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Critical Factors Influencing the Implementation of Digital Government: The Case of Population Administration Service

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ABSTRAK

Layanan publik berbasis digital, atau layanan pemerintahan digital, merujuk pada sistem yang digunakan pemerintah untuk meningkatkan aksesibilitas dan efisiensi dalam menyediakan layanan informasi. Tujuannya adalah untuk mencapai tata kelola pemerintahan yang baik. Penelitian ini mengkaji faktor-faktor penting yang memengaruhi penerapan pemerintahan digital, khususnya layanan administrasi kependudukan. Survei kuesioner disebarkan kepada 500 warga negara yang menggunakan pemerintahan digital. SEM-PLS digunakan untuk menganalisis data yang terkumpul. Hasil penelitian ini menunjukkan bahwa kontribusi teoritis penelitian ini dapat diringkas sebagai berikut: Kapasitas Sumber Daya Manusia, Regulasi, Infrastruktur, Keuangan, Teknologi Informasi dan Komunikasi memiliki pengaruh positif dan signifikan dalam penerapan pemerintahan digital. Hal ini menunjukkan bahwa keempat variabel tersebut sangat penting dalam penerapan pemerintahan digital di Indonesia. Kemudian, empat variabel tidak memiliki pengaruh positif dan signifikan, yang mungkin tidak penting dalam penerapan pemerintahan digital. Berikut ini adalah beberapa konsekuensi praktis dari temuan penelitian ini. Pertama, untuk menerapkan pemerintahan digital, harus ada dukungan regulasi yang baik, infrastruktur yang dapat memenuhi anggaran, dan TIK yang kuat. Pemerintah pusat harus mendorong penerapan pemerintahan digital agar terlaksana secara merata..

ABSTRACT

Digital-based public services, also known as digital government services, refer to systems that governments implement to increase accessibility and efficiency in providing information services and to achieve good governance. This research examined the critical factors that influence the implementation of digital government, particularly in population administration services. A questionnaire survey was distributed to 500 respondents who use digital government. SEM-PLS was used to analyze the collected data. The results of this research indicate that the theoretical contribution can be summarized as follows: Human Resource Capacity, Regulation, Infrastructure, Finance, Information and Communication Technology have a positive and significant influence on implementing digital government. This demonstrated that these four variables are crucial in implementing digital government in Indonesia. Then, four variables do not have a positive and significant influence, which may not be essential in implementing digital government. The following are some practical consequences of the findings of this study. First, to implement digital government, there must be good regulatory support, infrastructure that can allocate the budget, and strong ICT. The central government must encourage the implementation of digital government so that it is carried out evenly.

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INTRODUCTION

Government administration must be in line with current requirements and problems, adapt to societal developments to effectively handle various demands from government and society, and resolve multiple issues that arise (Tan et al., 2024). Various alternative governance models have emerged and are used in different government institutions to address numerous problems and meet community service requirements (Yasa et al., 2024). Digital Government is a government

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administration system that has begun to be used in several countries, including Indonesia, to provide public services to the community. Indonesia has long attempted to implement an information-based government through information technology (Manajemen et al., 2025). The government has implemented various initiatives to encourage the integration of information technology in government processes and public services (Gürler et al., 2024). Multiple forms of policy support are needed to meet central and regional government requirements for an integrated government system. Therefore, various policies have been established, including Instruction of the President of the Republic of Indonesia Number 3 of 2003 concerning National Policy and Strategy for the Development of e-government, which was further strengthened by Regulation Number 14 of 2008 concerning Openness of Public Information and Government Regulation Number 61 of 2008 concerning the Implementation of the Public Information Openness Law (Danar, 2024).

Innovation currently plays a very crucial role in the public sector. This results from the private sector's effectiveness in creating and implementing various discoveries to benefit its clients. This achievement encourages the public sector to develop multiple technologies to improve public services (Maryuni, 2024). Recent advances in the public sector show that innovation is intrinsically linked to rapid advances in Technology, Information, and Communication (ICT), resulting in a strong link between innovation and the concept of e-government. This scenario has forced many government institutions, both federal and regional, including village governments, to strive to create and implement various innovations in public administration activities. The implementation of electronic governance in Indonesia shows considerable diversity (Tskhadadze, 2024). The policy defines that the execution of digital governance in Indonesia aims to transform the public sector management system from a sectoral or conventional methodology to a more contemporary approach, therefore expediting the decision-making process within the public sector. This strategy enables modifications in public sector contacts with the private sector, which were once distinct and constrained, so as to promote more flexibility, adaptability, and foster diverse collaboration projects between the two sectors. Consequently, collaborative governance can be realized if the public sector utilizes these policies as an e-government development and implementation framework (Wahyuni et al., 2024).

Optimal public services can create a professional, efficient, effective, transparent, and accountable government, a form of good governance (Baheer et al., 2020). Therefore, good governance needs to be realized through improving public services governance is effectively implemented, the established objectives can be realized, specifically enhancing the quality of public services, optimizing village resources, facilitating community access to information through data availability, promoting community engagement, and ensuring transparency and accountability. Effective governance at the village level catalyzes enhancing the quality of regional government administration to achieve community welfare. Effective governance at the village level catalyzes enhancing the quality of regional government administration to achieve community welfare (Sari et al., 2024).

This study was conducted in four regions: East Lampung Regency, Jepara Regency, Makassar City, and East Lombok Regency. The selection of these locations was based on considerations of geographical diversity, demographic characteristics, and varying levels of digital government implementation to provide a more comprehensive and representative overview of the issue. East Lampung represents a region in Sumatra that has predominantly rural characteristics and challenges related to technological infrastructure. Meanwhile, Jepara Regency, located in Java, is an area with growing economic potential that is gradually working toward digitalizing public services. As a major urban center in eastern Indonesia, Makassar City has pioneered smart city

initiatives and digital governance. On the other hand, East Lombok Regency reflects the conditions of an archipelagic area in West Nusa Tenggara Province, facing unique dynamics in integrating technology into governmental administration. By selecting regions with diverse characteristics and different levels of digital readiness, this study aims to explore the supporting and inhibiting factors affecting the implementation of digital government in various local contexts. The findings are expected to inform policy recommendations that are general, contextually relevant, and practically applicable to regions with similar conditions.

The government must be responsive to society's expectations and world challenges triggered by change and progress, especially in technology (Danar, 2024). The world has experienced a transformation in which activities are carried out using digital technology (Sablić & Mirosavljević, 2024). Society is becoming smarter and more informed, leading to a tendency for people to demand more from public services. Furthermore, change occurs rapidly and continuously, causing previously proud services to transform significantly. It may now be considered outdated. Government: You are asked to provide services that use information technology to improve processes. Businesses will be optimized to provide faster, easier, and more cost-effective services while maintaining attention to detail. Transparency and accountability (Verbovaya et al., 2024).

E-government, or digital governance, could be more complex and theoretically delineated. E-government encompasses all online services and information and communication technology that the government utilizes (Fernandez-Monge et al., 2024). Digital-based public services, or digital government services, refer to systems governments use to increase accessibility and efficiency in providing information services (Zhang & Kaur, 2024). The aim is to achieve good governance. Digital governance is closely linked to government openness, which is considered a key aspect of good governance, according to the United Nations Development Program (UNDP). Therefore, information technology is important because it is the front line for implementing digital government (Gintova, 2024).

Research that is about the implementation of digital government research that investigates digital government as in research (Kurniawan et al., 2023), (Janssen et al., 2018), (Baheer et al., 2020), (Castelnovo & Sorrentino, 2018), (Liva et al., 2020), then its relationship with politics (Boestam et al., 2023), (Herdiansah & Sumadinata, 2019). Thus, this research addresses existing knowledge gaps. This research combines the concepts of e-government adoption and e-government to investigate the use of digital government services to obtain population administration services. Local governments may use certain technological attributes essential for enhancing the digital governance process by establishing correlations between important criteria and the utilization of digital government services. This study examines the factors that affect the public's use of digital government services for population administration.

The focus of this research is whether Human Resource Capacity, Leadership, Regulation, Finance, Infrastructure, Information and Communication Technology, Bureaucratic Structure, Transparency, Accountability, have a beneficial and substantial impact on the execution of local governance, thus presenting this study as making two notable contributions. First, this research contributes to understanding the factors influencing individuals' acceptance of new technologies. Furthermore, this research offers a means for local governments to prioritize their efforts on key elements that significantly influence residents' propensity to use ICT to improve public services. The paper is organized in the following way: Section 2 analyses the current literature. Section 3 examines the development of the research model and the creation of hypotheses. Section 4 follows, providing a thorough examination of the study methods. Section 5 subsequently analyses the data and findings of the research. Section 6 analyses the findings

of the theory, while Section 7 addresses the study's implications. Section 8 encompasses study findings, constraints, and recommendations for further investigation.

Literature Review

Implementation of Digital Government

The implementation of digital governance has emerged as a significant emphasis in public administration and digital transformation discourse (Ummah & Maryam, Siti, 2022). Digital government denotes government entities' use of information and communications technology (ICT) to increase efficiency, transparency, and citizen engagement (Apleni & Smuts, 2020). Digital government is focused on modernizing public administration systems through online services (e-government), facilitating more accessible and accelerated access to public services, including document registration, tax payments, and health services. In the context of the New Public Management (NPM) philosophy, digitalization is considered a mechanism to improve the public sector's performance by replicating the private sector's efficient techniques (Marcovecchio, 2021). Digital government can reduce operational costs, increase accountability, and facilitate broader public engagement through data transparency and direct connections with the government (Punchihewa, 2018).

Ummah & Maryam, Siti, (2022) The design–reality gap concept explains that failure in e-Government projects is generally caused by a mismatch between technological design and reality on the ground, including organizational culture, human resource capacity, and bureaucratic processes. Therefore, successful implementation depends not only on technological availability but also on institutional readiness, human resource skills, and political support.

Human Resource Capacity

Human Resource Competence demonstrates the capability of an organization's human resources to attain strategic goals and objectives (Wairiuko & Nyonje, 2018). This capacity spans multiple dimensions, including employee competencies and skills, corporate culture, and managerial frameworks that facilitate operational efficiency. Considering the ever evolving and complex corporate landscape, the importance of investing in employee competency development becomes increasingly clear in this context. Factors influencing human resource capacity include training, professional experience, and good recruitment and selection processes (Bhattacharyya et al., 2021). Organizations that successfully attract and retain high-caliber personnel usually have superior human resource capacity. Proactive strategies for career development and employee well-being can increase motivation and engagement, thereby increasing overall productivity. Besides internal considerations, human resource capacity is also influenced by external influences, including labor market conditions and technological advances (Artanty Utami et al., 2025). Organizations must adapt to these changes to maintain competitiveness. As a result, examining market trends and industry needs is critical to developing a successful human resource management strategy (Punchihewa, 2018).

Several previous studies have highlighted that the enhancement of human resource capacity largely depends on a sustainable training system, effective performance evaluation, and a work environment that supports professional development (Bhattacharyya et al., 2021; Hermana & Silfianti, 2011; Wairiuko & Nyonje, 2018). In the context of public organizations, Ramli et al.,(2024) assert that strong institutional capacity

is greatly determined by the capacity of the individuals within it. Therefore, bureaucratic reform often places the strengthening of human resource capacity as a top priority, given their strategic role in policy implementation and public service delivery.

Leadership

Leadership suggests that the idea has evolved substantially in recent decades, with various techniques and theories introduced to understand the phenomenon. Leadership includes not only influence and guidance but also transformational aspects that emphasize the motivation and inspiration of followers. Transformational leadership theory is valued for its capacity to facilitate effective organizational transformation by fostering employee engagement and excitement. The situational leadership model introduced by Benmira & Agboola (2021) underscores the importance of context in identifying effective leadership styles. This concept posits that leaders must adapt their strategies based on the preparedness and capabilities of their subordinates. This approach provides a more adaptable and reactive viewpoint on leadership, highlighting the significance of relationships between leaders and followers in attaining common objectives.

Regulation

Regulations indicate that this idea is essential in a country's economic and social framework (Cusumano et al., 2021). Regulation is characterized as a collection of rules and policies established by governments to regulate the behavior of people and organizations, safeguard the public interest, enhance security, and monitor markets (Cammaerts & Mansell, 2020). Various forms of regulation, such as economic, environmental, and social, influence market dynamics and societal welfare differently. The regulatory theory put forth is an important framework in regulatory studies. Salakhova et al. (2021) highlighted the interactions between industry and government. This idea states that the sector will seek to influence regulatory rules to gain a competitive advantage while the government aims to protect the public interest. This research demonstrates that lobbying and stakeholder dynamics frequently influence the outcomes of regulatory processes, which broadens society's understanding of the complexities of regulation (de Almeida et al., 2021).

Finance

Finance has rapidly developed, including various aspects of financial resource management for companies and individuals. The capital structure theory put forth in this field is an important topic Munoz et al., 2022), This confirms that in an efficient market, a company's value is not affected by its capital structure but is determined by its operational profitability (Risman et al., 2021). Empirical research shows that external factors significantly influence capital structure decisions, including interest rates, tax regulations, and financial risk. Subsequent research has expanded this theory by incorporating elements such as asymmetric knowledge, bankruptcy costs, and agency theory, which underscores the importance of synergy between management and shareholders in financial decision-making (Pei et al., 2024).

Infrastructure

Infrastructure has always been important in economic development analysis and regional planning. Infrastructure includes several physical components and systems facilitating social and economic activities, including transportation, electricity, water, and information and communications technology (Brockhaus et al., 2023). Early research on infrastructure highlighted its crucial role in improving production and distribution efficiency, serving as an important element in sustainable economic growth. Endogenous growth theory states that adequate infrastructure investment can increase total factor productivity, thereby encouraging sustainable economic growth. Research shows that infrastructure development can reduce social and economic inequality by increasing access to public services and economic opportunities (Rodon Modol & Eaton, 2021).

Modern literature highlights the challenges of infrastructure development, especially regarding sustainability and inclusion. Infrastructure funding, resource constraints, and environmental impacts are essential topics of discussion. The public-private partnership (PPP) finance model is gaining popularity as a remedy for constrained government funding in executing large-scale projects. Moreover, a significant portion of the research underscores the significance of green infrastructure, which aims to mitigate negative environmental effects while promoting adaptation to climate change. Future infrastructure study examines the effects of emerging technologies, such as the Internet of Things (IoT) and smart cities, which provide strategies to improve the efficiency and sustainability of contemporary infrastructure (Schindler et al., 2024).

Information and communication technology

Information and Communication Technology (ICT) is a fast-expanding domain that significantly influences change in several areas of life, from education, government, and economy to social life. Various literatures emphasize that ICT not only includes hardware and software, but also includes network infrastructure, the internet, and digital communication systems that enable efficient processing, storage, and exchange of information (Trisiana et al., 2024). In the realm of education, ICT has facilitated the emergence of innovative learning models predicated on distance education, e-learning, and technology-enhanced learning, hence enhancing access and quality of education. ICT in the public sector facilitates the execution of e-government, improving accuracy, augmenting transparency, and reinforcing citizen engagement (Wang et al., 2024). In the economic sphere, ICT enhances operational efficiency, facilitates market development, and boosts corporate productivity, particularly within the Micro, Small, and Medium Enterprises (MSMEs) sector.

Bureaucratic Structure

Bureaucratic structure is a fundamental issue in public administration and organizational management literature. Bureaucracy, as stated by Li et al., (2024) that hierarchy, formal rules, task specialization, and impersonality have transformed it into an organizational framework. Li et al. (2024). Also, bureaucratic structures are very important to encourage efficiency and stability in large organizations, especially in the public sector, by implementing a clear division of tasks and standardized control systems. Traditional analyses of bureaucracy often highlight that this framework reduces decision-making ambiguity and promotes efficient coordination among organizational units. Bureaucracy is the most effective organizational structure for managing daily tasks that require consistency (Intalar et al., 2024). Contemporary literature criticizes bureaucracy as an

inflexible structure that cannot adapt to change (Prakosa et al., 2024). Contemporary organizational theories, such as post-bureaucratic theory, underscore the importance of flexibility, innovation, and inter-unit collaboration, which often need to be more attainable within conventional bureaucratic frameworks. The main criticism of bureaucracy is its tendency to produce convoluted bureaucracy and excessive procedures that hinder efficiency and creativity. The literature also investigates the influence of bureaucratic structure on the quality of public services, showing that a too centralized and inflexible bureaucracy can reduce responsiveness to community needs. In the field of public administration reform, many methodologies, such as New Public Management (NPM), have been implemented to increase efficiency and accountability through decentralization, greater autonomy, and an emphasis on results rather than procedures (Kemal & Shah, 2024).

Transparency

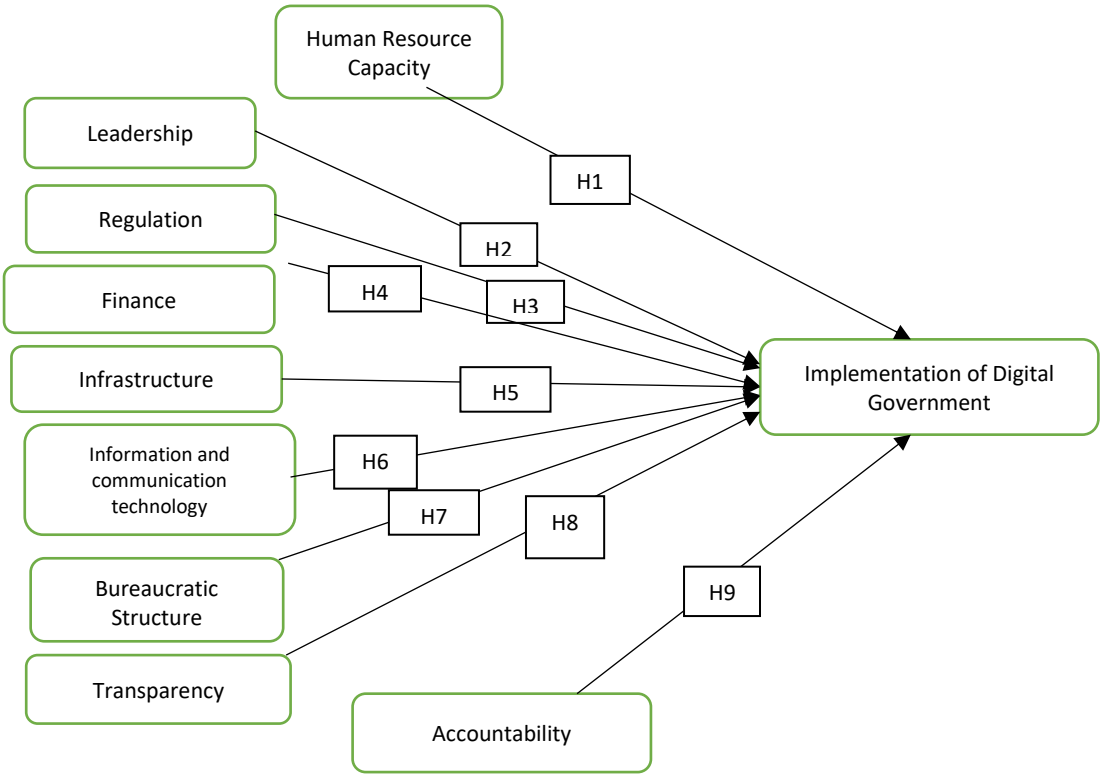
Transparency has emerged as a fundamental principle in organizational governance and management, especially with accountability and public engagement. Early research on transparency emphasized its importance in increasing public trust in public institutions and companies (Tavmen, 2024). Transparency is characterized by unrestricted access to relevant information, which allows stakeholders to scrutinize and assess the decisions and activities of authorized institutions. Accountability theory states that transparency is essential to ensure honest and fair decision-making and prevent abuse of authority (Adil et al., 2022). In governance, transparency is often associated with disclosing information about budgets, public policies, and purchasing goods and services, which is expected to reduce corrupt practices and increase the efficiency of public services (Larsson & Heintz, 2020).

Accountability

Accountability is a basic principle of effective governance in both the public and commercial sectors (Overman & Schillemans, 2022). Accountability denotes the responsibility of individuals or organizations to justify and be accountable for their actions and decisions to relevant stakeholders. Accountability underscores the importance of monitoring and reporting systems that empower authorities to ascertain whether actions are aligned with the interests of the public or shareholders (Pérez-Durán, 2024). The two main categories of accountability theories are vertical accountability, defined by hierarchical relationships between decision-makers and their superiors, and horizontal accountability, determined by peer or outside agency oversight. In governance, accountability is closely related to democracy because transparency, openness, and public participation are important to prevent power abuse (Uzougbo et al., 2024).

Information technology can be a crucial tool for strengthening accountability in today's digital era. Governments can leverage digital platforms to increase information transparency, provide access to public data, and open up citizen participation in decision-making processes. Divi et al., (2024) states that digitalization can strengthen public accountability through robust reporting systems, budget transparency, and responsive complaints systems.

Figure 1.
Research Model



Source: Processed By Researchers (2025)

The hypotheses in this research are

H1: Human Resource Capacity Has a Positive and Significant Influence on the Implementation of Digital Government.
H2: Leadership Has a Positive and Significant Influence on the Implementation of Digital Government.
H3: Regulation Has a Positive and Significant Impact on the Implementation of Digital Government.
H4: Finance Has a Positive and Significant Influence on the Implementation of Digital Government.
H5: Infrastructure Has a Positive and Significant Influence on the Implementation of Digital Government.
H6: Information and Communication Technology Has a Positive and Significant Influence Regarding the Implementation of Digital Government.
H7: Bureaucratic Structure Has a Positive and Significant Influence on the Implementation of Digital Government.
H8: Transparency has a positive and significant influence on implementation Digital Government.
H9: Accountability Has a Positive and Significant Impact on the Implementation of Digital Government.

RESEARCH METHODS

Data collection

The survey method design was modeled to obtain primary data about citizens regarding implementing digital government in local government population administration services. This research uses a self-administered questionnaire to obtain primary data as a research tool.

Sampling technique

This study used a basic random sample. A simple random sample refers to a subset of a statistical population where everyone using local government application software has an equal probability of selection. The main aim of sampling is to find citizens who use the digital government population administration service system. Survey research was conducted. Therefore, we compiled a questionnaire using Google Forms. We pass Google Forms to citizens from one person to another online and do snowballing. One respondent is used to generate the names of other respondents in snowball sampling. The snowball sampling technique was used due to limited access to key informants at the beginning of the study. However, this method has a risk of bias because respondents are likely to come from the same social network, so that the perceptions collected cannot represent the entire population. They filled out a Google form and then sent it to the researcher.

In Indonesia, citizens are required to access government services across various regions. Therefore, citizens share common characteristics in utilizing technology introduced by local governments across all areas to access public services. This study recruited respondents from four regencies and cities: East Lampung, Jepara, Makassar City, and East Lombok. East Lampung Regency represents the Sumatra region, which is characterized by its rural nature and challenges in technological infrastructure. Jepara Regency, located on the island of Java, is a region with growing economic potential and is striving to promote the digitalization of public services gradually. Meanwhile, as a major city in eastern Indonesia, Makassar City has become a pioneer in implementing the smart city concept and digital transformation in the government sector. East Lombok Regency represents an island region in West Nusa Tenggara, which faces its unique dynamics in integrating technology into its government administration system.

By selecting locations with varying characteristics and levels of digital readiness, this study aims to delve deeper into the supporting and inhibiting factors for digital government implementation across various contexts. This is crucial for formulating policy recommendations that are general, contextual, and applicable to regions with similar conditions. Based on these considerations, this study recruited 100 respondents in each district and city, resulting in 500 respondents. The calculation concluded that the appropriate number of respondents was 500, with a 95% confidence level and a 5% margin of error.

Measurement and analysis technique

Data was gathered using quantitative survey inquiries. A Likert scale was used to formulate questions. A Likert scale was used to evaluate respondents' viewpoints, where one signifies severely disagree, two denotes disagree, three represents slightly agree, four indicates agree,

and five reflects agree. The data was analyzed using SEM-PLS to assess its validity and reliability and test hypotheses and regression models.

RESULTS AND DISCUSSIONS

The results section precedes the discussion part. Each segment operates autonomously as subtitles. The results and discussion sections include no less than 60% of the manuscript's total content. Table 1 presents the demographic characteristics of the respondents. Many responses are from young people with a bachelor's degree. Many responders have less than one year of technological experience.

Table 1.
Respondent Profile Demographics

Characteristics	East Lampung		Jepara		Makassar City		East Lombok	
	Freq	%	Freq	%	Freq	%	Freq	%
Age								
<35 Years	75	75%	44	44%	83	83%	86	86%
36-45 years	15	15%	41	41%	13	13%	9	9%
> 45 Years	10	10%	15	15%	4	4%	5	5%
Education Level								
Senior High School	40	40%	25	25%	59	59%	41	41%
Diploma/ Bachelor	53	53%	67	67%	39	39%	57	57%
Graduate	7	7%	8	8%	2	2%	2	2%
Experience Using E-Government								
< 1 Year	50	50%	61	61%	50	50%	63	63%
1 – 3 Years	45	45%	23	23%	35	35%	28	28%
> 3 Years	5	5%	16	16%	15	15%	9	9%

Source: processed by researchers (2024)

Validated Research Model

Cronbach's Alpha adheres to established reliability standards for reflecting measurement models in the literature to assess internal consistency. A variable is deemed dependable if Cronbach's Alpha value is above 0.700 (Kurniawan et al., 2023). All variables in this investigation demonstrated reliability, as shown in Table 2.

Table 2.
Research variable reliability

Variable	Cronbach's Alpha	rho_A	Composite Reliability
Accountability	0,776	0,778	0,822
Finance	0,710	0,739	0,834
Bureaucratic Structure	0,779	0,780	0,871
Human Resource Capacity	0,731	0,748	0,846
Implementation of Digital Government	0,802	0,804	0,871
Information and Communication Technology	0,769	0,777	0,857
Infrastructure	0,752	0,761	0,851
Leadership	0,862	0,881	0,915

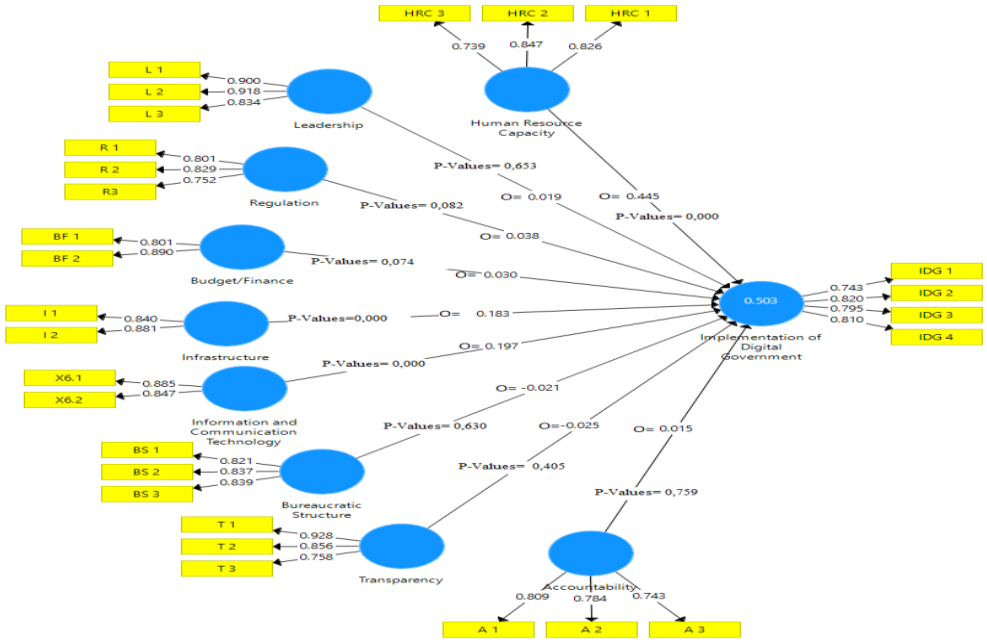
Variable	Cronbach's Alpha	rho_A	Composite Reliability
Regulation	0,708	0,711	0,837
Transparency	0,822	1,058	0,886

Source: processed using smartPLS (2024)

Construct Reliability and Validity

Legitimacy. The results of the concept validity assessment will enhance comprehension of the quality metrics used. The influence on the Digital Government Implementation variable has been previously evaluated.

Figure 2.
Construct reliability and validity



Source: processed by researchers using smartPLS (2024)

Figure 2 depicts the results of hypothesis testing. The hypothesis is accepted when the p-value is less than 0.05. Hypothesis H1 asserts that human resource capacity positively and significantly influences the implementation of digital government. This means that the function of human resources is vital in implementing digital government, making superior quality of human resources a crucial element in ensuring the success and efficiency of digital government implementation.

Hypothesis H2, the assertion that leadership positively and significantly influences the implementation of Digital Government, is refuted. This indicates that leadership in implementing digital governance needs to be improved in various districts as research objects. With strong support to cultivate effective leadership capabilities, leaders will be equipped to provide the right direction, thereby increasing the effectiveness of digital government implementation. Hypothesis H3, The assertion that regulations exert a positive and significant influence on the implementation of digital government is accepted; this underscores the critical role of rules in facilitating effective digital government implementation across diverse

geographical regions, as robust regulations establish a foundational framework to ensure the process operates efficiently and uniformly.

The acceptance of Hypothesis H4 indicates that Finance has a favorable and considerable impact on implementing digital governance. This signifies that financial assistance is crucial in executing digital government initiatives. With sufficient financial backing, the execution of digital governance across diverse areas will proceed effectively. Hypothesis H5, asserting that infrastructure positively and significantly impacts the implementation of digital governance, is accepted. Consequently, sufficient technical infrastructure will facilitate the successful execution of efficient digital governance. Hypothesis H6: Information and Communication Technology exerts a positive and significant influence on the implementation of Digital Government, indicating that robust Information and Communication Technology facilitates the execution of digital government, as ICT serves as the foundational infrastructure that underpins the digitalization of governmental services, including e-government, thereby enhancing public accessibility. Regarding digital governmental services. Information and Communication Technology (ICT) may automate formerly laborious and sluggish administrative operations, improve efficiency, and decrease governmental operating expenditures.

Hypothesis H7, which states that Bureaucratic Structure has a Positive and Significant Influence on the Implementation of Digital Government, is rejected. This shows that the conventional bureaucratic framework's bureaucratic structure, characterized by inflexible hierarchies and protracted procedures, is often considered outdated or detrimental to the implementation of governance. Manage digital. Digital governance requires adaptability, speed, and innovation in policy implementation and public service delivery, which is difficult to achieve within an overly centralized bureaucratic framework. Protracted bureaucratic procedures can hinder technological adoption and rapid and responsive decision-making, which are important components of digital governance. Hypothesis H8, which states that Transparency has a Positive and Significant Influence on the Implementation of Digital Government, is rejected; this shows that Transparency is often considered an important component of digital governance; there is a perspective that shows that, in certain situations, Transparency may not be the main concern and has the potential to hinder implementation effectively. An overemphasis on Transparency may result in the disclosure of sensitive information, potentially compromising national security or individual privacy. In certain circumstances, particularly those involving critical security or strategic information, a more stringent approach may be necessary to protect the public interest. Hypothesis H9, which states that Accountability has a Positive and Significant Influence on the Implementation of Digital Government, is rejected. This shows that Accountability is only sometimes a top priority or can even hinder the effectiveness of implementation; in situations that require fast and efficient decision-making, excessive accountability procedures can hinder that process. Complicated bureaucracy and burdensome reporting obligations can result in delays in the provision of public services, ultimately harming citizens who want rapid government responses.

Discussion

This research uses the variables Human Resource Capacity, Leadership, Regulation, Finance, Infrastructure, Information and Communication Technology, Bureaucratic Structure, Transparency, and Accountability. This research found that Human Resource Capacity, Regulation, infrastructure, Finance, Information, and Communication Technology have a positive relationship with implementing digital government because environmental conditions, administration, culture, and political democracy play an important role in implementing digital government in organizations that integrate elements of organizational and political democracy.

This impacts information sharing and the role of a public mediator regarding the influence of information technology and various environmental factors (Cetina Presuel & Martinez Sierra, 2024; Cusumano et al., 2021; Brockhaus et al., 2023; Munoz et al., 2022; Z.). This establishes that the four variables do not provide a significant contribution in explaining the variation in the level of success of the implementation of digitalization of public services in the study area. The insignificance of leadership can be interpreted as that although theoretically, leaders have an important role in driving innovation, the existing leadership tends to be administrative, not transformational. Leaders have not fully become drivers of digital change or have not succeeded in instilling a digital vision in their subordinates. Meanwhile, the insignificant bureaucratic structure shows that an organizational configuration that is too hierarchical, rigid, and non-adaptive does not support the acceleration of digital government. In this context, A tight bureaucracy often impedes decision-making and the implementation of innovative technology. Moreover, the lack of transparency and accountability in this approach is shown by the limited public comprehension of digital rights and electronic services and the feeble public demand for information accessibility. This means that although agencies provide digital access to information, it has not been optimally utilized by the public, so it does not directly impact the perception of the success of digitalizing services. Overall, these findings suggest that additional factors significantly influence the success of digital government implementation beyond these four variables or that the efficacy of these variables is heavily contingent upon the cultural context, technological capacity, and human resource preparedness at the local level. Consequently, it is essential to explore the institutional and social factors that contribute to the negligible impact of these variables on the digital transformation process within the public service sector (Intalar et al., 2024; Li et al., 2024; Overman & Schillemans, 2022; Tavmen, 2024).

CONCLUSION

We can summarize the theoretical implications of this study as follows: The capabilities of human resources, regulation, infrastructure, financial, and information and communication technology significantly enhance the implementation of digital government programs. The four criteria are essential for the implementation of digital governance in Indonesia. The other four elements lack a significant and beneficial influence, indicating little relevance in implementing digital governance. The findings of this investigation provide several practical applications. Establishing digital governance needs rigorous laws, enough infrastructure, sufficient funding, and advanced information and communication technology (ICT). The federal government must facilitate the fair implementation of digital governance. The restricted sample size and the short duration of the study require improvement, as they may not truly reflect the original population. The limited breadth of the research, including just four districts/cities, allows for extrapolation only to a select number of locales throughout Indonesia. The items below are several suggestions for further investigation. Future research should investigate new independent variables, such as organizational culture, legislative backing, and managerial practices, to evaluate their influence on the implementation of digital government in Indonesia. Future research will include more local government bodies to cover a wider area. Future research could use a larger sample size to assess the consistency of respondents' opinions. This study suggests that longitudinal data might be used in future research to confirm the dependability of the proposed model. This contradicts the findings of experts from other countries, who believe that the principles of leadership, bureaucratic structure, transparency, and accountability are unsuitable for implementation in the four districts and cities of East Lampung, Jepara, Makassar City, and East Lombok.

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