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Digitalization of Business Administration in Government: Strategy towards Smart Government

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Abstract: *Digitalization of business administration in government is a strategic step in realizing a smart government that is more efficient, transparent, and responsive to the needs of the community. This study aims to analyze the role of digitalization in government business administration, identify strategies that can be applied to support the transformation towards smart government, and examine the challenges faced in the digitalization process. This study uses a qualitative approach with a descriptive method. Data was collected through in-depth interviews with government officials, technology experts, and academics, as well as through analysis of documents and policies related to government digitalization. Data analysis was carried out using the Miles & Huberman method, which includes data reduction, data presentation, and drawing conclusions, as well as using data triangulation to increase the validity of the research results. The results of the study show that digitalization of business administration in government plays a significant role in increasing the efficiency of public services, reducing complex bureaucracy, and accelerating data-based decision-making. Digitalization of government is a strategy towards a smart government that is efficient, transparent, and responsive. With digital technology, governments can improve public services, speed up administration, and support data-based decision-making. The implementation of e-budgeting, e-procurement, and e-audit strengthens modern and accountable governance. However, challenges such as the digital divide, limited internet access, high costs, low digital literacy, and data security need to be addressed through strong digital infrastructure, education, and regulations. The success of digitalization depends on the readiness of the community and apparatus, as well as the inclusiveness of services, in order to create an effective, transparent government that improves public welfare.*

Keywords: *digitalization, government business administration, smart government, E-government, digital transformation, digital literacy.*

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Introduction

The advancement of information technology in the industrial era 4.0 has had a significant impact on various aspects of life, including public services. This development provides great benefits to society by increasing efficiency, effectiveness, and transparency in various sectors (Suprianto, 2023). The use of technology is a basic need in various fields, including government, to ensure faster, more accurate, and more accessible services to the public. Digital transformation in public services not only facilitates access to information but also supports data-based decision-making so that the policies implemented are more targeted and responsive to the needs of citizens (Islah, 2018).

Digitalization in government business administration has a high urgency in increasing bureaucratic efficiency, transparency, and accountability. With the adoption of digital technology, various administrative processes that were previously manual and complicated can be accelerated through an integrated system, thereby reducing data overlap and accelerating decision-making (Supriyanto, 2016). In addition, digitalization allows for more secure and structured data storage and management so that it can be used as a basis for more accurate and data-based policy planning (Kusmiyati et al., 2023). In the context of public services, digitalization of government business administration also plays a role in increasing the accessibility of services to the public, enabling faster and more responsive interactions between the government and citizens. Furthermore, the application of technology such as e-government and smart government can support more transparent governance, reduce the potential for corruption, and increase public trust in government (Nurlaila et al., 2024).

In an effort to integrate information technology into public services, the government has implemented various policies, one of which is Presidential Instruction Number 3 of 2003 concerning National Policy and Strategy for the Development of e-Government. This policy aims to improve the quality of public services by utilizing digital technology while realizing the principles of good governance that are transparent, accountable, and efficient (Alhadi, 2022). The implementation of e-government allows the public to access government services online, reduce bureaucratic red tape, and increase public participation in decision-making. With the continued development of technology, the government is expected to be able to optimize digital innovation to provide services that are more adaptive and oriented to community needs (Wirawan, 2020).

The use of information technology in public services is also regulated in Government Regulation Number 96 of 2012, which is a derivative of Law Number 25 of 2009 concerning public services. This regulation encourages the implementation of an integrated service system by integrating various types of services into one more efficient system (Fauzi et al., 2022). With this integration, the public can access various services more easily, either through a physical service center or through an electronic-based digital platform. Digitalization of public services not only speeds up the administrative process but also increases transparency, accountability, and accessibility of services for all levels of society (Megawati et al., 2024).

Furthermore, Presidential Regulation Number 95 of 2018 concerning

the Electronic-Based Government System (SPBE) marks an important step in governance reform in Indonesia. This policy requires all government agencies to implement SPBE, or better known as e-government, in order to create a more effective and efficient government system (Rusdy & Flambonita, 2023). With the implementation of SPBE, various bureaucratic work processes can be carried out digitally, thereby accelerating coordination between agencies, reducing the potential for administrative deviations, and improving the quality of public services. This digital transformation in government is expected to have a positive impact on society by providing services that are more responsive, easily accessible, and oriented to user needs (Jibril, 2021).

The concept of smart government is a continuation of the implementation of e-government, which is more sophisticated and adaptive to the development of digital technology. Smart government not only focuses on the digitalization of public services but also on the utilization of data-based technology, artificial intelligence, and the Internet of Things (IoT) to create a more proactive, innovative, and community-oriented government system (Rahmadanita et al., 2018). With this approach, the government can manage resources more efficiently, increase public participation in decision-making, and provide fast and precise solutions to various social and economic problems. The implementation of smart government allows for cross-sector data integration that can be used for more accurate and evidence-based policy analysis (Irfan et al., 2018). In addition, this concept also encourages openness of information, transparency, and accountability in governance. With a digitally connected system, public services can be more responsive and easily accessible anytime and anywhere, either through mobile applications, online portals, or other technologies (Rahmatullah, 2021).

The implementation of smart government faces a number of complex challenges, both in terms of technology, regulation, and human resources. One of the main challenges is the limited technological infrastructure in some areas, especially in remote areas that have not been fully reached by internet networks and digital facilities. In addition, resistance to change from government officials is also an obstacle, where there is still a conventional mindset that finds it difficult to adapt to digital systems (Santoso & Rahmadanita, 2020). The lack of digital literacy among government employees slows down the transformation process, so training and competency development are crucial. In terms of regulation, policies related to data security and privacy protection are often inadequate, raising concerns about misuse of information. Coordination between government agencies that is not yet optimal is also an obstacle in building an integrated system (Hafei & Jamil, 2024).

This study aims to analyze the role of digitalization in government business administration as a strategy towards smart government and to identify challenges and opportunities in its implementation. This research is expected to provide strategic recommendations for the government in improving efficiency, transparency, and quality of technology-based public services. The benefits of this research include providing academic insights related to digitalization in government administration, assisting policy makers in designing regulations that support smart government , and becoming a reference for government agencies in optimizing the use of digital

technology. In addition, the results of this study can also contribute to society by encouraging faster, more accessible, and more citizen-oriented public services, thereby strengthening public trust in a modern and responsive government in the digital era.

Method

This study uses a qualitative approach with a descriptive method to analyze the digitalization of business administration in government as a strategy towards smart government (Sugiyono, 2016). This approach was chosen to gain an in-depth understanding of the implementation of digitalization in government administration, the challenges faced, and its impact on the effectiveness and efficiency of public services. The data used in this study consists of secondary data obtained through literature studies, policy documents, and government regulations related to e-government and smart government, as well as relevant previous research results. Data sources include scientific journals, official government reports, and publications from research institutions that discuss digitalization in the government sector. The data analysis technique used is descriptive qualitative analysis, where the collected data is classified, compared, and analyzed to describe the phenomenon of digitalization in government business administration (Yulianah, 2022). This analysis also aims to identify supporting and inhibiting factors in the implementation of smart government so that it can provide strategic recommendations for increasing the effectiveness of government digitalization in Indonesia.

Result And Discussion

The Role of Business Digitalization in Government

In the increasingly advanced digital era, the role of technology and digital systems has become a key factor in the progress of a country, especially in creating a more efficient, transparent, and responsive government. The government has a big responsibility to continue developing digital infrastructure that supports various aspects, from government administration and public services to more accurate and integrated data management (Choirunnisa et al., 2023). By implementing a sophisticated digital system, the government can increase bureaucratic efficiency, accelerate the decision-making process, and reduce the potential for abuse of authority through a more transparent system. In addition, digital transformation also plays a role in driving economic growth by providing wider access to business actors and the public in utilizing technology-based services (Aprilia et al., 2024). The application of technologies such as artificial intelligence, Internet of Things (IoT), and big data analytics can help the government in designing more targeted and data-based policies (Pratama et al., 2023).

Governments that focus on developing digital systems have great potential in increasing the efficiency of public administration and the provision of services to the public. Digitalization allows the automation of various administrative processes, such as data recording, document management, and processing of permits and population administration, which previously took a long time and were prone to human error (Setyasih, 2022). With integrated information technology, coordination between government agencies becomes more

effective so that the decision-making process can be carried out faster and based on accurate data. In addition, the implementation of digital systems also supports transparency and accountability in the provision of public services, reduces corrupt practices, and provides easier access for the public to obtain the services they need. The use of online platforms, artificial intelligence , and big data analytics *also* further strengthens the effectiveness of public services by providing solutions based on the real needs of citizens (Utami, 2023).

By paying attention to and developing digital systems comprehensively, the government can improve accessibility and connectivity between regions, thereby creating equal distribution of services and opportunities for the entire community. The development of digital infrastructure, such as expanding internet networks, improving the quality of communication technology, and providing easily accessible digital-based services, is an important step in overcoming the digital divide between urban and rural areas. Inequality in access to technology is often an obstacle for people in remote areas in obtaining information, education services, health, and economic opportunities (Sandiasa & Agustana, 2018). With the existence of an even digital transformation, people in remote areas can enjoy public services online without having to travel far to the city center, such as in managing population administration, paying taxes, telemedicine health services, and access to digital-based social assistance programs. In addition, digital technology also opens up new economic opportunities through e-commerce, online job training, and financial inclusion that allows small business actors in remote areas to develop their businesses more widely (Alim & Ibrahim, 2024).

In detail, the author has found a number of roles of business digitalization in government. Some of the main roles of business digitalization in government include:

1. Efficiency of Administration and Data Management

Digitalization enables automation of various administrative processes, such as data recording, document archiving, and licensing and financial processing, which were previously done manually and took a long time. With the application of digital technology, government administration systems can be integrated efficiently, thereby accelerating the service process and minimizing the potential for human error in data processing. For example, in managing business permits, the digital system allows business actors to submit applications online without having to come to government offices and obtain approval in a shorter time through an automated system. In addition, data integration between agencies allows various sectors in government to share information in real time so that coordination in decision-making can run more effectively. With digitalization, not only efficiency increases but also transparency in every administrative process, thereby reducing the potential for abuse of authority and ensuring accountability in public services. Digitalization also opens up opportunities for the development of artificial intelligence-based systems *that* can provide automatic data analysis to support more accurate and data-based policymaking. Thus, digitalization of government administration is a solution to overcoming convoluted bureaucracy and improving the quality of services to the public .

2. Transparency and Accountability

The implementation of digital technology in government plays a crucial role in increasing transparency and accountability by providing a system that allows real-time monitoring of various public transactions, programs, and policies. With an integrated digital system, the public, supervisory institutions, and related agencies can easily access information related to budget use, procurement of goods and services, and implementation of government projects more openly. Technologies such as blockchain can be used to record government financial transactions in a way that cannot be changed or manipulated, thereby reducing the possibility of irregularities and corruption. In addition, the implementation of a digital-based reporting system allows citizens to provide input, criticism, and reports of alleged abuse of power more easily and quickly. Thus, public trust in the government can increase because the policies taken are more transparent and based on accountable data. Digitalization also facilitates the audit and evaluation process of government performance, where automatically documented data can be used as a measuring tool in assessing the effectiveness of policies that have been implemented. With tighter supervision and wider access to information, digital government has the potential to create a cleaner, more efficient, and more community-oriented governance system.

3. Improving the Quality of Public Services

Digitalization allows people to access various government services more easily and quickly through online platforms (e-government), thereby reducing dependence on face-to-face services that are often time-consuming and costly. With a digital-based system, people can take care of population documents such as ID cards, birth certificates, or family cards online without having to queue at government offices. Likewise with tax services, where tax payments can be made through an electronic system that is more practical and transparent. In the business licensing sector, business actors can now apply for business permits through a digital platform that speeds up the verification and approval process without having to face complicated bureaucracy. In addition, digitalization allows data integration between agencies so that people no longer need to take care of the same documents at various institutions because the system automatically synchronizes their data. The existence of these digital services not only increases efficiency but also expands access to services for people living in remote areas, where previously access to government offices may have been difficult to reach.

4. Connectivity and Integration Between Agencies

Digital technology enables data integration between government agencies, creating a more integrated ecosystem in policy formulation and program implementation. With a connected digital system, various government agencies can share data in real-time, reduce information redundancy, and increase efficiency in decision-making. For example, regional financial systems can be automatically connected to national tax management systems, enabling more accurate monitoring of revenue and expenditure flows and increasing the effectiveness of fiscal oversight. In addition, data integration also has an impact on the health sector, where patient medical records can be accessed across hospitals and health facilities, enabling faster and more precise services. In the

field of security, population and civil registration systems integrated with police databases can assist in the identification and law enforcement process. The implementation of technologies such as big data and artificial intelligence (AI) can also be used to analyze data trends and patterns from various sectors, helping the government in formulating evidence-based policies.

5. Increasing Economic Competitiveness and Innovation

Digitalization of business in government plays a vital role in supporting economic growth by creating a more inclusive environment for small and medium enterprises (SMEs). With digital-based services, MSMEs can more easily access various facilities such as online business licensing, digital financing, and technology-based training and mentoring programs. The e-government platform also allows transparency in the procurement process of goods and services so that MSMEs have a greater opportunity to participate in government projects without being hampered by complicated bureaucracy. In addition, the application of technologies such as artificial intelligence (AI), big data, and the Internet of Things (IoT) in government opens up opportunities for new innovations in the public sector, such as budget needs prediction systems, economic trend analysis, and data-based public service automation. For example, with big data technology, the government can analyze economic transaction patterns and provide more targeted incentive policies for business sectors that need support. Meanwhile, IoT can be used in public infrastructure monitoring systems, such as transportation and energy, to improve the efficiency and effectiveness of services to the public. With the synergy between business and government digitalization, the digital economic ecosystem can develop more rapidly, increase national competitiveness, and encourage innovation in various sectors to create a more modern and adaptive government to changing times.

6. Strengthening Security and Data Protection

With increasing digitalization, data security is becoming a crucial aspect in governance as more and more sensitive information is stored and processed digitally. Digitalization of business and government enables the implementation of more sophisticated cybersecurity systems to protect data from threats such as hacking, information leaks, and data misuse by irresponsible parties. The government can implement data encryption, layered authentication systems, and blockchain technology to increase transparency and data integrity in various digital transactions. In addition, strict personal data protection policies need to be implemented to ensure that citizens' information is not misused or disseminated without permission. Implementing a good security system also includes real-time monitoring of cyber activity through a security operations center , which can detect and respond to cyber threats quickly. In addition, educating government employees and the public about the importance of cybersecurity is also a strategic step in preventing attacks that originate from human negligence, such as *phishing* or malware attacks. With a strong security system, digitalization in government not only increases the efficiency of public services but also ensures that the privacy rights and security of public information are maintained, thus building public trust in the digital government system .

Digitalization Strategy Towards Smart Government

The government continues to strive to increase the use of digital technology in serving the public effectively by initiating the implementation of the Electronic-Based Government System (SPBE) as a conceptual basis for managing digital government in Indonesia. SPBE aims to create more efficient, transparent, and accountable governance by integrating various public services into one coordinated digital system. Through SPBE, the government can optimize the use of information technology in various sectors, such as population administration, taxation, health, education, and regional financial management (Anugerah & Parwanti, 2024). The implementation of SPBE also enables synergy between government agencies through a data-sharing system (*interoperability)* so that decision-making can be carried out more quickly and based on accurate data. In addition, SPBE also encourages the digitalization of bureaucratic processes, which contributes to reducing overlapping policies and increasing the effectiveness of services to the community (Widiyarta et al., 2020). To ensure the success of SPBE, the government continues to develop supporting regulations, build adequate technological infrastructure, and increase digital literacy among state officials and the community .

Although there are still challenges in achieving equal access to digital services throughout Indonesia, the government continues to accelerate the development of the National Data Center (PDN) as a strategic step in supporting digital transformation in the government sector. The development of the PDN aims to unite data and information systems from various government agencies in one secure, reliable, and efficient infrastructure. With an integrated data center, the government can ensure that access to digital services is not only available in urban areas but also reaches remote and border areas (Johanes, 2024). In addition, to support the success of digital transformation, improving human resource competency is a top priority. Training and development of digital skills for state civil servants (ASN) and workers in the government sector continue to be carried out so that they are able to manage digital systems well, optimize technology-based services, and provide more responsive public services. These steps are expected to not only accelerate the implementation of effective digital governance but also improve Indonesia's ranking in the global e-government index, reflecting significant progress in electronic-based governance (Setyasih, 2022).

In addition, the integration of government applications that have been spread across various institutions has begun to show positive results with the consolidation efforts of more than 24 thousand applications that previously operated separately. The government is now actively encouraging the implementation of interoperability standards to create a more efficient digital ecosystem, facilitate coordination between agencies, and prevent data duplication (Setiawan & Arti, 2024). With interoperability standards implemented comprehensively, various public services such as population administration, regional finance, business licensing, and health can be accessed through one integrated system so that the public no longer needs to take care of the same services in various different agencies. This breakthrough not only accelerates the government administration process but also increases transparency and

accountability, reduces the potential for abuse of authority, and increases public trust in digital-based public services. With the continued development of this initiative, it is hoped that the Indonesian government will be increasingly ready to realize the concept of a modern, inclusive, and optimally public service-oriented smart government (Fadri & Fil, 2024).

The government's business digitalization strategy towards Smart Government includes various systematic steps to ensure effective and sustainable implementation of technology in public services. Here are some forms of strategies that can be applied:

1. Strengthening Digital Infrastructure

The government needs to build and strengthen digital infrastructure as the main foundation for the transformation towards Smart Government. One important step is to ensure the availability of an even internet network throughout the region, especially in remote areas, so that there is no digital divide that could hinder public access to digital-based government services. In addition, the development of the National Data Center (PDN) is crucial to integrate data from various government agencies into one centralized system so that it can increase efficiency in information management and reduce data redundancy. The implementation of cloud computing also enables a more flexible government system, with faster and safer data access and larger storage capacity. With a strong digital infrastructure, the government can optimize the use of technology in public administration, accelerate the service process, and increase transparency and accountability in governance.

2. System Integration and Interoperability

One of the main challenges in government digitalization is the fragmentation of systems and applications that run separately (*silos*), thus hampering efficiency and coordination between agencies. To address this issue, the government needs to develop an integrated system with *interoperability standards* , which allows various agencies to share data securely, quickly, and efficiently. With clear standards, each institution can access relevant information without having to develop a new system that could potentially lead to data duplication and budget inefficiency. The implementation of a uniform technology architecture will also improve data security and validity, thereby reducing the risk of errors or misuse of information. In addition, system integration will speed up the public service process because the public does not need to repeatedly input the same data for various government services. With this strategy, the government can build a digital ecosystem that is more effective, transparent, and responsive to the needs of the community.

3. Implementation of Supportive Policies and Regulations

Digitalization in government requires a strong legal foundation to ensure effective, safe, and sustainable implementation. Regulations related to e-government, personal data protection, and information technology governance are crucial aspects in building a trusted digital-based government system. The government needs to formulate policies that not only encourage digital transformation but also ensure that every digitalization process complies with the principles of transparency, accountability, and protection of people's rights. Laws on personal data protection must be strengthened so that citizens' sensitive data is not misused or mismanaged by

irresponsible parties. In addition, strict cybersecurity standards need to be implemented to anticipate the threat of digital attacks that could disrupt government operations. With clear and firm regulations, the government can create a safe, efficient, and inclusive digital environment, thus supporting the vision of a modern smart government that is responsive to the needs of the community.

4. Strengthening Cyber Security and Data Protection

Data security is a crucial factor in digital governance because it involves storing and managing sensitive information related to the public and the state. Therefore, security strategies must include the implementation of advanced cyber protection technologies, such as end-to-end data encryption to prevent unauthorized access, two-*factor authentication* to improve user access security, and real-time cyber threat monitoring systems to detect and ward off attacks before they cause damage. In addition to the technological aspect, personal data protection policies must also be strengthened through regulations that ensure that public data is not misused, leaked, or exploited by unauthorized parties. The government needs to implement strict security standards in every digital system used, including conducting regular security audits to evaluate and improve system resilience to cyber threats. In addition, education and training for state officials regarding the importance of data security is also a strategic step so that the entire digital government ecosystem can operate safely and reliably. With this comprehensive approach, digital government can run more safely and efficiently and maintain public trust.

5. Development of Digital-Based Public Services

The government needs to optimize digital-based public services to make them more easily accessible to people from all walks of life. Digitalization of services such as population administration, business licensing, tax payments, health services, and the education sector must be carried out comprehensively in one integrated platform. With a centralized system, the public can access various services without having to switch applications or come directly to government offices , thus saving time and money. In addition, this digital platform must be designed with a user-friendly, responsive, and easy-to-understand interface so that it can be accessed by all groups, including vulnerable groups such as the elderly and people with disabilities. The government also needs to ensure the availability of support services, such as online help centers and artificial intelligence-based chatbots, to provide quick solutions to problems faced by users. In addition to facilitating access for the public, an optimal digital public service system will also increase bureaucratic efficiency, reduce the risk of corruption, and increase transparency in governance.

6. Improving Government Human Resources Competence

The success of digitalization in government does not only depend on technological advances but also on the readiness of the human resources who manage it. Therefore, a crucial strategy is to increase the capacity of state civil servants (ASN) through continuous training and development of digital skills. The government needs to organize training programs that cover various aspects, such as e-government system management, cyber security, data analysis, and the use of artificial intelligence (AI) and cloud computing technology in public administration. In addition, digital skills

certification for ASN can be an indicator of competency to ensure that they have skills that are in accordance with the needs of digital transformation. This approach must also be accompanied by the formation of a work culture that is adaptive to technological changes, where ASN is encouraged to continue learning and innovating in improving the quality of public services. With a competent workforce in the digital field, the bureaucratic process can run more efficiently, transparently, and responsively to the needs of the community, thus supporting the success of the implementation of smart government as a whole .

7. Increasing Public Participation and Transparency

The government needs to build a digital system that not only functions as an administrative tool but also as an interactive platform that allows active public participation in public decision-making. Through e-participation, the public can convey aspirations, provide input on policies, and participate in online public discussions. The implementation of e-voting can also be an innovative step in increasing political participation, especially in general elections and local deliberations, while still paying attention to aspects of system security and reliability. In addition, open government data must be optimized so that the public can access information on government policies, budgets, and projects transparently. With access to accurate and easily accessible data, the public can be more active in monitoring government performance and ensuring that policies taken are in accordance with the public interest. This strategy not only strengthens government transparency and accountability but also increases public trust in the government in implementing more democratic and inclusive governance.

In an effort to realize smart government, the government has implemented various digitalization strategies aimed at increasing transparency, efficiency, and accountability in the administration of government. One of the strategies implemented is e-budgeting, a digital-based budget planning and management system that allows for more transparent fund allocation and can be monitored in real-time. With this system, the potential for budget misuse can be minimized, and state financial management becomes more efficient. In addition, there is e-procurement, which is an electronic procurement system for goods and services to increase efficiency, reduce corrupt practices, and provide fairer opportunities for various parties in the government tender process.

In addition to the budget and procurement aspects, the government is also implementing e-Audit, which allows for more accurate and integrated monitoring of agency finances and performance. With this system, audits can be done digitally with more accurate and faster data compared to manual methods. Furthermore, there is e-Catalog, which functions as an electronic catalog containing a list of goods and services that have been verified to facilitate the government procurement process. With this system, transactions can be carried out more transparently, prices are more controlled, and the procurement process is faster. Then, e-payment is also an important innovation, where the digital payment system is applied in various government transactions, including tax payments, levies, and other public services, which makes transactions faster, safer, and well-documented.

In the supervision and control sector, the government implements e-Controlling, a digital-based system that enables more effective monitoring and evaluation of government programs and policies. With this system, the government can make data-based decisions more accurately and efficiently. In the health sector, the government has also adopted e-health, which provides digital-based health services, such as electronic medical records, online health consultations, and hospital management systems. The implementation of e-health helps improve public access to faster and better quality health services, especially in remote areas.

The implementation of various digitalization strategies in government reflects the government's commitment to providing more modern, transparent, and efficient public services. Although there are still challenges such as uneven digital infrastructure and increasing human resource competency, these steps are an important foundation towards a smart government that is more responsive to the needs of the community. By continuing to develop digital innovation, the government can create better governance, increase public trust, and encourage sustainable economic growth in this digital era.

Challenges of Government Digitalization Towards Smart Government

Digital transformation in government towards *smart government* faces various challenges that must be overcome so that the digital system can run effectively and inclusively. The challenges include:

1. Digital divide

The digital divide remains a major challenge in the transformation of government towards smart government. There are still many people, especially in remote and rural areas, who do not have adequate internet access or the technological devices needed to access digital services. In addition, low levels of digital literacy make it difficult for most people to optimally utilize technology, so they remain dependent on conventional services that are slower and less efficient. The government needs to ensure that the digitalization carried out is inclusive by providing digital skills training, expanding access to telecommunications infrastructure, and creating policies that support the adoption of technology at all levels of society. Without real efforts to address this digital divide, smart government initiatives risk only benefiting a small portion of the population, while less accessible groups will be left further behind in the development of the digital era .

2. Limited internet access

Limited internet access is one of the main challenges in digitalizing government towards smart government. Even though internet penetration in urban areas is quite high, there are still many remote and rural areas that do not have stable and fast network access. These infrastructure limitations cause gaps in access to digital services so that people in these areas still have difficulty in optimally utilizing e-government services. In addition, the high cost of building telecommunications infrastructure is often an obstacle to equalizing internet access, especially in areas with difficult geographic conditions. To overcome this challenge, the government needs to accelerate the development of digital infrastructure by expanding fiber optic networks, increasing the number of telecommunications towers, and encouraging cooperation with the private

sector to ensure stable and affordable internet access for all people.

3. High cost

High costs are the main challenge in implementing government digitalization towards smart government. The implementation of digital technology requires large investments, starting from building network infrastructure and procuring hardware and software to developing secure and integrated systems. In addition, operational costs such as system maintenance, technology updates, and training of state civil servants (ASN) to be able to manage digital services well also require a significant budget. This challenge is increasingly complex because the government budget must be allocated to various other sectors, such as education, health, and physical infrastructure. Therefore, the strategies that can be implemented are a partnership scheme with the private sector (public-private partnership), the use of more efficient cloud computing-based technology, and mature budget planning so that digitalization investments provide long-term benefits for the government and society.

4. Low public awareness

Low public awareness of the benefits of digitalization is a challenge in the transformation towards smart government. Many people are still accustomed to conventional systems and are reluctant to switch to digital-based services due to a lack of understanding or trust in technology. In addition, concerns regarding data security and privacy also make some people hesitate to use digital government services. Lack of socialization and education regarding the convenience and efficiency offered by digitalization has also slowed down the adoption of technology in various levels of society. To overcome this challenge, the government needs to improve digital literacy through education programs, public campaigns, and the provision of support services for people who still have difficulty accessing digital services. By increasing public awareness and trust, the implementation of digitalization in government can run more optimally and provide wider benefits.

5. Language and literacy barriers

Language barriers and digital literacy are the main challenges in digitalizing government towards smart government. Many people, especially in remote areas, still have limited understanding of technical terminology and how to use digital technology effectively. In addition, differences in language and education levels can also be barriers to accessing digital services provided by the government. If the system used is too complex or not user-friendly, people will have difficulty adapting and utilizing the service optimally. To overcome this problem, the government needs to provide a simpler interface, local language features, and digital literacy training programs that can improve people's understanding of technology. Thus, inclusivity in the use of digital services can be achieved, and all levels of society can feel the benefits of digital transformation in the government sector.

6. Privacy and data security issues

Privacy and data security issues are the main challenges in digitalizing government towards smart government. Security threats such as cyber attacks, hacking, and information leaks can threaten the integrity of digital systems used by governments. If the security system is not strong, people's sensitive data, such as personal and financial information, can be misused by irresponsible parties. In addition, the lack of strict regulations in data protection can

increase the risk of misuse of information by internal and external parties. To address these challenges, governments need to implement stringent cybersecurity standards, such as data encryption, dual authentication, and rapid monitoring and response to cyber threats. In addition, personal data protection policies must be strengthened to ensure that people's privacy rights are maintained in the ever-evolving digital ecosystem.

7. Resistance to change

Resistance to change is one of the main challenges in the digitalization process of government towards smart government. Many people, including state civil servants (ASN), still feel comfortable with conventional systems and are reluctant to switch to digital systems. This can be caused by a lack of understanding of the benefits of technology, fear of losing jobs due to automation, or concerns about the complexity of new digital systems. In addition, the work culture that has been formed over the years often makes change difficult to accept. To overcome this challenge, the government needs to conduct intensive socialization and education regarding the benefits of digitalization, both for the public and government employees. Training and mentoring must also be provided so that the community is better prepared to adopt change and feel comfortable with the new technology being implemented.

Conclusion

Digitalization in government is a strategic step towards a smart government that is more efficient, transparent, and responsive to the needs of the community. By utilizing digital technology, the government can improve the quality of public services, accelerate administrative processes, and optimize data-based decision-making. Some of the main strategies implemented include the development of digital infrastructure, integration of inter-agency systems, data security, and development of human resources to be able to manage digital systems properly. In addition, innovations such as e-budgeting, e-procurement, e-auditing, and various other digital services further strengthen more modern and accountable governance. However, government digitalization also faces various challenges that must be overcome so that digital transformation can run optimally. The digital divide, limited internet access, and high technology implementation costs are the main obstacles to equalizing digital services. In addition, low digital literacy in society, concerns about data security, and resistance to change are also factors that can slow down the adoption of technology in the government sector. Therefore, the government needs to take strategic steps, such as improving digital infrastructure, public education, and strong regulations to ensure data security and privacy. The success of the digital transformation of government does not only depend on the technology used but also on the readiness of the community and government apparatus in adopting it. The government must continue to encourage community participation in the digitalization process and ensure that the digital services provided are inclusive, easily accessible, and provide real benefits to all levels of society. With the right strategy and strong commitment, digitalization of government can be a solution to create more effective, transparent governance and encourage economic growth and overall public welfare.

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References

Alhadi, B. I. (2022). Sistem Informasi Manajemen (Sim) Sebagai Sarana Pencapaian E-Government. *Jurnal Stie Semarang (Edisi Elektronik)*, *14*(2), 184-195.

Alim, M. S., & Ibrahim, R. (2024). Optimalisasi Kualitas Pelayanan Publik Di Era Digital Desa Moluo Kab. Gorontalo Utara. *INNOVATIVE: Journal Of Social Science Research*, *4*(2), 3793-3802.

Anugerah, F. Y., & Parwanti, L. S. (2024). Reformasi Birokrasi melalui Penerapan Sistem Pemerintahan Berbasis Elektronik (SPBE) di Diskominsta Kota Magelang. *Journal of Public Administration and Local Governance*, *8*(2), 124-135.

Aprilla, W., Wulandari, M., & Elcaputera, A. (2024). Meningkatkan Transparansi dan Akuntabilitas Pemerintah Melalui Teknologi Digital dan Partisipasi Publik dalam Upaya Pemberantasan Korupsi. *Eksekusi: Jurnal Ilmu Hukum dan Administrasi Negara*, *2*(4), 321-334.

Choirunnisa, L., Oktaviana, T. H. C., Ridlo, A. A., & Rohmah, E. I. (2023). Peran Sistem Pemerintah Berbasis Elektronik (SPBE) Dalam Meningkatkan Aksesibilitas Pelayanan Publik di Indonesia. *Sosio Yustisia: Jurnal Hukum dan Perubahan Sosial*, *3*(1), 71-95.

Fadri, Z., & Fil, S. (2024). Era Digital Dan Dampaknya Terhadap Administrasi Publik. *Reformasi Birokrasi Dalam Administrasi Publik: Tantangan Dan Peluang Di Era Digital*, *61*.

Fauzi, I. B., Purnamasari, H., & Febriantin, K. (2022). Kualitas Pelayanan Pemerintah Daerah. *Jurnal Ilmiah Wahana Pendidikan*, *8*(21), 416-427.

Hafel, M., & Jamil, J. (2024). Transformasi Smart City Dalam Implementasi E-Government di Daerah Kepulauan. *Journal of Governance Innovation*, *6*(1), 1-17.

Irfan, I., Rahim, S., & Haq, N. (2018). Pelaksanaan Smart Government Di Kabupaten Soppeng. *Kolaborasi: Jurnal Administrasi Publik*, *4*(3), 297.

Islah, K. (2018). Peluang dan tantangan pemanfaatan teknologi big data untuk mengintegrasikan pelayanan publik pemerintah. *Jurnal Reformasi Administrasi: Jurnal Ilmiah untuk Mewujudkan Masyarakat Madani*, *5*(2), 130-138.

Jibril, M. (2021). Implementasi E-Government Kota Probolinggo (Studi Peraturan Presiden Nomor 95 Tahun 2018 Tentang Sistem Pemerintahan Berbasis Elektronik). *Jurnal Ilmu Administrasi Negara*, *19*(3), 179-189.

Johannes, R. A. (2024). Optimalisasi Smart Asn Dalam Mendukung Transformasi Birokrasi Di Era Digital Di Provinsi Sulawesi Utara. *Jurnal Ilmiah Administrasi Pemerintahan Daerah*, *16*(2), 151-165.

Kusmiyati, R., Ginting, R., & Thariq, M. (2023). Digitalisasi Birokrasi Dalam Meningkatkan Pelayanan Publik (Peluang Dan Tantangannya). *Komunikologi: Jurnal Pengembangan Ilmu Komunikasi dan Sosial*, *7*(1), 33-46.

Megawati, M., Ahmad, B., & Rusdi, M. (2024). Tipologi Inovasi dalam Layanan Publik: Implementasi dan Tantangan Mall Pelayanan Publik di Kabupaten Sinjai. *PAMARENDA: Public Administration and Government Journal*, *4*(2), 332-346.

Nurlaila, N., Zuriatin, Z., & Nurhasanah, N. (2024). Transformasi digital pelayanan publik: Tantangan dan prospek dalam implementasi e-government di Kabupaten Bima. *Public Service and Governance Journal*, *5*(2), 21-37.

Pratama, A. S., Sari, S. M., Hj, M. F., Badwi, M., & Anshori, M. I. (2023). Pengaruh Artificial Intelligence, Big data dan otomatisasi terhadap kinerja SDM di Era digital. *Jurnal Publikasi Ilmu Manajemen*, *2*(4), 108-123.

Rahmadanita, A., Santoso, E. B., & Wasistiono, S. (2018). Implementasi Kebijakan Smart Government Dalam Rangka Mewujudkan Smart City Di Kota Bandung. *Jurnal Ilmu Pemerintahan Widya Praja*, *44*(2), 81-106.

Rahmadanita, A., Santoso, E. B., & Wasistiono, S. (2018). Implementasi Kebijakan Smart Government Dalam Rangka Mewujudkan Smart City Di Kota Bandung. *Jurnal Ilmu Pemerintahan Widya Praja*, *44*(2), 81-106.

Rahmatullah, A. F. (2021). Analisis Penggunaan Konsep Smart Governance dalam paradigma Smart City di Pemerintah Kabupaten Tanjung Jabung Timur. *Demos*, *3*(2), 86-97.

Rusdy, R. I. R., & Flambonita, S. (2023). Penerapan sistem pemerintahan berbasis elektronik (SPBE) di pemerintah daerah untuk mewujudkan good governance. *Lex Lata*, *5*(2).

Sandiasa, G., & Agustana, P. (2018). Reformasi administrasi dan birokrasi pemerintahan daerah dalam menigkatkan kualitas layanan publik di daerah. *Public Inspiration: Jurnal Administrasi Publik*, *3*(1), 1-8.

Santoso, E. B., & Rahmadanita, A. (2020). Smart government dalam rangka mewujudkan smart city di kota bandung. *Jurnal Ilmu Pemerintahan Widya Praja*, *46*(2), 317-334.

Setiawan, I., & Arti, N. D. B. (2024). Hubungan Inovasi Pemerintahan Terhadap Restrukturisasi Pemerintahan Di Indonesia. *Jurnal Ilmiah Administrasi Pemerintahan Daerah*, *16*(2), 234-248.

Setyasih, E. T. (2022). Transformasi digital pemerintah daerah di era society 5.0: studi kasus di Provinsi Jawa Barat. *PAPATUNG: Jurnal Ilmu Administrasi Publik, Pemerintahan Dan Politik*, *5*(3), 59-66.

Soetarto, H., & Yuliastina, R. (2022). Implementasi Peraturan Presiden Nomor 95 Tahun 2018 Tentang Sistem Pemerintahan Berbasis Elektronik (SPBE). *PUBLIC CORNER*, *17*(2), 32-44.

Sugiyono, S. (2016). Metode penelitian kuantitatif, kualitatif, R&D. *Bandung: Alfabeta*, *1*(11).

Suprianto, B. (2023). Literature review: penerapan teknologi informasi dalam meningkatkan kualitas pelayanan publik. *Jurnal Pemerintahan dan Politik*, *8*(2), 123-128.

Supriyanto, E. E. (2016). Kebijakan Inovasi Teknologi Informasi (IT) Melalui

Program Elektronik Goverment dalam Meningkatkan Kualitas Pelayanan Publik di Indonesia. *JIP (Jurnal Ilmu Pemerintahan): Kajian Ilmu Pemerintahan Dan Politik Daerah*, *1*(1), 141-161.

Utami, P. (2023). Transformasi Administrasi Publik: Inovasi Dan Adaptasi Menuju Efisiensi Dan Pelayanan Publik Berkualitas. *Papatung: Jurnal Ilmu Administrasi Publik, Pemerintahan dan Politik*, *6*(2), 1-9.

Widiyarta, A., Robbani, H. I., & Windiastuti, C. E. (2020). Evaluasi Kebijakan Sistem Pemerintahan Berbasis Elektronik dalam Pelayanan Administrasi (Siola) di Kementerian Dalam Negeri Republik Indonesia. *Public Administration Journal of Research*, *2*(3).

Wirawan, V. (2020). Penerapan E-Government dalam Menyongsong Era Revolusi Industri 4.0 Kontemporer di Indonesia. *Jurnal Penegakan Hukum Dan Keadilan*, *1*(1), 1-16.

Yulianah, S. E. (2022). *Metodelogi Penelitian Sosial*. CV Rey Media Grafika.

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