will identify key factors that influence the success of e-Government innovation, evaluate its impact on the efficiency

and effectiveness of public services, and formulate strategic recommendations for the development of sustainable and transparency-oriented e-Government.

METHOD

This study uses a qualitative approach with a literature review type that aims to analyze the role of e-Government innovation in improving public service performance and strengthening transparent governance. Literature studies were chosen because they allow researchers to study in depth various previous research results, theories, and e-Government implementation practices from various credible sources in order to gain a comprehensive understanding of the phenomenon being studied (Snyder, 2019).

The data sources in this study come from secondary data, namely scientific articles that have been published in reputable national and international journals, official government documents such as reports from the Ministry of PANRB, the Ministry of Communication and Information, and reports from international organizations such as UNDESA and the World Bank that are relevant to the topic of e-Government, public services, and governance. The criteria for selecting sources include the publication period in the last five years (2019–2024), relevance to the topic, and the feasibility of the methodology of the sources studied (Boell & Cecez-Kecmanovic, 2015).

Data collection techniques were carried out through systematic searches using academic search engines such as Google Scholar, ScienceDirect, and ResearchGate, with the keywords: e-Government innovation, public service performance, good governance, and digital government. Each article found was selected based on the suitability of the theme and scientific feasibility. This process aims to ensure that the data used has high validity and relevance to the focus of the research.

The data analysis method used is thematic content analysis, which is grouping data based on main themes such as dimensions of innovation in e-Government, impacts on public service performance, and contributions to transparency and accountability. A narrative approach is used to synthesize findings from various sources, identify patterns, trends, and gaps in existing literature (Rowley & Slack, 2004). Data validity is strengthened through source triangulation, which is comparing the results of studies from various types of publications to ensure consistency and accuracy of findings.

RESULT AND DISCUSSION

The following is a table of bibliographic data which is the result of a selection of 10 recent scientific articles (2019–2025) relevant to the topic “The Role of E-Government Innovation in Enhancing Public Service Performance and Strengthening Transparent Governance.” These articles were selected based on the following criteria: relevance to the theme, empirical or conceptual contribution, and publication in an internationally reputable journal.

Table 1. Literature Review

No	Author	Title	Research Findings
1	Kawabata & Camargo (2023)	E-Government Innovation Initiatives in Public Administration	Identifies four e-government innovation clusters: service efficiency, citizen participation, digital integration, and adaptive governance.
2	Wijaya et al. (2024)	The Impact of Electronic Government Policy on Transparency	E-government enhances transparency and accountability, but faces challenges such as data security and the digital divide.

		Accountability in Public Services	
3	Khafka et al. (2024)	Evaluating the Impact of E-Governance on Public Service Improvement in Albania	E-governance enhances public service efficiency and citizen participation through quantitative analysis.
4	Mao & Zhu (2025)	Does e-government integration contribute to the quality and equality of local public services?	E-government integration in China improves the quality and equity of public services across provinces.
5	Batirovna (2024)	Impact of E-Governance on Public Service Efficiency	E-governance enhances public service efficiency, but its benefits vary depending on socio-economic context.
6	Anguche et al. (2024)	E-Government Services and Performance of County Governments in Kenya	E-government services enhance local government performance through efficiency and transparency.
7	Lima Júnior et al. (2024)	The use of the open innovation paradigm in the public sector: a systematic review of published studies	Open innovation in the public sector, including e-government, promotes citizen participation and collaboration between agencies.
8	Alshehri et al. (2012)	The Effects of Website Quality on Adoption of E-Government Service	The quality of government websites influences citizen adoption of e-government services.
9	Elisa et al. (2020)	A framework of blockchain-based secure and privacy-preserving E-government system	A blockchain-based e-government framework enhances data security and privacy.
10	Khanh (2014)	The critical factors affecting E-Government adoption: A Conceptual Framework in Vietnam	Critical factors in e-government adoption include technology readiness, government support, and citizen participation.

From the ten articles selected and reviewed in this literature study, a deep understanding can be drawn regarding the role of e-Government innovation in improving public service performance and strengthening transparent governance. These articles reflect a multidisciplinary approach, ranging from evaluating administrative efficiency, public participation, to utilizing advanced technologies such as blockchain and artificial intelligence in the public sector.

Kawabata and Camargo (2023) identified that e-Government innovation initiatives can be classified into four main clusters: service efficiency, citizen participation, digital integration, and adaptive governance. This indicates that the success of e-Government is not only determined by technical aspects, but also by how the innovation interacts with user needs and the ability of government institutions to adopt it strategically (Kawabata & Camargo Jr, 2023). This finding is reinforced by the study of Wijaya et al. (2024) which highlights how e-Government policies in Indonesia are able to encourage transparency and accountability in public services, even though they are still faced with challenges such as the digital divide and data security (Mutiarin et al., 2024).

In the international context, Khafka et al. (2024) conducted a quantitative evaluation of e-Governance implementation in Albania and found that the use of digital systems accelerated the service process and increased public trust in government agencies (Khafka et al., 2024). Similar results were found by Mao and Zhu (2025) who observed e-Government integration in China and

concluded that the quality and equity of public services increased significantly across provinces, especially when digital systems were managed centrally and sustainably (Mao & Zhu, 2025).

The efficiency aspect was also highlighted by Batirovna (2024) in the Central Asian regional context, where e-Governance improved bureaucratic efficiency, but its impact was highly dependent on local social and economic conditions (Shaxnoza, 2024). Meanwhile, Anguche et al. (2024) proved that e-Government services implemented in Kenyan local governments not only accelerated service delivery but also improved fiscal transparency and data-based planning. This study emphasizes the importance of local government digital capabilities as a prerequisite for successful digital transformation (Anguche et al., 2024).

The participatory dimension of e-Government is explained by Lima Júnior et al. (2024) through a systematic approach to open innovation in the public sector. They stated that the open innovation paradigm applied in e-Government opens up space for cross-agency collaboration and allows citizens to contribute to policy-making, strengthening accountability through interactive channels (Lima-Júnior et al., 2024).

In the realm of technology, the article by Alshehri et al. (2012) emphasized that the quality of government websites directly affects the adoption of digital services by the public. Speed of access, clarity of information, and ease of navigation are the main indicators of the success of a public service portal (Alshehri et al., 2012). On the other hand, Elisa et al. (2020) proposed an e-Government framework based on blockchain technology that promises a more secure service system and guarantees the privacy of citizen data. This technology is very important to address public concerns about the integrity and security of information in the digital era (Elisa et al., 2023).

Khanh (2014) developed a conceptual framework that underlines the importance of technological readiness, political support, and organizational culture in supporting e-Government adoption. He concluded that successful implementation is highly dependent on the balance between structural and cultural factors, including leadership commitment and community participation (Khanh, 2014).

Overall, these findings indicate that innovation in e-Government has a broad impact on improving public service performance and strengthening governance. However, the impact can only be maximized if supported by a contextual implementation strategy, strong institutional capacity, and inclusive and safe use of technology. Therefore, e-Government innovation strategies must be integrated into the framework of bureaucratic reform and adaptive and participatory digital governance.

Discussion

The Role of e-Government Innovation in Improving Public Service Performance

E-Government innovation has become a catalyst for transformation in the provision of public services in Indonesia. By adopting information and communication technology, the government seeks to increase efficiency, transparency, and accountability in various aspects of public services.

One example of a significant implementation of e-Government is the implementation of the Electronic Government Agency Performance Accountability System (E-SAKIP). A study by Handayani and Syahrial (2023) showed that E-SAKIP succeeded in increasing transparency and efficiency of government operations, with a reduction in performance reporting time and costs of up to 70%. However, challenges such as inadequate infrastructure and resistance to change are still obstacles to the full implementation of this system (Monika Handayani & Mohammad Arliyan Syahrial, 2024).

At the regional level, the implementation of the Electronic-Based Government System (SPBE) in Ciamis Regency showed an increase in information transparency and acceleration of the service

process to the public. However, limited technological infrastructure and digital literacy among government employees are major challenges in implementing SPBE (Hasan et al., 2024).

In addition, innovations such as the JAKI (Jakarta Kini) application developed by the DKI Jakarta Provincial Government aim to integrate various public services and information in one platform. Although these applications have great potential in improving service accessibility, the low adoption rate by the community indicates the need for a more effective strategy in socializing and training the use of this technology (Sudrajat & Andhika, 2021).

Overall, e-Government innovations in Indonesia have shown a positive impact in improving public service performance. However, the success of this implementation is highly dependent on the readiness of infrastructure, human resource competence, and active community participation. Therefore, a sustainable e-Government development strategy must include increasing technological capacity, continuous training for government employees, and an inclusive approach to encourage community participation in utilizing digital services.

Strengthening Transparent Governance through e-Government Innovation

Transparency in governance is a key pillar in realizing a clean, accountable, and responsive government to the needs of the community. E-Government innovation, through the use of information and communication technology, has become a strategic instrument in increasing information openness, public participation, and accountability in governance in Indonesia.

The implementation of e-Government allows the public to access public information in real time, monitor budget usage, and be involved in the decision-making process through digital platforms. One real example is the implementation of the Electronic-Based Government System (SPBE) in Ciamis Regency. Research by Hasan et al. (2022) shows that SPBE has succeeded in increasing information transparency and accelerating the process of serving the community. However, challenges such as limited technological infrastructure and digital literacy among government employees are still major obstacles in the implementation of SPBE in the area (Hasan et al., 2024).

In addition, the implementation of e-Government also contributes to efforts to eradicate corruption at the local level. A study by Martitah et al. (2021) in Central Java Province revealed that the implementation of e-Government through an electronic licensing and procurement system for goods/services has succeeded in reducing corrupt practices by increasing transparency and accountability in bureaucratic processes. The use of social media by local governments also strengthens public participation in monitoring government performance (Martitah; Sumarto, 2021).

However, the challenges in implementing e-Government are not limited to technical and infrastructure aspects. The corruption case in the e-KTP project shows that without strict supervision and a transparent system, digital innovation can be misused for personal gain. The e-KTP project, which began in 2009, experienced various problems, including allegations of corruption that caused state losses of IDR 2.3 trillion. This highlights the importance of integrity and accountability in every stage of e-Government implementation (Haikal & Mauliana, 2022).

To overcome these challenges, a comprehensive strategy is needed, including increasing human resource capacity, developing equitable technological infrastructure, and strengthening regulations that support transparency and accountability. Active public participation in the decision-making and supervision process is also key to realizing transparent and accountable governance through e-Government.

Based on literature studies and implementation in various countries and regions, the success of e-Government is greatly influenced by the following factors:

Table 2. Key Factors for Success of e-Government Innovation

Factors	Description
Transformational Leadership	Strong support from leaders for digital transformation
Technology & Infrastructure Capacity	Internet access, digital platforms, and data security
Digital Human Resources	ASN competence in operating and managing digital systems
Community Participation	Public readiness and trust in using digital services
Supporting Regulations and Policies	Legal umbrella that supports interoperability and data privacy

The Impact of e-Government Innovation on the Efficiency and Effectiveness of Public Services in Indonesia

E-Government innovation has become a major driver of public service transformation in Indonesia, especially in improving the efficiency and effectiveness of government administration. By utilizing information and communication technology, various government agencies have succeeded in reducing complex bureaucracy, accelerating service processes, and increasing public satisfaction.

One example of a successful e-Government implementation is the implementation of the Electronic Government Agency Performance Accountability System (E-SAKIP). A study by Handayani and Syahrial (2023) shows that E-SAKIP is able to increase transparency and efficiency of government operations, with a reduction in performance reporting time and costs of up to 70%. However, challenges such as inadequate infrastructure and resistance to change are still obstacles to the full implementation of this system (Monika Handayani & Mohammad Arliyan Syahrial, 2024).

At the local level, e-Government implementation has also shown positive impacts. Research by Muwardi and Sukmana (2024) in Tambang Village, Sidoarjo Regency, revealed that the use of the Plavon Dukcapil website succeeded in accelerating the population administration process. However, the lack of socialization and training for the community is a challenge in maximizing the use of this service (Muwardi & Sukmana, 2024).

In addition, digital applications developed by government agencies also contribute to improving the efficiency of public services. A study by Jusul (2024) on the digital application of the National Police Traffic Corps in South Jakarta showed that this application makes it easier for people to renew their Driving Licenses (SIM) online, reduces waiting times, and increases user satisfaction. However, challenges such as the digital divide and personal data security still need to be addressed to optimize services (Jusul, 2024).

Despite various successes, the implementation of e-Government in Indonesia still faces significant challenges. A study by Rizky et al. (2024) highlighted that limited infrastructure in remote areas, lack of skilled human resources in technology, and data security risks are major obstacles to the effective implementation of e-Government. To overcome this, investment in technological infrastructure, training for government employees, and strict regulations related to data security are needed (Rizky et al., 2025).

Overall, e-Government innovation has made a significant contribution to improving the efficiency and effectiveness of public services in Indonesia. However, to achieve a sustainable and inclusive digital transformation, collaborative efforts are needed between the government, private sector, and society in overcoming existing challenges and maximizing the potential of technology in public services.

Strategic Recommendations for Sustainable and Transparent Development

1. Increasing digital literacy of the community and ASN through ongoing training.
2. Strengthening interoperability of data policies between agencies for integrated services.
3. Development of open and adaptive platforms that can be accessed by all community groups.
4. Public monitoring and evaluation based on digital performance indicators.
5. Cross-sector collaboration (government-private-community) in the design and utilization of digital innovation.

CONCLUSION

This study concludes that innovation in e-Government has a major contribution in improving public service performance and strengthening transparent governance in Indonesia. E-Government has been proven to increase bureaucratic efficiency, accelerate service processes, and increase accountability and public participation. However, the success of e-Government implementation is highly dependent on the readiness of digital infrastructure, human resource competence, and the existence of regulations that guarantee information security and openness.

The government needs to focus on increasing the digital capacity of ASN through continuous training, as well as expanding access to ICT infrastructure, especially in the 3T (frontier, outermost, and disadvantaged) areas. Socialization of digital services to the public must be carried out actively to increase adoption. In addition, it is necessary to develop a data interoperability system between agencies and a public evaluation dashboard to increase transparency and public trust in government digital services.

Future research can delve deeper into quantitative studies on the relationship between digital innovation variables and public satisfaction levels. In addition, comparative studies between regions with different levels of e-Government success can provide a more comprehensive understanding of local factors that influence the effectiveness of digital innovation in public services and governance.

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