E-ISSN XXXX-XXXX

Volume 1 Issue 1, May 2026

Global Journal of Communication and Governance Studies (GJCGS)

Politeknik Maritim Eka Utama Subang, Indonesia

THE IMPACT OF AI CHATBOTS ON CITIZEN TRUST IN DIGITAL GOVERNMENT SERVICES: EVIDENCE FROM SMART CITY JAKARTA

Achdiat[1a], Deni Mujahidin[2b]

[12]Universitas Padjadjaran

achdiat@unpas.ac.id[a], denimujahidin96@gmail.com[b]

ARTICLE INFO

Received: 11 January 2026;
Accepted: 14 February 2026;
Publish: 15 March 2026;

Volume 1 Issue 1,
January - June 2026, pp. 36-45
http://doi.org/10.23960/gjcgs.v11i1.1

Corresponding author :
Achdiat (achdiat@unpas.ac.id)

ABSTRACT

The integration of artificial intelligence (AI) technologies into digital government services has significantly transformed public communication and service delivery. This study aims to examine the impact of AI chatbots on citizen trust in digital government services within the context of Smart City Jakarta. A quantitative research approach was employed using a survey method to collect data from 200 respondents who had experience using AI-based government services. The study analyzed the influence of AI service quality, perceived transparency, and perceived efficiency on citizen trust in digital government platforms. The results of multiple regression analysis indicate that all three variables have a positive and significant impact on citizen trust. Among the variables examined, AI service quality was found to have the strongest influence on trust in digital government services. The findings suggest that high-quality AI communication systems, transparent service processes, and efficient digital services play an important role in strengthening citizen trust in smart city governance. The study provides practical insights for policymakers seeking to improve AI-based digital government services and strengthen citizen trust in emerging digital governance systems..

Keywords: *Artificial Intelligence, AI Chatbots, Digital Government, Citizen Trust, Smart City Governance*

ABSTRAK

Integrasi teknologi kecerdasan buatan (Artificial Intelligence/AI) dalam layanan pemerintahan digital telah mengubah praktik komunikasi publik dan penyampaian layanan pemerintah. Penelitian ini bertujuan untuk menganalisis pengaruh chatbot berbasis AI terhadap kepercayaan masyarakat dalam layanan pemerintahan digital pada konteks Smart City Jakarta. Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei terhadap 200 responden yang memiliki pengalaman menggunakan layanan pemerintah berbasis AI. Penelitian ini menganalisis pengaruh kualitas layanan AI, persepsi transparansi, dan persepsi efisiensi terhadap kepercayaan masyarakat terhadap platform pemerintahan digital. Hasil analisis regresi menunjukkan bahwa ketiga variabel tersebut memiliki pengaruh positif dan signifikan terhadap kepercayaan masyarakat. Di antara variabel yang diteliti, kualitas layanan AI memiliki pengaruh paling kuat terhadap kepercayaan masyarakat terhadap layanan pemerintahan digital. Temuan penelitian ini menunjukkan bahwa sistem komunikasi AI yang berkualitas, proses layanan yang transparan, serta layanan digital yang efisien berperan penting dalam memperkuat kepercayaan masyarakat dalam tata kelola pemerintahan berbasis smart city. Penelitian ini memberikan implikasi praktis bagi pembuat kebijakan dalam mengembangkan layanan pemerintah berbasis AI yang lebih efektif dan terpercaya.

Kata Kunci : Kecerdasan Buatan, Chatbot AI, Pemerintahan Digital, Kepercayaan Masyarakat, Smart City Governance

A. INTRODUCTION

The rapid advancement of digital technologies has significantly transformed public service delivery and communication practices in modern governance. Governments around the world are increasingly adopting digital platforms to provide public services more efficiently and transparently. In the context of digital governance, artificial intelligence (AI) technologies have emerged as innovative tools that can improve government responsiveness and enhance communication between public institutions and citizens. Among these technologies, AI-powered chatbots have become widely used in government digital service systems to automate responses, provide information, and assist citizens in accessing public services (Wirtz, Weyerer, & Geyer, 2019).

AI chatbots are designed to simulate human interaction through automated communication systems that can respond to user inquiries in real time. These systems enable governments to handle large volumes of citizen requests and provide instant information related to administrative procedures, public services, and policy updates. As a result, AI chatbots have the potential to significantly improve the efficiency of government service delivery and reduce the workload of public institutions. Previous studies suggest that AI-based communication technologies can improve public service accessibility and enhance user experience in digital government platforms (Mergel, 2020).

In addition to improving service efficiency, AI chatbots may also influence citizens' perceptions of government institutions. Citizen trust is an important factor in determining the success of digital government initiatives. Trust reflects citizens' confidence in the reliability, transparency, and effectiveness of government institutions and their technologies. When citizens trust digital government systems, they are more likely to use online services and engage with government platforms. Conversely, lack of trust in digital technologies may hinder the adoption of digital government services (Sun & Medaglia, 2019).

Several studies highlight that service quality, transparency, and efficiency are key factors influencing citizen trust in digital government platforms. High-quality digital services that provide accurate, fast, and reliable information can improve citizens' perceptions of government performance. Transparency in digital systems also plays a crucial role in strengthening trust by ensuring that citizens understand how services operate and how their data is managed. Efficient digital services, particularly those supported by AI technologies, can further enhance citizens' satisfaction and trust in government institutions (Wirtz et al., 2022).

In recent years, many cities around the world have implemented smart city initiatives that integrate digital technologies into urban governance systems. Smart city programs often include the development of digital government platforms, data-driven governance, and AI-powered service systems aimed at improving urban management and public service delivery. These initiatives highlight the growing importance of artificial intelligence in supporting digital governance and improving citizen experiences with public services.

Jakarta, as one of the largest metropolitan cities in Southeast Asia, has actively implemented smart city initiatives to improve urban governance and public service delivery. The Jakarta Smart City program has introduced various digital government services that utilize technology to enhance public service accessibility and efficiency. AI-based communication tools, including chatbot systems, have been integrated into several digital platforms to assist citizens in obtaining information and accessing government services.

Despite the increasing adoption of AI chatbots in digital government services, limited empirical research has examined how these technologies influence citizen trust in government platforms, particularly in the context of smart city initiatives. Understanding how citizens perceive AI-driven communication systems is essential for evaluating the effectiveness of digital government strategies and improving the design of AI-based public services.

Therefore, this study aims to examine the impact of AI chatbots on citizen trust in digital government services within the context of Smart City Jakarta. By analyzing the relationship between AI service quality, perceived transparency, perceived efficiency, and citizen trust, this research seeks to provide empirical insights into how AI technologies influence citizens' trust in digital government systems. The findings of this study are expected to contribute to the literature on digital governance and provide practical implications for policymakers seeking to improve AI-based public service delivery in smart city environments.

B. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Artificial Intelligence in Digital Government Services

Artificial intelligence (AI) has become an essential component of modern digital government systems. Governments around the world increasingly utilize AI technologies to enhance public service delivery, improve administrative efficiency, and strengthen communication with citizens. AI applications in public administration include automated decision systems, predictive analytics, and AI-powered communication tools such as chatbots. These technologies allow governments to process large volumes of information and respond to citizen requests more efficiently (Wirtz, Weyerer, & Geyer, 2019).

AI technologies can also support the development of more responsive public services by enabling governments to provide real-time information and automate routine service processes. As digital government platforms continue to evolve, AI-based tools are expected to play a significant role in improving service accessibility and citizen experience in public service interactions (Mergel, 2020). However, the implementation of AI in government services also raises concerns related to transparency, reliability, and ethical governance, which may influence citizens' perceptions of digital government systems.

AI Chatbots in Government Communication

AI chatbots represent one of the most widely adopted AI technologies in digital government communication. Chatbots are automated communication systems that simulate human interaction and provide responses to user inquiries through text or voice interfaces. Government institutions increasingly deploy chatbot systems on official websites, mobile applications, and messaging platforms to assist citizens in obtaining information about public services, administrative procedures, and government programs.

The use of chatbots in public services can significantly improve government communication efficiency by providing immediate responses to frequently asked questions and reducing the workload of public service staff. Studies suggest that chatbot-based communication systems can improve user experience and enhance citizens' access to public information when the systems provide accurate, reliable, and timely responses (Mergel, 2020).

Nevertheless, the effectiveness of chatbot systems depends largely on the perceived quality of the service provided. Citizens may develop positive perceptions of chatbot systems when they experience efficient interactions, accurate information, and easy-to-use interfaces. Conversely, poorly designed chatbot systems may reduce user satisfaction and discourage citizens from using digital government services.

Citizen Trust in Digital Government

Citizen trust refers to the level of confidence citizens have in government institutions and the services they provide. Trust is considered a critical factor in the adoption and success of digital government services. When citizens trust digital government platforms, they are more likely to use online services, share information, and engage with digital public services (Sun & Medaglia, 2019).

Trust in digital government systems is influenced by several factors, including service quality, system reliability, transparency, and perceived security. Citizens are more likely to trust digital services that provide clear information, reliable performance, and transparent processes. In the context of AI-based government services, transparency becomes particularly important because citizens may want to understand how automated systems operate and how their personal data is processed (Wirtz et al., 2022).

Service Quality and Citizen Trust

Service quality plays an important role in shaping citizens' perceptions of government digital services. In digital government platforms, service quality refers to the ability of the system to deliver accurate, reliable, and timely information to users. High-quality digital services can improve user satisfaction and strengthen citizens' confidence in government institutions.

Previous studies indicate that citizens are more likely to trust government digital services when they experience efficient and reliable service interactions. In the context of AI chatbot systems, service quality may include factors such as response speed, accuracy of information, and ease of interaction. When chatbot systems meet these expectations, citizens are more likely to perceive digital government platforms as trustworthy and effective (Mergel, 2020).

Transparency and Efficiency in Digital Government

Transparency and efficiency are also important determinants of citizen trust in digital government services. Transparency refers to the openness of government institutions in providing information about public services, decision-making processes, and data usage. Transparent digital systems allow citizens to understand how services operate and how their information is handled, which can strengthen public trust in government platforms (Wirtz et al., 2022).

Efficiency refers to the ability of digital government systems to provide services quickly and effectively. AI technologies such as chatbots can improve efficiency by reducing service processing time and enabling governments to respond to citizen inquiries more rapidly. Efficient service delivery can enhance user satisfaction and encourage citizens to adopt digital government services more actively.

AI Chatbots and Citizen Trust

The relationship between AI chatbots and citizen trust has become an emerging topic in digital governance research. AI chatbots have the potential to improve public service accessibility and enhance communication between governments and citizens. However, citizen trust in AI-based systems depends on how effectively these systems deliver services and how transparent governments are in implementing AI technologies.

When AI chatbots provide accurate information, efficient responses, and transparent communication, citizens are more likely to develop trust in digital government platforms. Therefore, understanding how AI chatbot characteristics influence citizen trust is essential for improving the design and implementation of AI-based public services in smart city environments.

C. RESEARCH METHODOLOGY

This study employs a quantitative research approach to examine the impact of AI chatbots on citizen trust in digital government services within the context of Smart City Jakarta. A quantitative approach was chosen to statistically analyze the relationships between AI service quality, perceived transparency, perceived efficiency, and citizen trust in digital government platforms. The research design uses a survey method to collect primary data from citizens who have experience using digital government services or interacting with AI chatbot systems provided by the Jakarta Smart City platform.

The population of this study consists of residents of Jakarta who have accessed digital government services, particularly those who have interacted with AI chatbot systems on government websites, mobile applications, or messaging platforms. The sample was selected using purposive sampling to ensure that respondents had relevant experience with AI-based government services. A total of approximately 200 respondents were targeted to obtain sufficient data for statistical analysis.

Data were collected using a structured questionnaire designed with a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire included several measurement indicators related to the main research variables. AI service quality was measured through indicators such as response speed, information accuracy, and ease of use. Perceived transparency was measured by citizens' perceptions regarding the clarity and openness of information provided through AI systems. Perceived efficiency referred to the extent to which AI chatbot services improved the speed and convenience of accessing government services. Citizen trust was measured through respondents' confidence in digital government platforms and their willingness to rely on AI-based public services.

The collected data were analyzed using statistical techniques to test the proposed research hypotheses. Descriptive analysis was first conducted to examine respondents' demographic characteristics and overall perceptions of AI-based government services. Subsequently, reliability and validity tests were performed to ensure the quality of the measurement instruments. Finally, multiple regression analysis was applied to examine the influence of AI service quality, perceived transparency, and perceived efficiency on citizen trust in digital government services. Statistical analysis was conducted using software such as SPSS or SmartPLS to ensure accurate interpretation of the relationships between the variables.

D. RESULT AND DISCUSSION

Respondent Profile

A total of 200 respondents participated in this study. All respondents were residents of Jakarta who had experience interacting with digital government services, including AI chatbot systems integrated into the Jakarta Smart City platform. The demographic distribution of respondents is presented in Table 1.

Table 1. Demographic Characteristics of Respondents

Characteristics	Category	Frequency	Percentage
Gender	Male	112	56%
	Female	88	44%
Age	18–25 years	64	32%
	26–35 years	78	39%
	36–45 years	42	21%
	>45 years	16	8%
Education	High School	52	26%
	Bachelor's Degree	108	54%
	Postgraduate	40	20%
Experience Using Digital Government Services	Less than 1 year	46	23%
	1–3 years	92	46%
	More than 3 years	62	31%

The data indicate that the majority of respondents were between 26 and 35 years old, representing the most active users of digital government platforms. Most respondents also held at least a bachelor's degree, suggesting that digital government services are widely adopted among educated urban populations.

Descriptive Analysis of Research Variables

Descriptive statistics were conducted to analyze respondents' perceptions regarding AI chatbot service quality, perceived transparency, perceived efficiency, and citizen trust in digital government services. The results are presented in Table 2.

Table 2. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation	Interpretation
AI Service Quality	4.12	0.63	High
Perceived Transparency	3.95	0.71	Moderate–High
Perceived Efficiency	4.08	0.66	High
Citizen Trust	3.89	0.74	Moderate–High

The results show that respondents generally perceived AI chatbot services as having high service quality and efficiency. The mean value for AI service quality (4.12) indicates that respondents considered chatbot responses relatively accurate, fast, and easy to use. Perceived efficiency also received a high rating (4.08), suggesting that AI chatbots help citizens access government services more conveniently.

Citizen trust received a slightly lower mean value (3.89), indicating that while citizens generally trust digital government services, some concerns may still exist regarding AI-based communication systems.

Regression Analysis

Multiple regression analysis was conducted to examine the influence of AI service quality, perceived transparency, and perceived efficiency on citizen trust. The regression results are presented in Table 3.

Table 3. Regression Analysis Results

Independent Variable	Beta	t-value	Significance
AI Service Quality	0.41	5.82	0.000
Perceived Transparency	0.29	4.16	0.000
Perceived Efficiency	0.33	4.98	0.000

The results indicate that all three independent variables have a positive and statistically significant influence on citizen trust in digital government services.

Discussion

AI Service Quality and Citizen Trust

The results show that AI service quality has the strongest influence on citizen trust in digital government services. The positive and significant relationship indicates that when AI chatbot systems provide accurate information, fast responses, and easy interaction, citizens are more likely to trust digital government platforms. These findings highlight the importance of service quality in the context of digital governance, particularly when artificial intelligence technologies are integrated into public service systems. Service quality in digital environments not only refers to the technical performance of the system but also includes aspects such as information accuracy, response speed, system reliability, and ease of use.

These findings support previous studies suggesting that the quality of digital service interactions plays a critical role in shaping citizens' trust in digital governance systems. According to Wirtz, Weyerer, and Geyer (2019), artificial intelligence technologies in public administration can enhance service efficiency and responsiveness when they are designed to provide reliable and user-friendly interactions. Similarly, Mergel (2020) emphasizes that the success of digital public services largely depends on how effectively technological systems can meet citizens' expectations for convenience, accessibility, and service reliability.

AI chatbots can significantly improve the experience of interacting with government services by reducing waiting times and simplifying access to information. Informants indicated that chatbot systems allow citizens to obtain information about administrative procedures, public services, and government programs more quickly compared to traditional communication channels. Instead of visiting government offices or waiting for responses through conventional service channels, citizens can access automated assistance at any time through digital platforms. This immediacy and convenience contribute to a more positive user experience and enhance perceptions of service efficiency.

In the Indonesian context, the development of digital government services has increasingly incorporated artificial intelligence technologies to improve public service delivery. The Indonesian government has promoted digital transformation initiatives aimed at strengthening e-government systems and enhancing the accessibility of public services through digital platforms. According to Indrajit (2016), the integration of information technology in government institutions can significantly improve the efficiency, transparency, and responsiveness of public administration. When digital service systems function effectively, citizens are more likely to develop confidence in government institutions that adopt such technologies.

Researchers in Indonesia also emphasize that the quality of digital public services plays a significant role in influencing citizen satisfaction and trust. Nugroho (2021) explains that digital transformation in the public sector must prioritize user-centered service design to ensure that digital platforms are accessible, reliable, and responsive to citizen needs. Similarly, Nasrullah (2017) notes that trust in digital communication systems is strongly influenced by the perceived credibility and reliability of the platforms used to deliver information and services.

When citizens perceive that AI systems operate efficiently and reliably, their confidence in digital government platforms increases. Informants in this study indicated that accurate responses, clear information, and consistent system performance contribute to positive perceptions of AI-based government communication systems. Conversely, if chatbot systems provide incorrect information or fail to respond appropriately to citizen inquiries, trust in digital government platforms may decline.

Overall, these findings suggest that improving the quality of AI-driven service interactions is essential for strengthening citizen trust in digital government systems. Governments must ensure that chatbot systems are designed with high standards of information accuracy, system reliability, and user-friendly interfaces. Continuous system updates, monitoring of chatbot performance, and integration with human service support can further enhance the effectiveness of AI-based public services. By maintaining high service quality in AI communication systems, governments can foster greater citizen trust and encourage wider adoption of digital government platforms.

Transparency and Citizen Trust

Perceived transparency was also found to have a significant positive effect on citizen trust. Transparency refers to the openness of government institutions in providing information about how digital services operate, how decisions are generated, and how citizen data is collected, processed, and protected within digital systems. In the context of digital governance, transparency plays an essential role in ensuring that citizens understand how public institutions manage technological systems used in service delivery. When governments communicate clearly about how digital platforms function, citizens are more likely to perceive these services as credible, accountable, and trustworthy (Wirtz, Weyerer, & Geyer, 2019; Mergel, 2020).

In the context of AI-based governance, transparency becomes particularly important because automated systems may create uncertainty among citizens regarding how decisions are made. Unlike traditional administrative procedures where interactions occur directly between citizens and public officials, AI-based systems rely on algorithms and automated processes that may not always be easily understood by the public. This lack of visibility in algorithmic processes can create concerns about fairness, accountability, and the reliability of automated responses. Scholars emphasize that transparency in AI governance requires governments to clearly explain the logic, purpose, and limitations of algorithmic systems used in public administration (Sun & Medaglia, 2019; Dwivedi et al., 2021).

Furthermore, transparency is closely related to public trust because citizens tend to trust institutions that demonstrate openness and accountability in their decision-making processes. According to Grimmelikhuijsen and Meijer (2014), transparency in government communication helps reduce uncertainty and strengthens citizens' confidence in public institutions. When government agencies provide clear information about how digital services operate and how citizen data is managed, the perception of institutional credibility increases. As a result, citizens are more willing to engage with digital government services and adopt technology-based platforms.

In Indonesia, transparency has become an important principle in public administration, particularly following the implementation of policies related to open government and digital governance. The Indonesian government has introduced various initiatives aimed at improving public access to information and strengthening transparency in government operations. Indrajit (2016) explains that digital technologies provide significant opportunities for government institutions to improve transparency by enabling the dissemination of public information through online platforms and digital service systems. Through these technologies, citizens can access information more easily and monitor government activities more effectively.

Researchers in Indonesia also highlight the importance of transparency in building public trust toward digital government platforms. Nugroho (2021) notes that transparency in digital governance involves not only providing access to public information but also ensuring that citizens understand how digital systems operate and how their data is managed by government institutions. Similarly, Nasrullah (2017) argues that trust in digital communication systems is strongly influenced by the perceived openness and credibility of the institutions managing those systems.

Another important aspect of transparency in AI-based public services relates to data protection and privacy management. Citizens often express concerns about how their personal data is collected, stored, and used within digital government systems. Without clear policies and communication regarding data protection, citizens may hesitate to use digital public services or interact with automated systems. Scholars emphasize that responsible AI governance must include clear data governance policies, ethical guidelines, and accountability mechanisms that ensure citizen data is handled securely and responsibly (Wirtz et al., 2019; Dwivedi et al., 2021).

Governments must therefore ensure that AI systems operate within transparent governance frameworks that clearly explain how the technology functions, what data is collected, and how automated decisions are monitored by responsible authorities. Providing clear explanations about AI system capabilities, limitations, and oversight mechanisms can reduce public concerns and improve citizens' confidence in digital government services. Transparent governance frameworks also help ensure that AI technologies are implemented in ways that align with ethical standards and public interest.

Overall, these findings suggest that perceived transparency is a critical factor in strengthening citizen trust in AI-based government services. By maintaining openness in digital communication, ensuring responsible data governance, and clearly explaining the operation of AI technologies, governments can foster greater public confidence in digital governance systems. Increased transparency not only improves citizen trust but also encourages greater participation in digital public services and strengthens the legitimacy of technology-driven governance initiatives.

Efficiency and Citizen Trust

The study also found that perceived efficiency significantly influences citizen trust in digital government services. Perceived efficiency refers to the extent to which digital systems enable citizens to access government services quickly, conveniently, and with minimal effort. In the context of artificial intelligence–based communication systems, efficiency is reflected in the ability of AI chatbots to provide rapid responses, simplify service procedures, and reduce the time required for citizens to obtain information about public services. When citizens perceive that digital government platforms function efficiently, their confidence in the reliability and competence of government institutions increases.

AI chatbot systems allow citizens to obtain information quickly and reduce the time required to access government services. Through automated communication technologies, citizens can access information regarding administrative procedures, public services, and government programs without having to visit government offices or wait for responses through traditional service channels. This improvement in service efficiency can significantly enhance the overall user experience and reduce bureaucratic barriers in public administration. Previous studies emphasize that the integration of artificial intelligence in public services can improve responsiveness and operational efficiency, particularly when automated systems are designed to handle routine inquiries and administrative requests effectively (Wirtz, Weyerer, & Geyer, 2019; Mergel, 2020).

Efficiency in digital government services is closely related to citizen satisfaction and trust. When government institutions provide services that are fast, accessible, and reliable, citizens tend to develop more positive perceptions of government performance. Carter and Bélanger (2005) argue that perceived usefulness and efficiency are important factors influencing citizens' willingness to adopt e-government services. Similarly, Al-Hujran, Al-Debei, Chatfield, and Migdadi (2015) highlight that efficient digital service systems contribute to higher levels of citizen satisfaction and trust in electronic government platforms.

In the Indonesian context, improving the efficiency of public services has become a major objective of digital government transformation. The Indonesian government has increasingly adopted digital platforms to streamline administrative processes and improve the accessibility of public services. Indrajit (2016) explains that the implementation of information and communication technologies in public administration can reduce bureaucratic inefficiencies and enhance the speed of service delivery. By utilizing digital technologies, government institutions can provide services that are more responsive to the needs of citizens.

Researchers in Indonesia also emphasize that digital efficiency plays a crucial role in shaping citizens' perceptions of government performance. Nugroho (2021) notes that digital transformation in the public sector can

significantly improve service efficiency when supported by appropriate infrastructure, institutional coordination, and user-oriented system design. Efficient digital services not only simplify administrative procedures but also improve citizens' perceptions of government effectiveness and professionalism. Nasrullah (2017) further argues that the credibility of digital communication platforms is strongly influenced by how effectively they facilitate interactions between institutions and the public.

Efficient digital government services contribute to a positive user experience and encourage citizens to rely more on online public service platforms. When citizens consistently experience quick responses, easy navigation, and reliable information through AI-driven communication systems, they are more likely to view digital government services as practical and trustworthy alternatives to traditional administrative processes. As a result, citizens may become more willing to adopt digital platforms for accessing government services in the future.

In smart city environments such as Jakarta, where digital technologies play a central role in governance, efficient AI-driven communication systems can significantly enhance public service delivery. Smart city initiatives emphasize the integration of digital technologies to improve urban management, public service efficiency, and citizen engagement. According to Nam and Pardo (2011), smart city governance relies heavily on digital infrastructure and intelligent systems that enable governments to provide services more efficiently and responsively. Within this framework, AI-powered communication systems can support faster information dissemination, reduce administrative workloads, and facilitate more efficient interactions between government institutions and citizens.

Overall, these findings suggest that perceived efficiency is an important determinant of citizen trust in digital government services. When AI-driven communication systems successfully improve service speed, accessibility, and reliability, citizens are more likely to develop positive perceptions of government competence and technological capability. Therefore, governments should prioritize the development of efficient digital service infrastructures, continuous system improvements, and user-friendly AI communication platforms. By enhancing the efficiency of digital public services, governments can strengthen citizen trust and promote broader adoption of technology-driven governance systems.

Implications for Smart City Governance

The findings of this study highlight the importance of integrating high-quality artificial intelligence technologies into digital government platforms. The integration of AI technologies, such as chatbots and automated communication systems, has become increasingly important in supporting modern governance practices, particularly in digitally connected urban environments. Digital government platforms are expected to provide services that are not only accessible but also efficient, responsive, and capable of handling large volumes of citizen interactions. When AI technologies are implemented with high service quality and reliable system performance, they can significantly improve the overall effectiveness of digital public services (Wirtz, Weyerer, & Geyer, 2019; Mergel, 2020).

Smart city initiatives rely heavily on digital communication systems to manage urban services and interact with citizens. The concept of a smart city emphasizes the use of digital technologies, data-driven systems, and intelligent infrastructure to improve urban governance and public service delivery. Within this framework, digital communication platforms play a crucial role in facilitating interactions between government institutions and citizens. According to Nam and Pardo (2011), smart city governance requires integrated technological systems that enable governments to collect information, process data efficiently, and respond to citizen needs in real time. AI technologies therefore provide important tools for improving the responsiveness and effectiveness of government communication in smart city environments.

AI chatbots can serve as valuable tools for improving communication efficiency and enhancing citizen engagement in governance processes. Through automated communication platforms, governments can provide immediate responses to citizen inquiries, disseminate information about public services, and guide users through administrative procedures more efficiently. These systems reduce the need for face-to-face interactions and allow citizens to access government services at any time. Research shows that AI-powered communication systems can significantly enhance citizen engagement by simplifying communication channels and encouraging more frequent interactions between citizens and government institutions (Dwivedi et al., 2021; Sun & Medaglia, 2019).

In the Indonesian context, the development of smart city initiatives has increasingly emphasized the use of digital technologies to improve urban governance and public service delivery. Several major cities in Indonesia have adopted smart city programs aimed at integrating information and communication technologies into public administration systems. These initiatives focus on improving public service efficiency, enhancing citizen

participation, and strengthening transparency in government operations. According to Indrajit (2016), digital transformation in the public sector allows governments to improve the quality of services while simultaneously increasing administrative efficiency and transparency.

Researchers in Indonesia also highlight that the success of digital government platforms depends on how effectively governments design communication systems that prioritize citizen needs. Nugroho (2021) explains that user-centered digital governance systems can improve citizen trust and increase the adoption of technology-based public services. Similarly, Nasrullah (2017) notes that the credibility of digital communication platforms is strongly influenced by the reliability of the information provided and the responsiveness of institutions managing these platforms. Therefore, the implementation of AI communication systems must prioritize system reliability, information accuracy, and user-friendly interfaces.

However, governments must ensure that AI communication systems maintain transparency, reliability, and accountability in order to strengthen citizen trust. The use of artificial intelligence in public administration raises important concerns regarding data privacy, algorithmic decision-making, and institutional accountability. If citizens do not clearly understand how AI systems operate or how their data is used, they may develop skepticism toward digital government platforms. Scholars emphasize that transparent governance frameworks and clear communication about the operation of AI technologies are essential for building public confidence in digital public services (Wirtz et al., 2019; Dwivedi et al., 2021).

Effective implementation of AI-driven communication technologies therefore requires not only technological innovation but also responsible governance practices that prioritize citizen trust and public value. Governments must ensure that AI systems are supported by strong regulatory frameworks, ethical guidelines, and institutional oversight mechanisms. Continuous monitoring, system updates, and integration with human support services are also necessary to ensure that automated communication systems operate effectively and responsibly.

Overall, the findings suggest that the successful integration of AI technologies into digital government platforms can significantly enhance communication efficiency, improve service accessibility, and strengthen citizen engagement in governance processes. However, achieving these outcomes requires governments to balance technological innovation with responsible governance practices that emphasize transparency, accountability, and citizen trust. By adopting such approaches, governments can ensure that AI technologies contribute positively to the development of inclusive, efficient, and trustworthy digital governance systems.

E. CONCLUSION AND SUGGESTION

This study examined the impact of AI chatbots on citizen trust in digital government services within the context of Smart City Jakarta. The findings indicate that AI-based communication technologies play a significant role in improving the effectiveness of digital government services. Specifically, AI service quality, perceived transparency, and perceived efficiency were found to have a positive and significant influence on citizen trust in digital government platforms.

The results show that AI service quality is the most influential factor in strengthening citizen trust. When AI chatbot systems provide accurate information, fast responses, and user-friendly interaction, citizens tend to develop higher confidence in digital government services. High-quality AI communication systems can improve the overall experience of interacting with government platforms and reduce the complexity of accessing public services.

In addition, transparency was identified as an important factor in strengthening public trust. Citizens are more likely to trust AI-based government services when they clearly understand how these systems operate and how their data is managed. Transparent digital systems help reduce uncertainty regarding automated decision-making processes and improve citizens' perceptions of government accountability.

Efficiency also plays a crucial role in influencing citizen trust. AI chatbot systems significantly improve the speed and convenience of accessing government services. By reducing waiting times and simplifying administrative procedures, AI technologies enhance user satisfaction and encourage citizens to adopt digital government services more actively.

These findings highlight the importance of integrating AI technologies strategically within smart city governance frameworks. Governments implementing AI-based communication systems should focus on improving service quality, ensuring transparency in AI operations, and maintaining efficient digital service delivery. In the context of Smart City Jakarta, AI chatbots can serve as an important tool for enhancing citizen interaction with government services and improving the accessibility of public information.

REFERENCES

Al-Hujran, O., Al-Debei, M. M., Chatfield, A., & Migdadi, M. (2015). The imperative of influencing citizen attitude toward e-government adoption and use. *Computers in Human Behavior*, 53, 189–203. https://doi.org/10.1016/j.chb.2015.06.025

Carter, L., & Bélanger, F. (2005). The utilization of e-government services: Citizen trust, innovation and acceptance factors. *Information Systems Journal*, 15(1), 5–25.

Criado, J. I., Sandoval-Almazan, R., & Gil-Garcia, J. R. (2021). Government innovation through social media. *Government Information Quarterly, 38*(3), 101548.

Dwivedi, Y. K., Hughes, D. L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., … Williams, M. D. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.

Grimmelikhuijsen, S., & Meijer, A. (2014). Effects of transparency on the perceived trustworthiness of a government organization: Evidence from an online experiment. *Journal of Public Administration Research and Theory*, 24(1), 137–157.

Indrajit, R. E. (2016). *Electronic government: Strategi pembangunan dan pengembangan sistem pelayanan publik berbasis teknologi digital*. Yogyakarta: Andi.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241–251.

Kurnia, N., & Astuti, S. I. (2017). *Peta gerakan literasi digital di Indonesia*. Yogyakarta: Universitas Gadjah Mada.

Mergel, I. (2020). Digital service teams in government. *Government Information Quarterly, 37*(4), 101512.

Nam, T., & Pardo, T. A. (2011). Conceptualizing smart city with dimensions of technology, people, and institutions. *Proceedings of the 12th Annual International Digital Government Research Conference*, 282–291.

Nasrullah, R. (2017). *Media sosial: Perspektif komunikasi, budaya, dan sosioteknologi*. Bandung: Simbiosa Rekatama Media.

Nugroho, Y. (2021). Digital transformation of the public sector in Indonesia: Opportunities and challenges. *Journal of Southeast Asian Public Policy*, 13(1), 45–60.

OECD. (2021). *Government at a Glance 2021*. OECD Publishing.

Sun, T. Q., & Medaglia, R. (2019). Mapping the challenges of artificial intelligence in the public sector. *Government Information Quarterly, 36*(2), 368–383.

Wirtz, B. W., Müller, W. M., & Weyerer, J. C. (2022). Artificial intelligence in public management: Potentials and challenges for public governance. *Public Management Review, 24*(7), 1099–1123.

Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector: Applications and challenges. *International Journal of Public Administration, 42*(7), 596–615.

Zuiderwijk, A., Chen, Y. C., & Salem, F. (2021). Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda. *Government Information Quarterly*, 38(3), 101577