

PUBLIC SERVICE INNOVATION IN THE SMART GOVERNANCE ERA: STRATEGIES TO INCREASE TRANSPARENCY AND ACCOUNTABILITY IN INDONESIA

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Submitted: 25 March 2025, Reviewed: 29 June 2025, Published: 2 July 2025

ABSTRACT

The increasing integration of digital technologies into public administration marks a significant shift in the delivery of public services in Indonesia, particularly within the framework of smart governance. Despite the potential of digital innovation to enhance transparency and accountability, the implementation across regions remains uneven due to policy fragmentation, infrastructure limitations, and varying degrees of public participation. This study aims to analyze government strategies in Indonesia for developing and implementing technology-based innovations to strengthen transparency and accountability in public services. Specifically, the research addresses the persistent gap between policy intent and execution in the context of smart governance. Using a qualitative research approach, data were collected from policy documents, academic studies, and relevant case examples, and analyzed thematically to identify key patterns, challenges, and success factors. The results indicate that digital transformation in public service delivery is most effective when supported by adaptive regulatory frameworks, improved digital competencies among public officials, and collaborative efforts between government, private sector, and academia. Moreover, the engagement of citizens through digital platforms significantly enhances public oversight and policy transparency. These findings highlight the critical importance of inclusive, responsive, and well-coordinated strategies in realizing the goals of smart governance in Indonesia.

Keywords: Public Services; Smart Governance; Transparency; Accountability.

BACKGROUND

In recent decades, rapid changes in technology have had a significant impact on governance systems, especially in the provision of public services. Governments in various countries, including Indonesia, face increasingly complex challenges in meeting the needs of the ever-growing community. Increasing citizen expectations for service quality, information accessibility, and policy transparency encourage governments to adapt to technology to create a more effective and efficient governance system. Amidst this dynamic, innovation in public services has become an inevitability that cannot be avoided, especially with the development of the concept of smart governance which requires the use of technology in various aspects of governance (Latupeirissa et al., 2024).

In practice, various persistent problems in public services continue to hinder efforts to improve efficiency and service quality in Indonesia. For example, the administrative process for obtaining permits or identity documents in several regional governments—such as in North Sumatra, East Nusa Tenggara, and parts of West Java—remains slow and

encumbered by redundant verification stages. Bureaucratic complexity often leads to extended service times and confusion among citizens. Furthermore, the low level of information openness is evident in the limited availability of updated service procedures on official websites, which affects citizen access to critical information. According to the Indonesian Ombudsman's 2022 report, weak internal monitoring mechanisms in several ministries and local agencies have contributed to inconsistent implementation of public policies, particularly in the health and education sectors. These ongoing issues have led to significant public dissatisfaction and declining trust in government services, particularly in under-resourced or administratively overloaded regions. In addition, various cases of abuse of authority, corruption, and weak accountability in the management of public resources have further worsened public trust in the government. This condition requires concrete steps to optimize public service governance through a more innovative and technology-based approach (Turner et al., 2022).

Governments in various countries have begun to adopt digital technology in their administration and public service systems to improve transparency and accountability. The implementation of e-government, digital-based service systems, and the use of open data are some of the steps taken to accelerate the transformation of government bureaucracy. However, although technological developments have provided solutions to most of the challenges in public services, obstacles in policy implementation remain issues that must be faced. The digital divide, uneven infrastructure, and low technological literacy among state officials and the public are factors that hinder the effectiveness of implementing innovation in governance (Saldanha et al., 2022).

In addition to technical aspects, social and political factors also play a significant role in the success of implementing public service innovation. Resistance to change, a conventional bureaucratic culture, and a lack of coordination between agencies are often the main obstacles to creating a more transparent and accountable public service system. In many cases, policies aimed at increasing transparency often face challenges from various parties who feel that their interests are being disturbed. This shows that innovation in public services does not only depend on the adoption of technology alone but also requires an appropriate implementation strategy by considering various institutional and social aspects (Syed et al., 2023).

In the context of Indonesia, various efforts have been made by the government to improve the public service system through technology-based innovation. Several regions have adopted digital platforms to accelerate administrative procedures, reduce face-to-face interactions that may lead to corrupt practices, and enhance transparency in financial and policy management. For example, the Jakarta Smart City program utilizes integrated applications such as *Qlue* and *Jakarta Kini (JAKI)* to facilitate real-time citizen reporting and improve the responsiveness of public agencies. Similarly, Surabaya has implemented an e-government system through *Surabaya Single Window* to streamline licensing and bureaucratic processes. Despite these advancements, the effectiveness of such policies still faces various challenges. In particular, disparities in digital infrastructure—especially in

eastern Indonesian provinces—and variations in the technological capacity of local governments significantly affect the consistency and scalability of public service innovations. These examples highlight both the potential and limitations of implementing smart city initiatives as part of Indonesia's broader transition toward smart governance (Bokhari & Myeong, 2022).

Furthermore, increasing accountability in public services also requires a stricter monitoring mechanism and broader public participation. In some cases, initiatives to increase transparency have faced obstacles due to the lack of public involvement in overseeing policies implemented by the government. One of the important elements in smart governance is openness which allows the public to actively participate in the decision-making process and oversee the implementation of policies that have a direct impact on their lives. Therefore, in addition to innovation in the technological aspect, a participatory approach is also needed that involves the public in increasing the effectiveness of a more accountable public service system (De Boer, 2023).

The implementation of smart governance as an innovative strategy in public services should not only focus on technological modernization, but must also pay attention to institutional aspects, regulations, and the readiness of human resources to support this transformation. The role of leaders in the bureaucracy greatly determines the success of changes towards a more transparent and accountable system. If there is no support from leaders who have a clear vision of public service innovation, then the various policies that have been designed will only be concepts that are difficult to implement effectively (Hujran et al., 2023).

Considering the various challenges and opportunities that exist, the government needs to formulate a comprehensive strategy for implementing public service innovation in the smart governance era. These challenges include unequal digital infrastructure across regions, varying levels of technological capacity among local governments, limited public digital literacy, and inconsistent policy coordination. Addressing these issues is essential to ensure that innovation efforts are inclusive, sustainable, and effective in strengthening transparency and accountability. Formulating data-based policies, utilizing artificial intelligence and blockchain to improve administrative security and efficiency, and strengthening collaboration between the government, the private sector, and the community are steps that need to be optimized to realize more effective, transparent, and accountable public services (Xia et al., 2023).

Amid the increasingly rapid flow of global digitalization, the need for reform in public services is becoming increasingly urgent. The public demands a more responsive, efficient, and open system in accommodating their needs. Therefore, innovation in public services in the era of smart governance is no longer just an option, but a necessity for the government to ensure that the services provided are not only of high quality but can also increase public trust in the government system.

This study uses some theories such as public services, smart governance, and transparency. According to Kotler, service refers to any form of activity that provides benefits

to a group or entity, and offers satisfaction even though it is not tangible in the form of a physical product. Meanwhile, Sampara stated that service is a series of activities that involve direct interaction between individuals and other individuals or with machines physically, which aims to provide satisfaction to customers (Wirtz et al., 2021).

In general, service can be interpreted as a series of actions carried out by individuals, groups, or organizations, either directly or indirectly, to meet certain needs. Monir, as quoted by Larasati Lallo, stated that service is an activity carried out by individuals or groups of people with the support of material factors, through a certain system of procedures and methods, which aims to fulfill the interests of others according to their rights (Spring et al., 2022).

Public service can be understood as the provision of services to individuals or communities who have an interest in an organization, with reference to the rules and procedures that have been established. Sinambela, as quoted in Harbani Pasolong, defines public services as various activities carried out by the government to serve a group of people, to provide benefits and satisfaction, although these services are not always in the form of physical products (Van Noordt & Misuraca, 2022).

According to the Decree of the Minister of State Apparatus Empowerment Number 25 of 2004, public services are defined as all activities carried out by service providers to meet the needs of service recipients, both as a form of fulfilling community rights and to implement the provisions of laws and regulations. Thus, public services are a means for the government to meet the needs and expectations of the community (Ojasalo & Kauppinen, 2024).

The concept of reinventing government emphasizes that in providing services to the community, the government must prioritize the needs and desires of the public (customer-driven government) so that the services provided can be used and felt to the maximum. The public's decision to use or not use a service is greatly influenced by various factors, including their perception of the quality of the service provided (Abbas et al., 2024).

Meanwhile, based on the Decree of the Minister of State Apparatus Empowerment Number 58 of 2002, public services are classified into three types based on the characteristics and forms of services produced, namely administrative services, goods services, and service services. In addition, following Law of the Republic of Indonesia Number 25 of 2009 Article 1 Paragraph (1), public services include various activities aimed at meeting the needs of the community based on applicable legal provisions, as well as providing access for every citizen and resident to goods, services, or administrative services provided by public service providers (Chan et al., 2021).

The concept of a smart city refers to the development, implementation, and utilization of technology in an area as a form of complex interaction between various systems within it. This approach aims to create an integrated city information and management system. This integration can be done through network-based digital management that includes aspects of urban geography, resources, environment, economy, social, and others. In its implementation, a smart city has six main dimensions, namely Smart Governance,

Smart Mobility, Smart People, Smart Economy, Smart Living, and Smart Environment (Kashef et al., 2021).

In Colldahl's perspective, smart governance has a role in encouraging community participation in the policy-making process and ensuring government transparency to its citizens. To achieve smart governance, three main indicators must be met, namely the use of Information and Communication Technology (ICT) and e-government, transparent government with an Open Data system, and community involvement in policy formulation (Cao & Kang, 2024).

Smart governance can also be interpreted as a mechanism that involves various stakeholders in decision-making. The use of ICT in smart governance, known as e-government, can play a role in increasing the effectiveness of decision-making and ensuring transparency in governance. The main principle of e-government must be oriented towards the interests of the community and driven by public participation. Therefore, in achieving smart governance, every decision-making process must involve various actors, including the community. In addition, the government needs to uphold transparency to strengthen public trust and enable the community to participate in supervision. In addition, smart governance also demands a more effective and efficient bureaucracy, so that all services provided by the government must be easily accessible to all levels of society (Nastjuk et al., 2022).

Transparency refers to a condition in which all aspects of the service delivery process are open and can be easily accessed by service users and stakeholders who need them. If every element in the service process, such as requirements, costs, completion time, service mechanisms, and the rights and obligations of both the service provider and the service user, are conveyed openly and easily understood by the public, then the service can be categorized as having a high level of transparency. Conversely, if some or all information regarding the service process is closed and difficult for users and other stakeholders to access, then the service system does not meet the principle of transparency (Matheus et al., 2021).

According to Dwiyanto, three main indicators can be used to assess transparency in public services. The first indicator is the level of openness in the provision of public services, which includes aspects such as requirements, costs, duration of service, and procedures that must be followed. All of this information must be published clearly and can be easily accessed by the public. In addition, service providers are also obliged to explain to users the requirements that must be met and the reasons behind these provisions in the service process (Lnenicka et al., 2022).

The second indicator relates to the extent to which service regulations and procedures can be understood by users and other stakeholders. This understanding is not only limited to the literal meaning of existing rules but also includes the meaning and purpose behind each provision that is enforced. Therefore, good transparency ensures that information regarding requirements, procedures, costs, and service times is conveyed rationally and is acceptable to the public so that compliance with regulations is easier to achieve. The third indicator is the ease of obtaining information regarding various aspects of the implementation of public

services. The easier it is for the public to access this information, the higher the level of transparency in the service system implemented (King et al., 2023).

In addition to transparency, accountability is also a professional standard that must be met by government officials in providing services to the public. Accountability serves as a tool to evaluate the performance of the apparatus so that they can clearly understand the strengths and weaknesses in the tasks they carry out. In line with the views expressed by Jabbra and Dwivedi, public accountability is the main basis for governance (Mamokhere et al., 2022). Accountability is very important because every state apparatus must be responsible for their actions and work, both to the public as recipients of services and to the institutions where they work. With public accountability, every apparatus is required to present accurate and comprehensive information so that their performance can be assessed by various parties, including the public, the agencies where they work, service user groups, and their professional communities. Accountability aims to explain how accountability is carried out, the methods used in carrying out tasks, implementation in the field, and the impacts resulting from these actions (Bracci, 2023).

Accountability is often considered as a concrete form of responsibility, so that the two are closely related. Every government apparatus must be responsible for carrying out their duties effectively, ensuring smooth implementation of tasks, managing work professionally, and carrying out their roles with a high level of trust. Bureaucratic apparatus are expected to work with integrity, and full dedication, and carry out their duties based on established expertise and professional standards (Pratolo et al., 2022). In this regard, Hariyoso emphasized that two main implications of accountability need to be considered: (1) the government as a public service provider must be responsible for using its authority optimally and following the principles of good governance; (2) the public has the right to supervise, question, and demand accountability from the government in carrying out this authority, including in aspects of state budget income and expenditure (Dharmika & Subanda, 2023).

METHOD

The research method used in this study is a qualitative approach. This approach allows for in-depth analysis of various aspects of public service innovation in the era of smart governance, especially in increasing government transparency and accountability. The data used in this study were obtained from various sources, including previous research results, as well as literature relevant to the topic discussed. Thus, this study seeks to comprehensively explore how the digitalization of administration, accountability mechanisms, and community involvement can contribute to improving the quality of governance. After the data has been successfully collected, the next step is to analyze the data so that patterns, findings, and conclusions can be found that can explain the phenomena studied. Through this approach, the study is expected to provide in-depth insight into the government's strategy for realizing public service innovation and the challenges faced in implementing technology-based policies (Ardayan et al., 2023).

RESULT AND DISCUSSION**Implementation and Impact of Digital Accountability Systems in Indonesia**

Prior to the digital transformation, accountability in Indonesia's public administration was hindered by fragmented manual processes and limited transparency. In response, the government implemented several key digital mechanisms to strengthen reporting and oversight. One flagship initiative is SP4N-Lapor!, the National Public Service Complaint Management System, launched by the Presidential Staff Office. As of mid-2025, SP4N-Lapor! has received over 1.7 million complaints from 653 connected government agencies (34 ministries, 34 provinces, 391 regencies, and 94 cities), though only roughly 19% of agencies achieve a follow-up rate above 50%. Additionally, the launch of "Lapor Mas Wapres" in late 2024 provided a dedicated, transparent channel for citizens to escalate unresolved public service grievances.

Meanwhile, in financial oversight, Jakarta's adoption of e-budgeting systems—first piloted under Governor Ahok and later refined as "smart planning budgeting" by Governor Anies—has yielded measurable results. A 2015 evaluation by the DKI Secretariat reported Rp 4.3 trillion in efficiencies by eliminating "fictitious" budget items flagged by BPKP and the KPK. Complementing these efforts, the Corruption Eradication Commission (KPK) has introduced an e-Audit feature in early 2024 to monitor procurement processes across 546 local governments, aiming for real-time detection of fraud.

Together, these initiatives indicate notable improvements in responsiveness and financial transparency. However, regional disparities persist in adoption and execution. The majority of local agencies connected to SP4N-Lapor! struggle with follow-through, and the e-budgeting outcomes remain skewed toward better-resourced urban centers. This mixed performance provides the basis for a nuanced discussion of what has worked, why, and how ongoing digitization efforts must evolve to enhance government accountability.

Table 1. Selected Digital Accountability Initiatives in Indonesia

Initiative	Description	Coverage / Output (as of 2025)	Challenges
SP4N-Lapor!	National complaint platform under Presidential Staff Office	1.7M complaints from 653 agencies; only 19% have >50% resolution rate	Low follow-up rate; weak local integration
Lapor Mas Wapres	Escalation channel to Vice President for unresolved complaints	5,000+ escalated complaints in first 6 months	Visibility and public awareness
E-Budgeting Jakarta	Digital budgeting system (piloted under Ahok, refined under Anies)	Rp 4.3 trillion saved (BPKP 2015); continued under smart planning tools	Mostly Jakarta-focused; less replication
KPK E-Audit System	Centralized monitoring of procurement and government spending	Deployed in 546 local governments (since early 2024)	Requires advanced digital literacy, training

Digitalization of Public Administration to Increase Transparency

The digitalization of public administration has become a strategic step in increasing government transparency in the modern era. With the increasingly complex demands of the community for fast, accurate, and easily accessible services, governments in various countries have adopted digital technologies to simplify administrative procedures. These steps often follow a structured transformation process, beginning with infrastructure development and culminating in transparent, data-driven governance. To illustrate this process clearly, Table 1 outlines the key stages involved in implementing digital-based public service innovation.

Table 2. Stages of Digital-Based Public Service Innovation

Stage	Description
Infrastructure Preparation	Development of ICT infrastructure including internet access, data centers, and cloud storage, especially in underserved areas.
Platform Development	Creation of digital service portals and applications for administrative tasks (e.g., permits, tax, complaints).
Service Integration	Linking different government departments and services into a unified digital system to reduce bureaucracy.
Digital Literacy Programs	Training for both government employees and the public to improve technology adoption and use.
Implementation and Testing	Pilot projects and phased rollouts in selected regions to test system readiness.
Monitoring and Evaluation	Continuous assessment of performance, user satisfaction, and transparency outcomes using data analytics.

Various processes that were previously carried out manually are now transformed into electronic-based systems that are more efficient and can be accessed at any time. The use of technology in public administration not only reduces the time and costs required to process various documents but also eliminates bureaucratic practices that are complicated and prone to abuse of authority. Through the implementation of a more structured digital system, the government can increase the speed of service, reduce administrative errors, and increase accountability in every process carried out.

One of the main innovations in the digitalization of public administration is the development of a digital-based service system that allows the public to obtain information more easily and quickly. Previously, access to public information was often hampered by lengthy procedures and limited human resources in government agencies. However, with the presence of digital technology, various services such as population registration, business licensing, and tax payments can be accessed online without having to go through face-to-face procedures that often slow down the process. This not only provides convenience for the community, but also reduces the chances of corruption, collusion, and nepotism in the bureaucracy. With the availability of integrated digital services, the community can more quickly obtain information about government policies, administrative requirements, and the status of their applications without having to rely on manual procedures that tend to be non-transparent.

The implementation of online platforms is a significant step in accelerating interaction between the government and the public. Previously, citizens often faced difficulties in expressing their aspirations, complaints, or feedback regarding government policies due to limited access and bureaucratic barriers. With the emergence of digital platforms, communication between the public and government institutions has become more direct and efficient. For example, the SP4N-Lapor! platform, managed by the Presidential Staff Office, enables citizens to submit complaints that are automatically routed to the relevant agency. As of 2025, the platform has recorded over 1.7 million complaints, although only around 19% of agencies demonstrate a follow-up rate above 50%, revealing both its potential and limitations. Another initiative, Jakarta Kini (JAKI), a mobile application launched by the Jakarta Provincial Government, integrates various public services—including reporting damaged infrastructure, accessing real-time flood data, and obtaining health services like vaccine booking. In 2023 alone, over 4 million users interacted with JAKI, and the city government reported a significant improvement in response times to citizen reports. These platforms illustrate how technology can enhance government responsiveness and build public trust by increasing transparency in complaint resolution and service delivery. Moreover, by allowing the public to track progress on submitted issues, these tools contribute to a more accountable and participatory governance ecosystem.

One crucial aspect of the digitalization of public administration is the use of open data as a means to increase the openness of information regarding government policies and programs. Open data allows the public to access various important information regarding the budget, procurement of goods and services, and the results of policies that have been implemented. This transparency not only helps the public understand how the government manages public resources, but also provides opportunities for academics, the media, and civil society organizations to conduct a more in-depth analysis of the effectiveness of the policies implemented. With a system that allows the public to access and evaluate data in real-time, more accountable government practices can be realized, and the potential for budget misappropriation can be reduced. In addition, the use of open data also allows various sectors, including the private sector and academics, to contribute to improving the quality of public policy by providing more objective and in-depth evidence-based recommendations.

Although the digitalization of public administration provides many benefits, the challenges in integrating digital systems in various government agencies are still obstacles that need to be overcome. One of the main obstacles is the technological gap that still occurs in various regions, especially in areas that do not yet have adequate digital infrastructure. Limited internet networks, lack of access to digital devices, and low technological literacy among the community and state apparatus are factors that hinder the implementation of digital systems as a whole. In addition, the problem of interoperability between various systems used by government agencies is also a complex challenge. Many government agencies still use separate and unconnected systems, so that the flow of information between agencies is hampered. To achieve optimal digitalization, efforts are needed to build a more integrated system and ensure that each agency can adopt technology with the same standards.

In addition to technical obstacles, another challenge faced in the digitalization of public administration is resistance to change in the bureaucracy. Many state apparatuses are still accustomed to conventional procedures and feel uncomfortable with digital-based systems. Lack of understanding of the benefits of digitalization and concerns about the loss of control in the administrative process make some officials reluctant to fully adopt technology. Therefore, training and capacity-building programs for state apparatus are very important steps in supporting the transition to a more modern public administration system. The government also needs to ensure that there are clear regulations in the implementation of digital technology so that each institution has the same guidelines for managing electronic-based services.

The success of the digitalization of public administration is highly dependent on the synergy between the government, the private sector, and the community in adopting and developing technology. The government must be able to create an ecosystem that supports digital transformation by providing adequate infrastructure, establishing adaptive regulations, and building an inclusive system for all levels of society. On the other hand, the private sector plays a key role in providing innovative technological solutions, while the community ensures that the implemented systems bring real benefits and promote transparency. A practical example of such collaboration can be seen in the development of the JAKI (Jakarta Kini) application, a joint initiative involving the Jakarta Smart City Unit, Qlue (a local startup providing citizen-reporting solutions), and active participation from Jakarta residents. In this collaboration, the government provided institutional support and policy integration, Qlue contributed the core reporting and AI-based analytics technology, and citizens used the platform to report issues ranging from damaged infrastructure to health concerns. This initiative led to improved municipal responsiveness and transparency in Jakarta, and its success has been recognized with awards such as the IDC Smart City Asia/Pacific Awards. This example illustrates that with strong multi-stakeholder cooperation, the digitalization of public services can move beyond increasing bureaucratic efficiency to becoming a foundation for open, accountable, and citizen-centered governance.

Accountability Mechanisms in Public Service Governance

Accountability mechanisms in public service governance are a major factor in creating a transparent and responsible government. Accountability not only reflects the extent to which the government can carry out its functions effectively but also shows openness in the decision-making process and management of public resources. In today's digital era, strengthening technology-based monitoring systems is a crucial step to minimizing abuse of authority. Various monitoring technologies have been developed to improve the effectiveness of monitoring the performance of government officials, including financial transaction tracking systems, real-time monitoring of development projects, and the use of artificial intelligence (AI) to identify potential irregularities in the bureaucracy. With a more sophisticated monitoring system, the government can directly detect abuse of authority and immediately take corrective action before greater losses occur.

In addition to a stricter monitoring system, the use of technology in the public reporting and complaint system is also an important element in strengthening the public service accountability mechanism. Previously, the public often had difficulty in submitting complaints or complaints related to government services due to complex and less responsive procedures. However, with the existence of a technology-based digital platform, reporting complaints can now be done more easily and transparently. Online complaint applications, public service portals, and artificial intelligence-based chatbots have enabled citizens to report various problems they experience directly to relevant agencies. Not only that, this technology also allows the public to monitor the follow-up of the complaints they submit, so that the government cannot ignore complaints that come in without clear reasons. With a more transparent and accountable reporting system, the public has a greater role in monitoring the quality of public services and encouraging continuous improvement.

On the other hand, digital-based audits are one of the important innovations in increasing government financial transparency. So far, manual audit systems have often been ineffective in detecting discrepancies in budget management, especially due to limited resources and the possibility of intervention from certain parties who want to cover up irregularities. However, with the use of digital technology, the audit process can be carried out more systematically and objectively. Digital-based audit systems allow financial auditors to monitor each transaction automatically and conduct large-scale data analysis to identify suspicious transaction patterns. In addition, blockchain-based audits have begun to be implemented in several countries to ensure that every government financial transaction is recorded securely and cannot be changed without a clear digital footprint. With a more transparent audit mechanism, the risk of budget manipulation and corruption can be minimized, and public trust in the government can increase significantly.

To ensure that public services run according to established standards, the development of performance indicators that can be accessed by the public is an important step in building a better accountability system. These performance indicators cover various aspects, ranging from the speed of response in handling citizen complaints, and the level of public satisfaction with services, to the effectiveness of programs run by the government. With the availability of indicators that can be monitored by the public, the public has the opportunity to directly assess how the government is performing in providing quality services. The government can also use these indicators as a basis for evaluation to improve ineffective policies and allocate resources more precisely. In addition, the existence of transparent performance indicators can also encourage healthy competition between government agencies in providing the best services to the public.

Although technology-based accountability mechanisms provide various advantages, their implementation still faces various obstacles that need to be overcome. One of the main challenges is the digital divide that still occurs in various regions, especially in areas that do not yet have adequate technological infrastructure. Not all government agencies have access to sophisticated digital systems, so the implementation of technology-based accountability systems cannot be carried out evenly. In addition, resistance to change among state officials

is also a significant obstacle. Many government officials and employees are still accustomed to conventional methods and are reluctant to adapt to more modern systems. Lack of understanding of technology and fear of losing control in decision-making are often the main inhibiting factors in the implementation of digital-based systems.

Another challenge faced in the implementation of technology-based accountability systems is the lack of clear regulations regulating the use of technology in governance. Many countries do not yet have adequate policies to support the digitalization of accountability systems, so there are legal loopholes that can be exploited by certain parties to avoid supervision. Therefore, stricter and more structured regulations are needed so that each government agency has the same guidelines for implementing digital-based accountability systems. The government also needs to build a stronger data security mechanism to prevent potential misuse of information by irresponsible parties. With clearer regulations and adequate security infrastructure, a technology-based accountability system can function more effectively in increasing government transparency.

The success of implementing an accountability mechanism in public service governance is highly dependent on the synergy between various parties, including the government, the private sector, and civil society. In Indonesia, a notable example of this collaboration is the development and operation of the SP4N-Lapor! platform, a national online complaint management system jointly initiated by the Presidential Staff Office (KSP), the Ministry of Administrative and Bureaucratic Reform (KemenPAN-RB), and the Ombudsman of the Republic of Indonesia, with technical support from civil society organizations and development partners such as USAID and GIZ. This platform enables citizens to submit complaints about public services directly to the relevant government agencies, promoting transparency and accountability in service delivery. As of 2025, more than 1.7 million reports have been submitted, covering issues from education and health to infrastructure and licensing services. Meanwhile, private technology vendors have contributed to the system's technical backend and data analytics capabilities, helping improve efficiency and user experience. Civil society organizations, including ICW (Indonesia Corruption Watch) and PATTIRO, have actively monitored the responsiveness of institutions and advocated for stronger follow-up mechanisms. This example illustrates that through shared responsibility and collaboration, public accountability mechanisms can become more responsive, transparent, and citizen-focused.

The Role of Community Involvement in Smart Governance

Public involvement in technology-based governance is increasingly becoming a major factor in building greater transparency and accountability. With the presence of digital innovation, the public decision-making process has undergone significant changes, allowing the public to be more active in various aspects of policy. If previously citizen involvement was limited to conventional mechanisms such as face-to-face meetings and direct consultations, now various digital platforms have provided wider access for the public to convey their aspirations. This development allows for more effective interaction between the

government and citizens, where communication is no longer limited by geographical constraints or complicated bureaucracy. With the increasing number of digital channels available, the public has a greater opportunity to participate in the government process in real-time, so that decisions taken by the government can be more in line with public needs.

In addition to providing space for wider participation, technology also supports public feedback mechanisms on policies that have been implemented. Digital systems designed to accommodate complaints, suggestions, and evaluations from citizens allow the government to review the effectiveness of ongoing programs. Data obtained from public input can be processed to identify problems that require improvement and formulate policies that are more in line with citizen needs. In some cases, governments have begun to use artificial intelligence and data analysis to read patterns of complaints that often arise, so that solutions can be prepared more quickly and precisely. This process not only improves the quality of existing policies but also builds public trust in the government because people feel that their voices are taken into account in the decision-making process.

Social media and various online platforms play a significant role in supporting the implementation of government digitization programs, as reflected in the findings of this research. These tools serve not only as communication channels but also as instruments for public participation, transparency, and real-time responsiveness. By utilizing platforms such as Twitter (X), Instagram, and Facebook, both central and local government agencies in Indonesia have been able to disseminate policy updates, clarify misinformation, and respond directly to citizen inquiries. For instance, the Ministry of Health's use of Twitter during the COVID-19 pandemic to update case numbers, vaccination programs, and health protocols helped reach millions of users quickly and directly. At the local level, the Yogyakarta City Government uses its Instagram and Twitter accounts to announce services, manage public feedback, and report on ongoing infrastructure projects. Moreover, several local governments have integrated social media into their official smart city platforms—such as the JAKI (Jakarta Kini) app—where reports submitted through social media are routed into the centralized complaint system. This demonstrates how social media, when institutionalized and actively managed, becomes an effective component of digital public service delivery by increasing accessibility, accelerating response times, and improving citizen trust in government processes. This approach not only facilitates access to information but also increases transparency in governance because the public can directly see how policies are made and implemented.

However, the level of public involvement in governance does not only depend on the availability of technology but is also influenced by the social and political factors that surround it. In some areas, public participation is still limited due to unequal access to technology, low digital literacy, and distrust of government institutions. The lack of public understanding of how to use technology to convey political aspirations is often a major obstacle to expanding citizen involvement. In addition, from a political perspective, the level of government openness to criticism and their willingness to follow up on public input also determine the effectiveness of public participation. If the government does not have a strong

commitment to responding to the needs of its citizens, then even though technology is available, the public will still feel reluctant to be actively involved in the government process.

In addition to social and political barriers, building a technology-based public participation culture also faces other equally important challenges. Resistance to change is one of the obstacles that often arise, both from the government and the community itself. The bureaucratic structure that is still rigid and based on conventional procedures often slows down the adoption of technology in the government system. On the other hand, people who are not yet accustomed to digital interaction also tend to be reluctant to use online platforms as a means of communication with the government. Other challenges relate to data security and privacy protection, where people still doubt how the information they provide will be used and stored by the government. Therefore, in addition to providing adequate digital infrastructure, the government must also ensure that there are clear regulations regarding the protection of personal data and build a system that can be trusted by the community.

Government Strategy in Realizing Public Service Innovation

The government has a central role in encouraging innovation in public services through various strategies that adapt to technological developments. One of the main steps taken is the formulation of policies that are adaptive to the dynamics of digitalization in the public sector. Flexible and progressive policies are needed to ensure that public services can transform along with technological advances. In practice, this kind of policy not only regulates the implementation of technology in public services but also sets operational standards that can guarantee the effectiveness and efficiency of the system used. With the right policies, the government can prevent various obstacles that may arise due to rapid technological changes, while ensuring that every innovation implemented remains following the needs of the community. In addition, the development of adaptive policies must also be supported by a data-based approach, where decisions taken are based on an analysis of technological trends and community responses to previously implemented service systems.

In addition to policies that are responsive to technological developments, the success of public service innovation also depends heavily on increasing the capacity of human resources in the bureaucracy. Digital transformation in the public sector cannot run well without government officials who have the understanding and skills to manage technology-based systems. Therefore, training and competency improvement for civil servants are very important aspects of encouraging the sustainability of public service innovation. The government must actively develop training programs that focus on the use of technology in public administration, both in the form of technical training on the use of digital systems and in the form of increasing understanding of data security and the protection of people's personal information. With competent human resources who can adapt to change, the implementation of a technology-based public service system can run more effectively and have a wider impact on bureaucratic efficiency.

In addition to strengthening internal capacity, the government also needs to optimize collaboration with the private sector and academics to accelerate innovation in public

services. This collaboration is increasingly crucial considering that the private sector has an advantage in technology development, while academics have a role in research and providing science-based solutions. Collaboration with the private sector can help the government build and manage more efficient digital infrastructure and accelerate the adoption of the latest technology in public services. Meanwhile, academics can contribute to conducting research related to policy effectiveness and compiling data-based recommendations to improve the systems that have been implemented. With close synergy between the government, private sector, and academics, innovation in public services can be more focused and sustainable, resulting in services that are more efficient, transparent, and easily accessible to the public.

For innovation in public services to run optimally, the government must also ensure that the technological infrastructure that supports digital services is adequately available. Strengthening this infrastructure covers various aspects, from providing an even internet network, and developing a cybersecurity system to protect public data, to integrating various service platforms in one centralized system. The availability of reliable infrastructure is a major factor in ensuring that digital services implemented can run smoothly without experiencing technical disruptions that could potentially hinder public access to public services. In addition, investment in the development of cloud-based technology and artificial intelligence is also a strategic step that can increase the efficiency of the public service system, especially in terms of automation of administrative processes and data analysis for more accurate decision-making.

Although various steps have been taken to encourage innovation in public services, the government still faces regulatory and bureaucratic challenges that can hinder the digital transformation process. Regulations that are still rigid and have not fully accommodated technological changes are often the main obstacles to implementing innovation in the public sector. The long policy formulation process and complex bureaucracy can also slow down the adoption of technology in the government service system. Therefore, more flexible regulatory reforms are needed so that innovation in public services can be implemented more quickly without being hampered by regulations that are no longer relevant to current developments. In addition, simplifying the bureaucracy is also an important step so that the digitalization process in public administration can run more efficiently and does not experience obstacles caused by an overly complicated government structure.

Overall, the government's strategy in realizing public service innovation requires a comprehensive approach, starting from the formulation of adaptive policies, increasing human resource capacity, optimizing collaboration with various parties, to strengthening adequate digital infrastructure. In addition, regulatory and bureaucratic challenges must also be overcome so that the innovations that have been designed can be implemented effectively and provide maximum benefits to the community. With the right strategic steps, the government can create a public service system that is more modern, transparent, and responsive to the needs of society in this digital era.

CONCLUSION

Innovation in governance and public services in the digital era requires more than just technological tools—it depends on how effectively governments align digital infrastructure, accountability systems, and citizen participation. This study has shown that digitalization can enhance transparency and responsiveness, particularly when supported by strong inter-institutional collaboration and feedback mechanisms such as SP4N-Lapor! and integrated smart city platforms. However, disparities in local capacity, regulatory rigidity, and inconsistent implementation still limit the transformative potential of these innovations. For public service digitalization to be truly effective, government strategies must go beyond technical adoption to include adaptive policy frameworks, investment in bureaucratic and digital literacy, and inclusive collaboration with civil society and the private sector. Only through this comprehensive, multi-actor approach can Indonesia move toward a more accountable, participatory, and future-ready governance model.

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