

From E-Government to Digital Government: SmartASN as a Sustainable Digital Innovation in Indonesia's Public Sector

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and NVivo 12 Plus software.

Research aims: The SmartASN was launched as a digital innovation in Indonesia's public sector to facilitate the transition from e-government to digital government. This current study examines this integration process guided by the Digital Government Policy Framework proposed by the Organization for Economic Cooperation and Development. **Design/Methodology/Approach:** This study employs a qualitative method, analysing secondary data from official reports, journals, and mass media using the interactive model

Research findings: The study found six characteristics of the SmartASN helping this transition process: (1) *Digital-by-design*—using modern, interactive interfaces optimised for user accessibility across platforms; (2) *Data-driven*—using integrated data from multiple government agencies for personalized and efficient service delivery; (3) *Government as a platform*—providing a centralized, accessible system for delivering public services; (4) *Open-by-default*—ensuring transparency and trust through accessible and accountable information sharing; (5) *User-driven*—offering tailored, user-centric services based on preferences and feedback for continuous improvement; and (6) *Proactive*—anticipating user needs and enhancing efficiency through advanced technologies.

Theoretical contribution/Originality: These findings contribute to understanding digital innovation in public sector governance, demonstrating how SmartASN aligns with global digital government principles and the importance of user-centred design and transparency in public sustainability.

Practitioner/Policy implication: Policymakers can use these findings to use digital tools to enhance citizen engagement and service delivery.

Keywords: Digital Government; Indonesia; Public Sector Innovation; SmartASN; Sustainability;

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Introduction

The COVID-19 pandemic has challenged the capacity of governments to use digital technologies and data strategically to adapt, change and respond to the crisis with agility (Apleni & Smuts, 2020). In Indonesia, the digitalization of public services has gained significant attention from the government as it aims to enhance efficiency, transparency, and accessibility in service delivery (Rafi et al., 2022). Indonesia faced many challenges during the coronavirus pandemic, leading to the use of digital technology to facilitate accessibility and communication. In its survey, the Indonesian Internet Service Providers Association found a surge in internet users in 2021-2022, reaching 220 million people (Setiawan et al., 2023). Therefore, all ministries, institutions and local governments started strengthening their commitment and improving the implementation of Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System.

In 2022, the government launched an innovative digital platform called SmartASN as a step towards digital transformation for the state civil apparatus and the entire Indonesian public sector (Sudiati, 2023). Developed by the Ministry of State Apparatus Empowerment and Bureaucratic Reform of the Republic of

Indonesia, the SmartASN platform is a digital transformation in cyberspace. It supports the agile and collaborative work mechanism of state civil apparatus (ASN) in government agencies. The application was proposed to be general in ASN management, obtain employee services and facilitate human capital practices in the digital ecosystem (Permana & Suryanto, 2023).

The establishment of the SmartASN application in 2022 introduced seven modules designed to enhance governance agility and collaboration in the public sector (Dewi, 2023). However, the transition from egovernment to digital government represents a shift from merely digitizing existing government processes to a more integrated, data-driven, and user-centred approach that uses advanced technologies for improved public service delivery. In addition to enhancing governance efficiency, SmartASN plays a vital role in promoting public accountability and financial transparency.

Digitizing ASN management and performance tracking enables better oversight of human resource expenditures and ensures that government budgets are allocated effectively. It contributes to improved fiscal responsibility, a crucial aspect of public accounting. Moreover, SmartASN's integration of data-driven decision-making supports sustainable governance by reducing bureaucratic inefficiencies, enhancing resource optimization, and fostering long-term digital resilience in Indonesia's public sector.

As an innovation in Indonesia's public sector, this transition faces several challenges. These include inadequate infrastructure in remote areas, which hampers the effective implementation of SmartASN (Farida & Lestari, 2021), and limited digital literacy, especially among older generations and rural populations, which restricts the adoption of digital services (Firmansyah, 2023). Additionally, concerns about data security and privacy due to the extensive collection of sensitive data threaten public trust in digitalization efforts (Ummah et al., 2022). Resistance from government agencies and employees, driven by fears of job displacement and unfamiliarity with the technology, further complicates the implementation of the SmartASN (Rahayu & Sukmana, 2023). Despite widespread internet access, not all government employees fully utilize the SmartASN platform.

Scholarly discussions about the digitalization of public services in Indonesia have drawn the attention of many researchers in recent years. For example, a study by Alfayn (2022) found that Indonesia's e-government implementation falls short of established global standards and has not led to significant improvements in governance. The study highlighted that factors such as service quality, public trust, and participation play a crucial role in determining the success of e-government initiatives. Susilawati (2023) explored the potential of optimizing public services in Indonesia's digital society, identifying challenges and barriers, and proposing strategies to enhance these services using digital solutions, suggesting technology and digital platforms can meet citizens' evolving needs. Another study found that digitalization has significantly improved the overall quality and responsiveness of public services in Indonesia, revealing key insights into the challenges and opportunities associated with implementing digital solutions in the public sector (Syamsiar, 2023). Herispon and Anuar (2023) also revealed that the COVID-19 pandemic accelerated digital transformation in Indonesia, but they face challenges such as capital, location, management, inconsistent behaviour, marketing, product innovation, and limited scope due to issues like simple thinking. Furthermore, Wagola et al. (2023) posited that Indonesia's e-government development has been hindered by factors such as inadequate regulations, lack of data integration, gaps in information and communication technologies infrastructure, limited competence in information and communication technologies, and bureaucratic culture and leadership, resulting in an uneven distribution of the e-government index in government institutions. Herdiana (2021) revealed that Indonesia faces challenges in establishing a digital society, including disparities in technology infrastructure, some societies not fully embracing technology based on local values and culture, the diverse utility of technology among societies, and social structures.

It has been investigated that the COVID-19 pandemic pushed Indonesia to integrate public services from e-government to digital government to foster new forms of governing that are more participatory, innovative,

and agile (Aryanti et al., 2021; Farida & Lestari, 2021; Ummah et al., 2022; Wagola et al., 2023). It is important to examine how this process, especially the adoption of the SmartASN platform, can support the integration from e-government to digital government in Indonesia, which, in turn, helps the government better respond to citizens' needs, enhancing the public sector. Although the previous studies collected in this study are still relevant, studies examining the SmartASN application as a digital innovation in Indonesia's public sector and with the potential to integrate Indonesia from e-government to digital government while contributing to public sustainability are difficult to find. Therefore, this study leads to the following question:

RQ: How is the SmartASN application as a digital innovation shaping Indonesia's public sector in its transition from e-government?

This study's novelty lies in its specific focus on the SmartASN application, a relatively new platform with the potential to integrate Indonesia's public sector from e-government to digital government while contributing to public sustainability, a topic not yet fully discussed. Interestingly, this study arrives when the country is preparing to upgrade its public sector to become more efficient with the needed quality to meet citizens' satisfaction and global standards, which will provide meaningful insights. This study will enrich existing academic knowledge on digital government in Indonesia and contribute to the broader discourse on agile governance and public sustainability. Specifically, it highlights the SmartASN application as a new digital innovation with the potential to bridge the gap between e-government and digital government in the public sector. For policymakers and public sector practitioners, this research offers practical insights into using digital tools such as the SmartASN to improve efficiency, service delivery, and citizen satisfaction to meet global standards. Additionally, this study provides a theoretical contribution by deepening the understanding of how digital platforms can drive public sector transformation, particularly in integrating governance processes and fostering transparency and accountability. The findings can guide future policy development and strengthen Indonesia's digital government ecosystem.

This research will be guided by the Digital Government Policy Framework developed by the Organization for Economic Cooperation and Development, which helps analyze governance mechanisms, principles, and tools essential for effective digital government reforms (OECD, 2020). The framework offers insights for focusing on service design and delivery approaches that meet user needs in an agile, responsive, and proactive manner. As Indonesia and other governments invest in digitalization, the goal is to shift from e-government (digitizing processes within individual sectors) to digital government (digitalizing processes across public sector organizations for integration, coherence, and sustainability) within its public sector. The framework assists decision-makers in adopting policy actions to achieve digital government. It includes a set of indicators to measure digital government maturity across six dimensions: digital by design, data-driven, government as a platform, open by default, user-driven, and proactiveness, which will be used in this research.

Literature Review

From E-Government to Digital Government: Concepts and Evolution

E-government has long been the backbone of public sector innovation, defined as the practice of adopting information and communication technologies to streamline service delivery and increase public accountability (Mabinane, 2023). However, there has been a growing need for a more integrated system due to the limitations of e-government, such as individual public sector implementation and a lack of effective citizen engagement, and it has mostly failed in developing countries (Hazineh et al., 2022). In this regard, Digital Government emerged, filling this gap by integrating services across agencies, using emerging technologies, and prioritizing citizen needs (OECD, 2024). For instance, Yang et al. (2024) argued that countries transitioning from e-government to digital government witness service efficiency and trust improvements driven by innovations like artificial intelligence and the Internet of Things. The object of this study, the SmartASN, fits this evolution, as it is designed to transition Indonesia from e-government to digital

government, address bureaucratic inefficiencies, and align Indonesia's governance with global standards. The platform bridges the gap between e-government and digital government.

Smart Governance and Digital Transformation in Public Administration

Smart governance is defined as the use of technology for informed policymaking and greater transparency to enhance citizen participation (Kaiser, 2024). The SmartASN embodies these principles, automating human resources processes and utilizing analytics to support decision-making (Nyeleker et al., 2024). Previous studies have highlighted the transformative power of digital tools in public administration (Adiazmil et al. 2024). For example, Ha and Chuah (2023) found that smart platforms across Southeast Asia reduced bureaucratic delays and improved policy outcomes. Similarly, Cao et al. (2024) demonstrated how digital human resources systems enhance efficiency and employee satisfaction. Yuniarti et al. (2024) also stated that the SmartASN mirrors these findings by providing centralized data and personalized services, showing the practical benefits of smart governance in Indonesia's public sector.

Digital Human Resources Management in Governance

According to Ruiz et al. (2024), digital human resources management is a cornerstone of digital government, enabling efficient human capital management in public administration. The SmartASN is the cornerstone of public administration in Indonesia, offering modules for performance monitoring, skill development, and standardized human resources practices. Studies have emphasized the challenges and opportunities of adopting digital human resource management (Bansal et al. 2023). For instance, Pea-Assounga and Sibassaha (2024) revealed resistance to change among state civil apparatuses, compounded by the need for upskilling. However, studies in Thailand (Wongsansukcharoen & Thaweepaiboonwong, 2023) and Malaysia (Aan et al., 2024) have proven that these challenges can be overcome with targeted training programs and leadership support. In this new study, the SmartASN's focus on analytics and user-driven services is an example of global best practices, which can serve as lessons for enhancing public sector accountability and responsiveness in developing countries.

E-Government and Digital Government in Indonesia

Mutiarin et al. (2024) stated that Indonesia's e-government initiatives have progressed significantly but have been challenged by uneven regional adoption, infrastructure challenges, and global crises, such as the COVID-19 pandemic. A study by Nyeleker et al. (2024) mentioned that SmartASN represents a leap forward, addressing these limitations through centralized human resources management and integration across government agencies. Faedlulloh et al. (2020) identified SmartASN as a pivotal tool in reducing bureaucratic inefficiencies, while Nopriandi (2022) highlighted persistent disparities in digital literacy and internet access, particularly in rural areas. This new study situates SmartASN within Indonesia's broader governance transformation, examining its role in addressing these systemic challenges and advancing national digitalization goals.

Critical Success Factors and Barriers to Digital Government Adoption

Successful digital government initiatives emphasize leadership, infrastructure, and public buy-in (Al Maazmi et al., 2024). SmartASN's implementation illustrates these dynamics, showcasing the interplay between enabling factors like top-down support and barriers such as resistance to change and cybersecurity concerns (Nurhasanah & Sinambela, 2022). Undang et al. (2023) emphasized the importance of interoperability and data standardization, which SmartASN adopts through its centralized platform. This study builds on these findings, exploring how these factors influence the platform's ability to meet its objectives and contribute to Indonesia's public sector modernization.

Based on the findings from these studies, this study addresses critical gaps identified, such as the limited focus on specific digital innovations like SmartASN, insufficient analysis of practical tools enabling the e-

government-to-digital-government transition, and the need to address systemic challenges such as infrastructure accessibility, user-driven approach, and how digital policies are designed to enable the public sector to use digital tools in transforming public services. This study focuses on the SmartASN, a relatively new digital tool in Indonesia's public sector, as a case study to bridge these gaps. Unlike previous studies, it evaluates the platform's practical contributions to Indonesia's governance transformation, examining its potential to integrate e-government processes into a cohesive digital government ecosystem while contributing to public sustainability.

Methodology

This research uses a qualitative method with a case study approach. Creswell, (2014) explained qualitative research as a method for understanding the meaning that individuals or groups give to a social or human problem, which aims to answer questions about "why" and "how" from available sources. Further, Creswell, (2014) defined a case study as a qualitative research method involving an in-depth examination of a single entity or multiple entities within their real-world impact. This qualitative method and the case study approach were chosen to allow this study to provide a deeper understanding of the SmartASN as a digital tool designed to integrate Indonesia's public sector from digitizing processes within individual sectors to digitalizing processes across public sector institutions for integration, coherence, and sustainability and as an innovation in the public sector.

Due to time and resource constraints, the data sources in this study are mainly secondary data. Martins et al. (2018) defined secondary data as analyzing data already collected by existing works such as reports, literature, profiles, and relevant data. These data were obtained directly from documents and reports available on the SmartASN platform (https://www.smartasn.go.id/), the Ministry of State Apparatus Empowerment and Bureaucratic Reform (https://www.menpan.go.id/), the Ministry of Communication and Digital (https://www.komdigi.go.id/), State Civil Apparatus (https://lan.go.id/?p=11663), and official and unofficial government documents and reports that are relevant to this study. In addition, 80 newspapers were collected from mass media such as Kompass, The Jakarta Post, ANTARA, and CNBC, and 25 of the latest scientific journals and published books relevant to this study.

In this study, the collected data were analyzed using the interactive model of qualitative data analysis by Miles et al. (2014) as presented in Figure 1, followed by four phases: data collection, data reduction, data presentation, and conclusion drawing. The model was chosen because it provides a comprehensive step-bystep guideline for the researchers to arrive at valid conclusions. All the data were imported and analyzed using NVivo 12plus software. NVivo is used to analyze qualitative data systematically to arrive at valid conclusions (Dollah et al., 2017). In the first phase: (1) data collection – all the imported data were classified in NVivo 12 plus based on diary notes, key themes from secondary sources, and document files. In the second phase: (2) data reduction – every important statement from the secondary sources and key meanings from document files were reduced and coded in nodes regarding the Digital Government Policy Framework, namely, digital by design, data-driven, government as a platform, open by default, user-driven, and proactiveness. In the third phase: (3) data presentation - the coded data were presented through visualizations. The percentages in the figure were generated automatically by NVivo 12 Plus, which calculates the proportion of references coded under each theme relative to the total coded references. The visualization represents the percentage distribution of coding references, showing how each category contributes to the overall analysis. In the final stage, (4) conclusion and verification, the researchers verified the research by making valid conclusions based on the data findings.

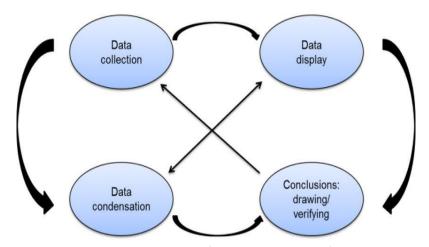


Figure 1 Interactive Analysis Model for Qualitative Data (Miles et al., 2014)

Results and Discussions

The Digital Government Policy Framework

The Digital Government Policy Framework from the Organization for Economic Cooperation and Development offers a comprehensive approach to digital transformation in the public sector, providing guidelines for governments to use digital technologies and data to enhance public services and governance (OECD, 2024). This research will use the framework to examine digitalization in Indonesia, with a specific focus on the SmartASN platform. The framework is illustrated in Figure 2.



Figure 2 The Digital Government Policy Framework (OECD, 2024)

The Digital Government Policy Framework in Figure 2 consists of six dimensions: (1) Digital by design: measures how digital government policies are designed to enable the public sector to use digital tools and data coherently when formulating policies or transforming public services; (2) Data-driven: measures government's advancements in developing the governance and enablers needed for data access, sharing and re-use across the public sector; (3) Government as a platform: measures the deployment of standard building blocks such as guidelines, tools, data, digital identity and software to equip teams to advance a coherent transformation of government processes and services across the public sector; (4) Open by default: measures

openness beyond the release of open data, including efforts to foster the use of technologies and data to communicate and engage with different actors; (5) *User-driven*: measures governments' capacity to place user needs at the core of the design and delivery of public policies and services; and (6) *Proactiveness*: measures governments' capacity to anticipate the needs of users and service providers to deliver government services proactively.

Digital by design

Digital by design in digital government emphasizes clear leadership and the integration of digital technologies and data throughout policy processes to transform services rather than just digitizing existing ones (OECD, 2024). This approach fosters efficiency, openness, and citizen-driven governance. In this context, the SmartASN platform, developed by the Ministry of State Apparatus Empowerment and Bureaucratic Reform, is examined for its alignment with digital government principles, focusing on user-centric design, policy delivery, and digital skills.

Firstly, in Figure 3, 33% of the data collected indicates that SmartASN platform implementation recognized user-centric design as a key factor. In this research, the User-centric design approach examines the government's focus on providing integrated and efficient public services in response to the increasing digital literacy of Indonesia. The development of the SmartASN platform reflects a commitment to improving the user experience and accessibility of public services. For instance, the SmartASN platform is designed similarly to social media appearances, making it easier for users (Safitri, 2023). Users can share statutes without character limits, browse other users' profiles, and choose the information based on preferences.

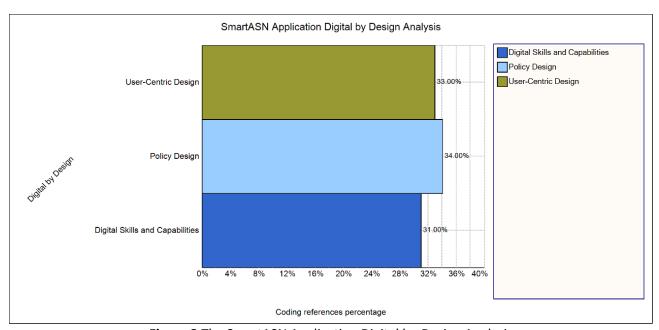


Figure 3 The SmartASN Application Digital by-Design Analysis Source: Processed by the authors in NVivo 12 plus software

Furthermore, government employees can also use the platform to assist ASN in performance management, capacity development, and talent and succession development (Dewi, 2023). Additionally, the SmartASN platform is flexible for employees in working places and hours, as well as for self-development, information sharing, and collaboration with the ASN. Apart from social interaction, the platform provides learning modules for users through e-books, audiobooks, and talk shows (Permana & Suryanto, 2023).

The data shows that 34% highlights the policy design and delivery approach in the SmartASN platform. This approach underscores the government's efforts to develop a national public service portal and enhance

digital public services to streamline delivery and improve efficiency. Before SmartASN, Indonesian government agencies faced challenges with disconnected information systems (Liana, 2023). The 2023 ASN Law mandated the creation of an integrated digital platform, leading to the development of SmartASN. The platform includes features such as online attendance (work presence and departure), daily performance reports, overtime reporting, leave management, ASN profiles, performance assessments, discipline supervision, and assessments of professionalism. It also includes COVID-19 health history data, multi-purpose temporary features, consultation and information rooms, and talent development for millennials. SmartASN serves as a comprehensive tool for employee services, human capital practices, and policy design, promoting self-development and improving government operations.

Lastly, 31% of the data collected under the digital by-design is shown for the digital skills and capabilities approach. Implementing the SmartASN in managing and collaborating with ASNs reflects the government's commitment to developing digital skills and capabilities within the public sector. For instance, the application's primary purpose is to support agile and collaborative work mechanisms and facilitate human capital practices in the digital ecosystem, thereby contributing to developing digital skills and capabilities within the government (Kencana, 2022). In addition, the application is equipped to improve its users' digital skills and capabilities. The application encourages social learning by combining knowledge, skills, and values through direct experiences, which is what is called experiential learning. Social learning is twice as effective as formal learning, and experiential learning is seven times more effective than that (Prasetyo, 2023). It makes the SmartASN platform user-friendly, fueling users' enthusiasm to continue learning. Unlike other social platforms, the SmartASN application not only functions as a platform for interaction but is also designed as a tool to improve users' skills through learning and personal development.

Data-Driven

A data-driven public sector creates value by reusing data for policy planning, delivery, and monitoring while managing data as a strategic asset and adhering to ethical principles for safe reuse (OECD, 2024). This approach helps shape policies and services, enabling better data access, sharing, and reuse. The Indonesian government has adopted a data-driven approach in response to the growing demand for digital services, especially during the COVID-19 pandemic. As seen in the SmartASN platform, this approach can be examined through digital public services, data collection and analysis, and infrastructure development.

Figure 4 shows that 24% of the data-driven approach highlights the government's focus on infrastructure development to support the SmartASN platform's digitalization of public services. Before the SmartASN's establishment, investments were made in data centres, computing capabilities, and high-speed internet to ensure efficient and secure data handling (Safitri, 2023). The application was tested in 78 ministries and institutions, including the National Capital Authority, and is set to expand to all regional governments by 2024 (Prasetyo, 2023). The government also enhanced internet connectivity for the mobile version of SmartASN and involved digital private companies to build a scalable infrastructure (Liana, 2023). This infrastructure supports the application's growth and ensures secure data management and user demand handling.

Figure 4 also reveals that 41% of the focus was on the Indonesian government's recognition of the importance of digital public services through the SmartASN platform. Developed to meet the increased demand for digital services during the COVID-19 pandemic (Kencana, 2022), SmartASN aims to provide integrated and efficient public services. The platform eliminates the need for physical visits to government offices by offering digital access to various services, including e-identification, passport applications, birth certificates, and business registrations. Designed with a user-friendly interface similar to social media, SmartASN allows users to post status updates, view profiles, and use features like chatting and calls. Additionally, it includes e-books, audiobooks, podcasts, talk shows, and information such as webinars and seminars (Nurrahman & Susapto, 2023).

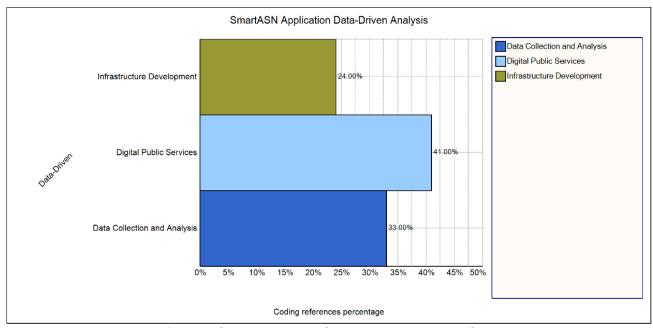


Figure 4 The SmartASN Application Data-Driven Analysis Source: Processed by the authors in NVivo 12 plus software

Lastly, 33% of the data focuses on data collection and analysis, reflecting substantial collaboration between ministries, agencies, and private companies in developing the SmartASN application. Introduced by The Ministry of PANRB in 2023, SmartASN is designed to manage ASN and is central to collecting and analyzing data related to public services and employee performance (Alfayn, 2022). The platform gathers data on frequently accessed services, response times, and user feedback, which are used to identify areas for improvement and prioritize service enhancements (Permana & Suryanto, 2023). This data-driven approach aids in refining public services and supports policy planning and decision-making by aligning services with citizens' needs. The SmartASN platform is operational in 78 ministries and institutions, offering technical guidance and support for managing activities. Additionally, it includes learning modules that help employees manage educational materials and foster their development.

Government as a Platform

A government acts as a platform by providing clear guidelines, tools, data, and software to enable user-driven, consistent, and integrated service delivery (OECD, 2024). The public sector can benefit from greater interoperability and innovation in service design and delivery by establishing common resources for accessing guidelines, software, and data (Dabić et al. 2023). In this context, the Indonesian government's efforts to advance digital public services demonstrate its role as a platform. This research examines how the SmartASN application fits into this approach by focusing on digitalization initiatives, digital transformation, and collaborative efforts.

Figure 5 accessed the alignment of the SmartASN platform with the Organization for Economic Cooperation and Development government as a platform approach across three parameters, as stated earlier. To begin with digitalization initiatives, 35% of the data was collected on this parameter, which indicates that the government prioritized adopting an open and interoperable platform, which is key in the government as a platform approach. The government developed this digital general application platform, SmartASN and integrated it into the central and regional governments' business processes to create seamless and integrated public services across different levels of government (Setiawan et al., 2023). The Ministry of PANRB introduced the SmartASN platform with a massive emphasis on openness and interoperability for sharing data and information between government agencies and the private sector, facilitating transparency and

accountability in service delivery. For instance, before the implementation of the SmartASN, ministries and agencies were using more than 27,000 digital applications that were not connected nationally (Dewi, 2023). Implementing the SmartASN integrated all these applications into one platform, making it easier for users to access public services and becoming evidence of the government's commitment to digital initiatives.

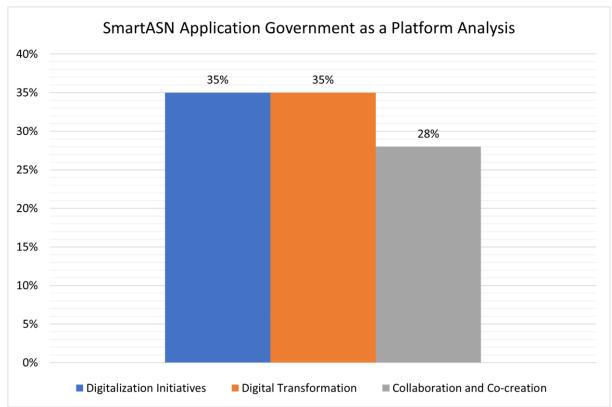


Figure 5 The SmartASN Application Government as a Platform Analysis Source: Processed by the authors in NVivo 12 plus software

Secondly, 35% of the data was collected on the digital transformation parameter, which exemplifies Indonesia's government's commitment to transforming technology. The SmartASN platform serves as a digital platform for managing and collaborating with ASNs, supporting agile and collaborative work mechanisms within the digital ecosystem (Kencana, 2022). This digital transformation contributes to developing a digital government as a platform for leveraging technology to improve administrative processes and enhance service delivery. The SmartASN aims to assess government and employees' performance and make bureaucracy simple, efficient, and agile. Furthermore, one of the main principles of the SmartASN platform is the ease of self-development and the increase in the spirit of self-development of every ASN (Abdurrahman, 2023). The platform also comes as a massive digital transformation to make users enthusiastic about learning. It also gives agencies the responsibility to accommodate the encouragement of employee competency development. By implementing such digital tools, the government aims to enhance human capital practices and foster a more digitally enabled public sector.

Lastly, 28% of the data was collected on the collaboration and co-creation parameter under this approach, which indicates that the government has actively collaborated with various ministries and institutions to develop the SmartASN platform. Following collaborative principles, the development of this platform was not carried out alone by the Ministry of PANRB. They collaborated with Perum Peruri and the PT Bank Negara Indonesia (Rizaldi, 2023). This collaboration between the government sector and State-Owned Enterprises is a form of accelerating the digital transformation of human resource personnel and accelerating the realization of the digitalization of human resource management. The SmartASN platform serves as a channel for citizens to provide feedback and actively participate in co-creating public services (Azzahra & Sari, 2023).

Therefore, the government collaborated with these institutions to create a more inclusive and citizen-centric approach to service delivery.

Open by Default

A government is considered open by default when it makes data and policy-making processes publicly accessible, balancing legislation with national interests (OECD, 2024). This approach advocates for transparency, making data and processes open unless there are strong reasons to restrict them, thereby fostering collaboration and innovation between governmental and non-governmental entities. The research evaluates the SmartASN application's alignment with this approach by focusing on transparency and accountability, innovation, and the accessibility and reliability of data and services.

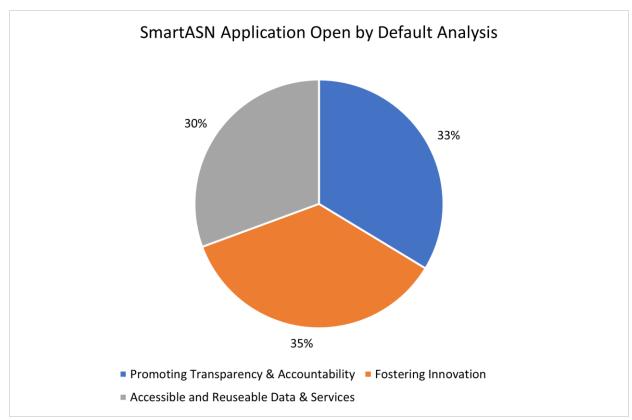


Figure 6 The SmartASN Application Open by Default Analysis Source: Processed by the authors in NVivo 12 plus software

Firstly, Figure 6 reveals that 35% was focused on fostering innovation, the highest percentage. It is exemplified by the Indonesian government's collaboration with the Ministry of Communication and Information, Ministry of PANRB, Perum Peruri, and PT Bank Negara Indonesia in developing the SmartASN platform. The application was introduced in response to the COVID-19 pandemic, highlighting the need for a more accessible digital public service platform (Herispon & Anuar, 2023). Initially launched with seven modules in 2022—covering employee management, learning, social media, group interactions, talent, performance, and agency services—the platform was upgraded to ten modules in 2023 (Prasetyo, 2023). Piloted by four government agencies, including PANRB and the Ministry of State-Owned Enterprises, the SmartASN platform aims to enhance user experience, streamline service delivery, and foster a culture of continuous improvement, ultimately providing more efficient public services.

Secondly, 33% of the data shown in Figure 6 was collected on the promoting transparency and accountability parameter. Integrating central ministries and institutions, regional governments and private business processes in the public service portal and developing the SmartASN platform for managing and collaborating

with ASNs contribute to promoting transparency and accountability (Liana, 2023). In the development context, about 79 ministries and institutions, including the National Capital Authority, tested the platform's validity, data collection process, responsiveness to users, the privacy of the employees, and any related information needed. Although the platform allows users to explore other users' profiles, users have full control and are held accountable for the information they share on their profiles. Furthermore, the application supports a collaborative work system towards a world-class bureaucracy, ensuring that transparency and accountability are in the bureaucratic system (Abdurrahman, 2023). Moreover, the platform facilitates the tracking of service delivery and enables citizens to evaluate the performance of government agencies. By providing visibility into governmental bodies' processes and performance, the government enhances public trust and accountability. It promotes a culture of transparency and allows citizens to hold the government accountable for their actions.

Lastly, Figure 6 shows that 30% was focused on accessible and reusable data and services, highlighting the government's dedication to making data and services easily accessible and reusable. The SmartASN platform facilitates this by serving as a comprehensive learning site where employees can engage in experiential and social learning without waiting for formal curriculum structures (Safitri, 2023). It offers modules that cater to various learning needs, whether experiential, social, or formal (Dewi, 2023). Additionally, the platform provides a range of resources, including courses, books, activities, and learning tools, as well as electronic books, audiobooks, podcasts, talk shows, webinars, and seminars that users can access at their convenience (Rizaldi, 2023). This approach promotes open and inclusive governance, enabling active citizen participation in enhancing public services and ensuring that resources are available and relevant to individual needs.

User-Driven

User-driven government prioritizes the needs and convenience of people by shaping processes, services, and policies around these needs and adopting inclusive mechanisms to facilitate this (OECD, 2024). Governments demonstrate a user-driven approach by forming partnerships with private and third sectors or crowdsourcing ideas to enhance legitimacy and trust through increased responsiveness (Guerra et al. 2023). The research evaluates the SmartASN platform's alignment with this approach by examining its effectiveness in responsive governance, efficient public services, and citizen participation.

Figure 7 indicates that 37% was collected on responsive governance, highlighting the government's efforts to be responsive to citizen needs and preferences. The SmartASN platform exemplifies this by allowing citizens to provide feedback and actively participate in improving public services. It facilitates management and service delivery for ASNs, including learning activities, mentorship, feedback exchange, and talent development (Prasetyo, 2023). By consolidating numerous government websites into one platform, the SmartASN addresses Indonesia's ego-sectoral issues, especially during the COVID-19 pandemic (Wagola et al., 2023). The platform enhances the government's ability to swiftly respond to user experiences and support ASN in capacity building, talent development, and inter-agency collaboration (Liana, 2023). This approach improves employees' competencies and performance, aligning with the digitalization goals for ASN management, and ultimately results in more user-driven and responsive public services (Nurrahman & Susapto, 2023).

The data in Figure 7 shows that 34% was collected on efficient public services, illustrating the government's commitment to developing the SmartASN platform with a focus on user-friendly design and accessibility. The SmartASN centralizes public services into a single platform, enhancing efficiency and user experience (Kencana, 2022). The application streamlines ASN management and services by integrating various government agencies' websites, ensuring accuracy and effectiveness in decision-making (Abdurrahman, 2023). It optimizes the ASN management system, promoting transparency and accountability in public service provision. Additionally, the SmartASN supports flexibility in work environments, self-development, and collaboration, all presented in a user-friendly, social media-like interface while ensuring data security. This approach highlights the government's commitment to creating an integrated and efficient public service

platform, reflecting an understanding of the importance of accessibility and user experience in digital service adoption.

Lastly, 27% of the data shown in Figure 7 was collected on the citizen participation parameter, showcasing the government's commitment to actively involve citizens in the co-creation of public services, especially the SmartASN. The SmartASN serves not only as a platform for public services but also for employees to provide feedback and voice their concerns about public services (Rizaldi, 2023). Citizens can participate by supporting the competency development of ASN through social and open learning. Further, users can submit individual self-development plans or targets and convey their aspirations for future positions. Employees at every ministry, institution, and local government agency can actively contribute to interacting and collaborating on SmartASN (Sudiati, 2023). To make users more enthusiastic about the application, the government created several categories: Most Inspirational Post, Best Learning Content, Most Favorite Learning Contributor, and Best Poloting Agency for employees and government institutions. The SmartASN also provides accessible channels for citizens to interact with the government and access public services. By making these services available online, the government ensures citizens can conveniently access and utilize public services regardless of location or physical constraints.

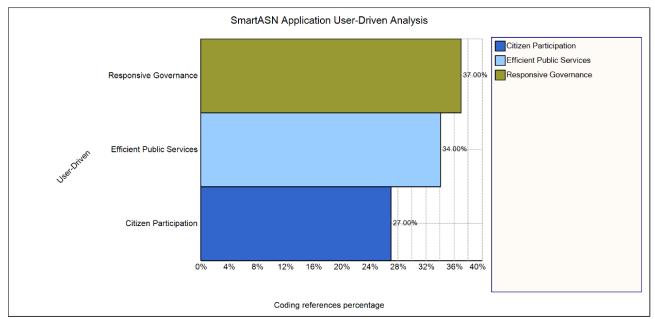


Figure 7 The SmartASN Application User-Driven Analysis Source: Processed by the authors in NVivo 12 plus software

Proactiveness

A proactive approach involves governments anticipating and addressing citizens' needs before they are formally requested, thus minimizing burdens and inefficiencies in public service delivery (OECD, 2024). This approach aims to offer seamless, end-to-end service experiences by being anticipatory rather than reactive. This research evaluates how well the SmartASN aligns with this approach by examining three parameters: shaping future opportunities, proactive problem-solving, and anticipating future challenges.

First and foremost, 42% of the data in Figure 8 was collected on the proactive problem-solving parameter. It demonstrates the government's commitment to developing the SmartASN as a digital platform for managing and collaborating with servants and finding solutions to institutional problems within government agencies. The SmartASN is specifically designed to support agile and collaborative work mechanisms and facilitate human capital practices in the digital ecosystem of Indonesia, which contributes to developing digital skills and capabilities in the public sector (Safitri, 2023).

Before the adoption of the SmartASN, each ministry and agency had its application for public services. More than 27,000 applications were offered public services, which resulted in cumbersome data for agencies. For instance, users were forced to create new profiles before using each application (Abdurrahman, 2023). The SmartASN combined all these applications into one big platform, making it easier for users to collect data and get feedback from users to improve the platform. According to Susilawati (2023), the COVID-19 outbreak brought many challenges to public services, not only in Indonesia. The SmartASN was developed as a rapid response to these problems.

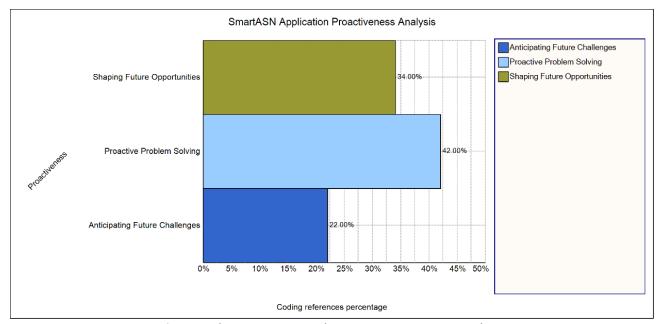


Figure 8 The SmartASN Application Proactiveness Analysis Source: Processed by the authors in NVivo 12 plus software

Secondly, 34% of the data was also collected on the shaping future opportunities parameter, which indicates that the government is committed to strengthening services and improving the implementation of the Electronic-Based Government System goal to shape future opportunities for digital government services in Indonesia. The collaboration between the Ministry of PANRB and the Ministry of Communication and Information to develop the SmartASN is an example of shaping future opportunities for digital government. In addition, the collaboration between the PANRB and State-Owned Enterprises such as PT Bank Negara Indonesia is a form of accelerating the digital transformation of human resource personnel to shape future opportunities for both the government and the private sector to integrate the digitalization of public services in Indonesia (Liana, 2023). Furthermore, the SmartASN is a collaborative work system that improves Indonesia's bureaucracy to a world-class bureaucracy (Nurrahman & Susapto, 2023). Also, the platform is a new way of working for ASN to support the realization of smart cities in Indonesia. Moreover, the SmartASN is a breakthrough that will increase every ASN's self-development spirit.

Lastly, least in that data, yet important, is anticipating future challenges (22%), indicating the government's response to the increased demand for digital services during the COVID-19 pandemic and preparing for any future pandemic or challenges. The rhythm and dynamic world of work forces the ASN to accelerate work adjustments. The development of this digital transformational platform, SmartASN, reflects a commitment to addressing the needs of a digitally literate society (Prasetyo, 2023). Further, the platform contains various personnel services and ASN work system updates, which will be connected directly to the devices of each central to regional ASN. The platform also placed leaders and ASNs in a position of having a growth mindset in working together to accelerate the transformation of Indonesia's bureaucratic system to a professional one (Kencana, 2022). The platform obtains users' feedback on using the SmartASN and measures its impact

on improving digital government in Indonesia. Moreover, the platform collects suggestions from users for future improvement and supports agile and collaborative ASN work mechanisms in all government agencies, especially in public services (Safitri, 2023).

Conclusion

This research examined how the SmartASN application facilitates Indonesia's transition from e-government to digital government while contributing to public sustainability. A qualitative method was used to analyze reliable secondary data through the interactive qualitative data analysis model, supported by NVivo 12 Plus software. While e-government focuses on digitizing government services, digital government integrates data and technology to create more efficient, user-driven, and proactive governance. This transition is crucial for enhancing public sustainability by improving service delivery, increasing transparency, and ensuring long-term administrative efficiency.

The research results revealed that adopting the SmartASN as a digital innovation significantly advances Indonesia's public sector. Using the Digital Government Policy framework developed by the Organization for Economic Cooperation and Development, this study identified six key characteristics of the SmartASN that support this transition. First, the application is designed with a strong digital-by-design approach, incorporating modern interfaces and interactive features to enhance user experience and accessibility across various devices and platforms. Second, it is data-driven, utilizing information from multiple government agencies to provide personalized services, enable informed decision-making, and improve service delivery. Third, the application functions as a government platform by offering citizens a centralized and efficient system to access various government services and information. Fourth, it operates with an open-by-default principle, ensuring transparency by providing easily accessible information that fosters public trust in government processes. Fifth, it is user-driven, tailoring services based on user data and preferences while continuously improving engagement and satisfaction through user feedback. Lastly, the application takes a proactive approach by leveraging advanced technologies to anticipate user needs and enhance service efficiency and effectiveness.

Theoretically, this research contributes to understanding how digital tools bridge the gap between e-government and digital government, enriching the global discourse on agile and citizen-centric governance. The findings offer policymakers actionable insights into designing digital tools that improve transparency, service efficiency, and public trust. However, this study has several limitations, including its reliance on a qualitative approach and secondary data, which may limit the depth of analysis. Additionally, the research focuses on the SmartASN application without assessing its direct impact on governance outcomes, such as corruption mitigation or equitable regional adoption. Future studies should examine the long-term effects of the SmartASN on governance, particularly its influence on citizen engagement, public accounting systems, and financial reporting within government institutions. Comparative analyses with similar digital platforms in other countries could also provide valuable insights for optimizing digital government initiatives globally.

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Conflicts of interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.