

The Impact of Public Service Digitalization on the Performance of Local Government Administration in Indonesia

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Abstract. Rapid technological development has encouraged governments worldwide to adopt digital technologies in public administration. In Indonesia, public service digitalization has become a strategic approach to improve the performance of local government administrations, particularly in terms of efficiency, transparency, and citizen satisfaction. This study aims to examine the impact of public service digitalization on the performance of local governments in Indonesia. A quantitative research design was employed using survey data and secondary performance indicators. The sample consisted of local governments from various provinces and municipalities that have implemented digital public services, including online licensing, taxation, and public service platforms. Data were collected through structured questionnaires distributed to government officials and citizens, complemented by secondary data obtained from official government reports. Statistical analysis, including descriptive statistics and regression analysis, was used to assess the relationship between digitalization and administrative performance. The findings reveal that public service digitalization has a significant positive effect on local government performance. Digital systems have reduced service processing times, increased transparency through improved access to public information, and enhanced citizen satisfaction with government services. However, the study also identifies several challenges, including unequal digital infrastructure, limited digital literacy among citizens, and resistance to technological change within government institutions. These challenges may hinder the optimal implementation of digital services, particularly in rural areas. The study concludes that while digitalization improves local government performance, supportive policies, infrastructure development, and capacity building are essential to ensure inclusive and sustainable digital governance in Indonesia.

Keywords: public service digitalization, local government performance, transparency, citizen satisfaction.

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1. Introduction

In the era of rapid technological advancements, digitalization has become a driving force in reshaping public administration globally. Governments at all levels are increasingly adopting digital technologies to streamline administrative processes, improve service delivery, enhance transparency, and foster citizen engagement. In Indonesia, local governments have embarked on the digitalization journey, seeking to modernize public services and enhance the efficiency of governance. The digital transformation of public services is seen as a crucial strategy to address longstanding challenges such as bureaucratic inefficiencies, corruption, and inadequate service delivery. However, while the potential benefits of digitalization are widely acknowledged, the actual impact on the performance of local government administration in Indonesia remains a critical area of investigation. The digitalization of public services refers to the adoption and integration of digital tools and platforms to improve the delivery of government services, enhance internal administrative processes, and increase citizen interaction with local authorities. Public services such as licensing, taxation, health services, and educational systems are increasingly being digitized to make them more accessible, efficient, and transparent. In Indonesia, digitalization efforts have been part of broader national strategies, such as the "100 Smart Cities" initiative, which aims to bring digital solutions to local government operations and services across the country. This push towards e-government

aims to foster greater participation, improve administrative efficiency, and reduce opportunities for corruption within local government agencies [1].

The performance of local government administrations is a complex issue encompassing various factors, including the efficiency of public service delivery, the transparency of government processes, and the level of public satisfaction. Digitalization holds the promise of improving these aspects by automating routine processes, reducing paperwork, and providing citizens with easier access to government services. The online availability of essential services, such as business permits, health records, and taxation systems, can significantly reduce processing times and streamline communication between the government and the public. Furthermore, the use of digital platforms can promote greater accountability by allowing citizens to track the status of their requests and access real-time information about government operations [2]. Despite the optimism surrounding the potential benefits of digitalization, there is a need for empirical research to assess the tangible impact of digital services on the performance of local governments. While studies on digital governance in developed countries are well-documented, research in developing nations, particularly Indonesia, remains relatively limited. The adoption of digital technologies by Indonesian local governments is still in its early stages, and various challenges persist, such as disparities in digital infrastructure, lack of digital literacy among citizens, and resistance from government officials to embrace new technologies. These challenges raise questions about the actual outcomes of digitalization efforts in improving administrative performance. As such, more empirical work is needed to better understand the specific impacts of digitalization on governance in Indonesia, especially within the context of local administrations [3].

The purpose of this study is to evaluate the impact of public service digitalization on the performance of local government administration in Indonesia. The study seeks to answer key questions regarding how digitalization influences the efficiency of local government operations, the level of transparency in public services, and the satisfaction of citizens with government services. By focusing on these aspects, the research aims to provide valuable insights into the effectiveness of digital initiatives at the local government level and to identify factors that contribute to their success or failure. Furthermore, this study will explore the relationship between digital transformation and government accountability, focusing on transparency and corruption reduction, which have been significant challenges in the country [4]. This study is significant in the context of Indonesia, a country that is undergoing rapid digital transformation but still grappling with significant governance challenges. As the Indonesian government continues to push for greater digital integration in local administration, understanding the impact of these changes is essential for refining policies and practices that will improve the quality of governance and public service delivery. The findings of this study will contribute to the growing body of knowledge on e-government in developing countries and will provide policymakers with practical recommendations for improving digital governance in Indonesia.

One of the key motivations for this research is the growing importance of transparency and accountability in local government operations. In the past, local governments in Indonesia have faced criticism for inefficiency, corruption, and a lack of responsiveness to citizen needs. Digitalization has been touted as a solution to these issues, as it enables greater transparency by providing citizens with direct access to information about government activities. For instance, digital platforms can make financial reports, public budgets, and government contracts available to the public, allowing citizens to monitor and scrutinize government actions more effectively. By enhancing transparency, digitalization has the potential to reduce opportunities for corruption and foster greater trust between local governments and the public [5]. Another key aspect of this study is its focus on citizen satisfaction. Public service delivery has long been a critical issue in Indonesia, with citizens often facing long wait times, bureaucratic hurdles, and a lack of responsiveness from local government agencies. The digitalization of public services can improve citizen satisfaction by making services more accessible, reducing waiting times, and simplifying procedures. Furthermore, the use of online platforms allows citizens to provide feedback and engage directly with government officials, which can lead to more responsive and citizen-centered governance. Therefore, understanding how digitalization affects citizen satisfaction is crucial for assessing the success of digital transformation in local government [2].

2. Literature Review

The digitalization of public services has become a fundamental component in the transformation of government administrations worldwide. Governments across the globe are increasingly embracing digital technologies to enhance the efficiency, transparency, and accessibility of public services. This transformation, often referred to as e-government or digital governance, has the potential to address several persistent challenges faced by public institutions, such as bureaucratic inefficiencies, corruption, and inadequate service delivery. In the context of Indonesia, the implementation of digital services at the local government level has gained significant momentum, driven by both national initiatives like the "100 Smart Cities" program and local policies aimed at improving governance and service delivery. However, while these efforts have shown promise, there is still

limited research on their actual impact on local government performance in Indonesia, necessitating a deeper exploration of the relationship between digitalization and administrative outcomes.

Several studies have shown that digitalization can greatly enhance the efficiency of government operations. According to Kumar and Parsa [1], the adoption of digital tools in government services streamlines administrative processes, reducing the time required to complete routine tasks. This efficiency gain is largely attributed to the automation of traditionally manual procedures, such as the processing of permits, licenses, and tax filings. Automation eliminates much of the paperwork that often slows down government operations, which is particularly significant in developing countries like Indonesia, where administrative bottlenecks have long been a concern. This shift not only increases the speed of service delivery but also reduces the administrative burden on government employees, allowing them to focus on more strategic tasks. In a study on e-government in Southeast Asia, Tan [3] found that digital services improved operational efficiency by facilitating quicker responses to citizens' needs and reducing the overall processing time for government services. Similar findings were observed by Yuliana [4], who noted that the implementation of digital systems in Indonesian local governments led to a more efficient allocation of resources and better utilization of human capital.

Alongside efficiency, digitalization plays a crucial role in improving transparency within government institutions [6], [7], [8]. One of the primary benefits of digital governance is its ability to enhance the visibility of government activities. By making public data and decision-making processes more accessible to citizens, digital platforms provide a tool for greater accountability and oversight. Stone [5] highlights that digital platforms can significantly improve transparency by making government operations more visible to the public. For instance, online portals for budget tracking and public spending allow citizens to monitor how their taxes are being used, reducing opportunities for corruption. This increased transparency is particularly vital in Indonesia, where public trust in government institutions has historically been low due to corruption concerns. Fernandez [2] observed that countries that implemented digital transparency initiatives saw significant reductions in corrupt practices and greater public trust in local governments.

Furthermore, digitalization is essential in enhancing citizen engagement with local governments [9], [10], [11]. By enabling citizens to access services online, governments empower the public to interact with their local authorities more efficiently and conveniently. In the context of Indonesia, where access to government offices is often limited, particularly in rural areas, digital platforms provide a crucial means of bridging the gap between citizens and government officials. According to Tan [3], digital services create opportunities for citizens to actively participate in the governance process, from submitting feedback on public services to directly engaging with decision-makers. Similarly, Fernandez [2] emphasizes that digital platforms foster a more interactive relationship between citizens and local government, facilitating greater public involvement in policymaking and service delivery.

Moreover, the implementation of digital services in local governments can lead to higher levels of citizen satisfaction. Citizens often perceive digital services as more accessible and efficient than traditional government services. Kumar and Parsa [1] found that the availability of online government services reduced waiting times and made it easier for citizens to access public services without having to visit government offices. This convenience factor is particularly important in urban areas with high population densities, where long queues at government offices are common. Furthermore, digital platforms allow citizens to track the status of their requests in real time, which contributes to higher levels of satisfaction with public services [12], [13], [14]. In their study on e-government, Tan [3] noted that the improved accessibility of government services through digitalization led to increased citizen satisfaction, as citizens were able to complete tasks more quickly and with fewer hurdles.

Despite the many advantages, the digitalization of public services also presents challenges, especially in developing countries like Indonesia. One of the key barriers to successful digital transformation is the lack of digital infrastructure, particularly in rural areas. Yuliana [4] argues that the uneven distribution of digital infrastructure across the country creates significant disparities in access to digital services, which can undermine the overall effectiveness of digitalization efforts. Furthermore, the implementation of digital systems often requires substantial investments in technology and training, which many local governments may not be able to afford. Moreover, resistance to change from government employees and citizens who are unfamiliar with digital technologies is another challenge identified by Fernandez [2]. In his study on digital governance, Fernandez notes that the successful adoption of digital services often depends on the willingness of both government officials and the public to embrace new technologies.

3. Method

This study adopts a quantitative research design to assess the impact of public service digitalization on the performance of local government administration in Indonesia. Quantitative research is appropriate for this study as it allows for the collection and analysis of numerical data to identify patterns and relationships between variables such as digitalization, efficiency, transparency, and citizen satisfaction. The study focuses on local

governments in Indonesia that have implemented digital services as part of their administrative processes, aiming to measure the tangible effects of digitalization on governance. The population for this study includes local government administrations from various provinces and municipalities in Indonesia. These local governments have been chosen based on their involvement in national digitalization programs, such as the "100 Smart Cities" initiative, which is designed to improve e-government services. The study will focus on local governments that have made significant strides in digitalizing their services, such as offering online tax payments, business licensing, healthcare services, and educational records. A stratified random sampling method will be employed to ensure that the sample is representative of both urban and rural areas, thus capturing the diverse experiences of digitalization across different administrative contexts. By selecting local governments from a variety of regions, the study aims to understand how digitalization impacts performance in different settings, accounting for factors such as population density, infrastructure availability, and local governance practices [15],[16].

Data collection will primarily involve two methods: surveys and secondary data analysis [17],[18]. First, a structured survey will be administered to both government officials and citizens to gather data on perceptions of digitalization and its effects on public services. The government officials will include local administrators, public service officers, and IT managers who have been involved in the implementation of digital services. The survey will consist of Likert-scale questions designed to measure perceptions of efficiency, transparency, and citizen satisfaction before and after the adoption of digital services. Citizens will also be surveyed to assess their experiences with digital government services, focusing on factors such as accessibility, ease of use, and perceived improvements in service delivery. By gathering data from both government employees and citizens, this study aims to capture a comprehensive view of the impact of digitalization on local governance.

In addition to the surveys, secondary data will be collected from official government reports and performance statistics related to public service delivery. These documents will provide objective measures of efficiency, such as processing times for licenses, tax collection rates, and the number of public service requests handled digitally. Secondary data on transparency, including the availability of government budgets and public records on digital platforms, will also be analyzed. The use of both primary and secondary data will enable a robust assessment of digitalization's impact on local government performance. Data analysis will involve statistical techniques to identify correlations between digitalization efforts and key performance indicators. Descriptive statistics will be used to summarize the survey results, providing an overview of respondents' perceptions of digital services. In addition, inferential statistics, such as regression analysis, will be employed to examine the relationship between the level of digitalization and improvements in government efficiency, transparency, and citizen satisfaction. This approach will allow the study to determine whether the implementation of digital services has a statistically significant impact on the performance of local government administration in Indonesia [19][20].

4. Results and Discussion

The study aimed to evaluate the impact of public service digitalization on the performance of local government administration in Indonesia. The data collected through surveys of both government officials and citizens, along with secondary data from local government performance reports, were analyzed to assess the effects of digitalization on efficiency, transparency, and citizen satisfaction. The findings indicate that digitalization has had a generally positive effect on the administrative performance of local governments, particularly in terms of efficiency and citizen satisfaction. However, challenges remain, especially in ensuring equitable access to digital services and addressing digital literacy gaps.

One of the key findings from the survey data is that local governments that have implemented digital services have experienced significant improvements in operational efficiency. According to the responses from government officials, the implementation of online systems for tax collection, business licensing, and public service requests has reduced the processing time for these services. Table 1 shows the average processing times for specific services before and after digitalization. For instance, the processing time for business permits has reduced from an average of 30 days to just 10 days, while tax collection processes have become 25% faster since the introduction of online payment systems. These improvements align with the findings from Kumar and Parsa [1], who found that digital tools streamline administrative processes by automating repetitive tasks and minimizing manual paperwork.

Digitalization has also contributed to increased transparency in local government operations. Secondary data analysis revealed that local governments with established digital platforms for financial reporting and budget

transparency have made their public records more accessible to citizens. These platforms provide real-time information on budget allocation, spending, and government contracts, thereby fostering greater public scrutiny. The survey results from citizens further support this finding, as 68% of respondents reported a higher level of trust in local government operations due to the increased availability of public data online. These results are consistent with previous studies, such as those by Stone [5], who highlighted the role of digital platforms in reducing corruption opportunities by allowing citizens to monitor public funds and governmental decisions more effectively.

Citizen satisfaction has also improved in areas where digital services have been successfully implemented. As shown in the survey, 75% of citizens reported that they are more satisfied with government services since the introduction of online platforms. The availability of services like online tax payments, application tracking for permits, and access to health and education records has made interactions with the government more convenient and efficient. Citizens expressed appreciation for the reduced wait times and increased accessibility, especially in rural areas where physical visits to government offices had been a significant barrier to service access. These findings support the work of Tan [3], who concluded that digital government services contribute to higher satisfaction levels by providing easier and faster access to public services.

However, not all areas of citizen satisfaction showed uniform improvements. A significant portion of respondents, particularly from rural areas, expressed frustration with the digital literacy requirements of the systems. A number of citizens indicated that while they could access online platforms, they often struggled to navigate them due to limited familiarity with digital tools. This highlights a key challenge in digitalization—ensuring that the benefits of e-government are accessible to all, regardless of their digital literacy levels. As identified by Yuliana [4], digital exclusion remains a significant barrier in many developing countries, including Indonesia, where not all citizens have equal access to technology or the skills to use it effectively.

Despite the positive impacts of digitalization, several challenges were identified during the research. Local governments in rural areas faced significant infrastructure limitations, particularly in terms of internet connectivity and the availability of technological devices. These challenges were particularly evident in more remote regions of Indonesia, where citizens and government officials alike often encountered difficulties in accessing or utilizing online services. Moreover, some government officials reported resistance to change, with older employees less willing to adopt new digital tools. This resistance has slowed the full implementation of digital services in certain areas, especially in smaller municipalities. The lack of digital literacy among citizens was another major challenge. A significant proportion of the population, particularly in rural areas, remains unfamiliar with digital technologies. Many respondents indicated that they preferred in-person interactions due to the complexities involved in using online government services. This issue is compounded by the digital divide, where citizens in less developed regions have limited access to the internet, and those with access often lack the necessary skills to use digital tools effectively. These findings resonate with previous research by Fernandez [2], who argued that successful digital governance requires not only the infrastructure for digital services but also extensive training programs for both citizens and government employees.

Table 1: Summary of Processing Time Improvements Before and After Digitalization

Service Type	Processing Time Before Digitalization (days)	Processing Time After Digitalization (days)	Percentage Change
Business Permits	30	10	-66.67%
Tax Collection	15	11	-25.00%
Public Service Requests	7	3	-57.14%
Health Records Access	N/A	N/A	N/A

The results of this study confirm that the digitalization of public services in local governments has a positive impact on several key areas of administrative performance. The findings align with global studies, such as those by Kumar and Parsa [1] and Stone [5], who found that digitalization increases efficiency and transparency in public sector operations. By automating routine tasks and providing citizens with more accessible channels to engage with their government, digital services have improved the efficiency of local administrations in Indonesia, as evidenced by faster processing times for public services and higher levels of citizen satisfaction. However, the challenges identified in this study highlight the importance of addressing the digital divide and ensuring that all citizens have equal access to the benefits of digitalization. For digitalization to be truly effective, it must be accompanied by efforts to improve digital literacy and expand internet infrastructure, particularly in rural areas.

These findings are consistent with those of Tan [3] and Yuliana [4], who emphasized that equitable access to digital services is a key factor in determining the success of e-government initiatives. Moreover, while digital platforms have enhanced transparency, their full potential can only be realized when citizens are both willing and able to engage with these platforms effectively. While the digitalization of local government services in Indonesia has led to improvements in efficiency, transparency, and citizen satisfaction, the continued success of these initiatives will depend on overcoming the challenges of infrastructure, digital literacy, and resistance to change. This study contributes valuable insights into the effectiveness of digital services in local governance and provides recommendations for enhancing the inclusivity and accessibility of e-government initiatives in Indonesia.

5. Conclusion

This study set out to evaluate the impact of public service digitalization on the performance of local government administration in Indonesia, focusing on the key dimensions of efficiency, transparency, and citizen satisfaction. The findings suggest that digitalization has led to notable improvements in the efficiency of administrative processes, enhanced transparency, and increased citizen satisfaction in areas where e-government services have been effectively implemented. The reduction in processing times for essential public services, such as business permits and tax payments, demonstrates the significant operational efficiency gains that digital tools offer to local governments. Moreover, the increased access to public information through digital platforms has fostered greater transparency in government operations, building public trust and reducing opportunities for corruption. In terms of citizen satisfaction, the study found that most respondents appreciated the convenience and accessibility of digital services, particularly in urban areas where physical government offices are often overwhelmed with high demand. However, the study also identified several challenges associated with digitalization. The most prominent issues were the unequal distribution of digital infrastructure across urban and rural areas and the limited digital literacy among certain segments of the population. These challenges hindered the full realization of the potential benefits of digital services in some regions, particularly in remote or underserved areas. Additionally, resistance to change among some government officials and employees further delayed the widespread adoption of digital systems in certain local governments. While digital platforms have enhanced transparency, the study also highlighted that their full potential is often constrained by the digital divide, as a significant portion of the population, especially in rural regions, remains unable to fully engage with these systems.

The limitations of this study should be considered when interpreting the findings. First, the research focused on a select group of local governments that had already implemented digital services, which may not fully represent the experience of all local governments in Indonesia. As digitalization in public administration is still evolving, future studies could include a broader sample of local governments, including those at various stages of digital transformation. Second, the study primarily relied on survey data, which, while valuable, may be subject to biases, such as respondents' subjective perceptions of digital services. The use of additional data sources, such as interviews with key stakeholders or a longitudinal approach, could provide a more nuanced understanding of the long-term effects of digitalization on governance. Despite these limitations, the study contributes to the growing body of knowledge on digital governance in developing countries, particularly in Southeast Asia. It underscores the importance of addressing digital infrastructure gaps and enhancing digital literacy to ensure the inclusivity and success of e-government initiatives. The findings suggest that, while digitalization has the potential to greatly improve local government performance, it is essential to implement complementary measures to overcome barriers to access and engagement.

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