JRSSEM 2023, Vol. 02, No. 9, 2051 – 2063
E-ISSN: 2807 - 6311, P-ISSN: 2807 - 6494

IMPLEMENTATION OF "JAKARTA SMART CITY" IN ONE-STOP SERVICE: DAILY NEED IN THE CITY SOUTH JAKARTA?

Afika Sari Dewi[1]
Bhakti Nur Avianto*[2]
[1,2] *Fakultas Ilmu Sosial dan Ilmu Politik; Universitas Nasional, Indonesia*
**e-mail: afikasari15@gmail.com*[1], bh4kti.nur@gmail.com[2]
**Correspondence: bh4kti.nur@gmail.com*

Submitted: January 21th 2023 *Revised*: March 09th 2023 *Accepted*: April 25th 2023

Abstract: This paper aims to discuss the implementation of the "Jakarta Smart City" (JAKI) application policy in the South Jakarta City area in 2020. And to find out more about the implementation and the supporting and inhibiting factors for the JAKI application. This research focuses on the implementation of the "JakLapor" feature found in the JAKI application. This study uses four indicators obtained from George C. Edward III's policy implementation theory, namely Communication, Resources, Disposition, and Bureaucratic Structure. This study uses a qualitative approach, using primary and secondary data sources—obtained Primary data sources from observations and interviews with informants—received from Secondary data sources from document searches. The study results indicate that the JAKI application in South Jakarta City has not utilized technology and communication to realize better public services. The use of Smart City has also not succeeded in increasing public and government participation in using application data, providing input and criticism of the implementation of public services. Furthermore, the JAKI application also has to support inhibiting factors in its application. However, there are also challenges in implementing Smart Cities in Indonesia, such as inadequate infrastructure, data security problems, and limited access to technology for people in rural areas. Therefore, there is a need for collaboration between the government, private sector, and society to overcome these challenges and ensure the implementation of a sustainable and inclusive Smart City in Indonesia.

Keywords: Implementation; Jakarta Smart City; Technology; Public Service.

INTRODUCTION

The nature of public services is a series of activities to fulfill service needs aimed at every citizen and resident of goods, services, and administrative services provided by public service providers. The obligation of public bodies to optimize the implementation of public services is by providing activities, facilities, infrastructure, and public service facilities carried out by the government (Al-Hader, 2021); (Yang et al., 2020); (Alamsyah et al., 2016) They supported the creation of an adequate and quality service climate following the principles and standards of public service delivery carried out by public agencies as stated in Law Number 14 of 2008 Article 13. To realize fast, precise, and straightforward services, every Public Agency must: a) appoint an Information Management and Documentation Officer; and b) Create and develop a system for providing information services quickly, efficiently, and fairly under the technical guidelines for the nationally applicable Public Information service standards.

Public efforts are needed by the government so that an adequate and quality service climate can occur. The government's efforts to provide services based on good and quality public information disclosure can be carried out through ICT (Information and Communication Technologies) innovations as the demands of the changing era of globalization have entered the industrial revolution 4.0. The Presidential Regulation supports this on the Electronic-Based Government System (SPBE), namely the administration of government by utilizing ICT to provide services to government agencies, state civil servants, businesspeople, the community, and other parties. This electronic-based system is also known as e-government (Stübinger & Schneider, 2020); (Wu et al., 2020); (Appio et al., 2019).

E-government increases collaboration between government affairs and tasks to achieve common goals. And improve the quality and reach of public services to the broader community and reduce the level of abuse of authority in the form of collusion, corruption, and nepotism by implementing a surveillance system and electronic-based public complaints (Najjar et al., 2021); (Picioroagă et al., 2018); (Shamsuddin & Srinivasan, 2021); (Kencono & Iqbal, 2021). Through the development of e-government, management systems, and work processes are arranged in the government environment by optimizing the use of information technology. In line with the development of the e-government concept, to increase the disclosure of information to the public and services to the public, the DKI Jakarta government issued an electronic-based policy, namely Jakarta is now directly integrated with the Jakarta Smart City or JAKI.

The JAKI is an application launched by the DKI Jakarta Provincial Government that functions as a center for information and community services in Jakarta. JAKI is targeted to be a one-stop service application where the people of DKI Jakarta can easily access official information and service centers. With the JAKI application, the public can also participate in the welfare of the City of Jakarta (Samudra, 2020). JAKI itself is also a portal for

integrating various public services in Jakarta by providing people with a new space to report city problems and the first city-based application developed by the Jakarta Smart City Management Unit. The main features in the JAKI application include Jakarta, JakRespons, JakPangan, JakPantau, JakSiaga, LaporVideo, JakWifi, JakAman, JakSekolahmu, JakISPU, JakSurvei, JakApps, JakCo, and JakCLM/ JakCorona. In addition to the main features, several other supporting features are connected to several websites to make it easier for the people of DKI Jakarta to get information or services, these features: PTSP, PPID, the official website of the DKI Jakarta Provincial Government, Musrenbang, APBD, JakPreneur, Flood Monitor, Traffic, Bus Jackets, Portal Jakarta Responding to Covid-19.

The JAKI application is a complete application presented by the DKI Jakarta Provincial Government because many features are utilized. Its application, it turns out that the people do not widely know the JAKI application itself of DKI Jakarta. The Jakarta application is now available and can be downloaded on the Google Play Store and Apple Store. If added together, the total number of people who have downloaded this application is more than 500,000 users in these two applications (Data from Department of Population and Civil Registration-Jakarta.go.id). The total population of DKI Jakarta in 2019 reached 11,063,324 people. This data indicates that not half of the people of Jakarta have downloaded or used the JAKI application. In addition, in the reviews contained in the Play Store and App Store, many people complain about this application even though the JAKI application itself has a rating of 4.2 in the play store.

These complaints can be seen on the review page contained in the play store, while the complaints include: The lack of clarity in the assessment indicators in the JakCLM feature because several users get the same average score of 38%, which indicates that they are not safe to travel. Response and follow-up after reporting in dealing with problems seem careless and not optimal and even seem slow. Data security in the JAKI application is a dissertation with our identity and personal email address, and cellphone number in this application (Chang et al., 2021); (Evans et al., 2019). The user's concern is whether our data will be guaranteed safe and there will be no data leakage. In addition, public complaints that arise are a) There is much illegal parking, and a slum environment; b) places to eat that do not enforce eating in place during the strict Health Protocol (Prokes); c) Restaurants that do not apply Prokes rules; d) Damaged roads; e) Unavailability of public facilities; f) Green parks; g) accessibility for the disabled.

The lack of socialization in the JAKI application in South Jakarta, another problem that the author encountered was the unsatisfied response of the people of Pesanggrahan District to officers' actions in handling reports. In reporting on the "JakRespons" feature, the author found that many communities still give a one-star assessment of the problem's follow-up. One star itself means that the reporting community is not satisfied with the government's handling. Due to several reasons, including follow-up photos that do not match the reported location, and

late and not optimal handling. In addition to the handling that is not optimal, other complaints are from the attitude of the officers when handling reports. The community feels that the officers' perspective is not good and is not firm with the violators.

The demands for administrative reform still exist. Even though eight years have passed, the various opportunities that exist are calculated to create a condition where the life of the nation and state becomes better. All elements of government have agreed to improve requirements of the past that were lacking not happen again. Therefore, since this problem, terms such as e-government and good governance have emerged. This term appears to embody a better front. Definition of e-government is defined as a collection of concepts for all actions in the public sector (both at the central and local government levels) involving information and communication technology in optimizing efficient, transparent, and effective public service processes (Ullah et al., 2021); (David & McNutt, 2019). e-government directs all government agencies to use information technology (such as WAN, internet, and mobile computing) to change relationships with citizens, businesses, and government-related parties.

A smart city, or smart city, is a concept of developing, implementing, and implementing technology applied to an area (primarily urban areas) as a complex interaction between the various systems. The word city refers to the city as the center of a country or region, where all the centers of life are located (government, trade, education, health, and defense. The population in cities is relatively more than in other areas (e.g., villages/sub-cities). Cities are an attraction In Indonesia itself; urbanization refers to moving people from villages to cities to earn a living or education. E-government is also regulated in Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems. In Presidential Regulation, Number 95 of 2018, Article 1 explains that the Electronic-Based Government System, in the future abbreviated as SPBE, is a government administration that utilizes information and communication technology to provide services to SPBE Users.

The utilization of E-Government can encourage and realize an open, participatory, innovative, and accountable government. Smart City is also defined as a city that can use human resources, social capital, and modern telecommunications infrastructure to realize sustainable economic growth and high quality of life, with wise resource management through community-based government participation (Wu et al., 2020); (Yang et al., 2020); (David & McNutt, 2019). Smart City equates to a broad, integrated approach to increasing a city's operating efficiency, improving the quality of life of its residents, and growing the local economy. Smart Cities defines by weighting environmental aspects into Smart Cities use ICT intelligently and efficiently in using various resources. Resulting in cost and energy savings, improving services and quality of life, and reducing environmental footprints, all supporting innovation and an environmentally friendly economy (Pacheco Rocha et al., 2022); (Kencono &

Iqbal, 2021).

Smart JAKI Indonesia is a Smart City program implemented in the City of Jakarta to improve the quality of life of citizens and the efficiency of public services through the application of information and communication technology (ICT). Various ICT innovations have been implemented in the Smart JAKI Indonesia program, such as transportation management systems, parking management systems, public service applications, and waste management systems.

A study (Widiachristy & Rachmanto, 2021) shows that the Smart JAKI Indonesia program has had a positive impact on the quality of life of Jakarta residents. Through public service applications, citizens can easily report various city problems such as damage to roads, public facilities, and the environment. This can speed up the response from the government and improve the quality of public services.

In addition, the Smart JAKI Indonesia program has also brought positive changes in transportation management in Jakarta. According to a study by (Firman et al., 2022), the transportation management system implemented in Jakarta has improved transportation efficiency and reduced congestion in the city. The parking management system has also helped optimize the use of parking spaces in Jakarta, thereby reducing congestion and pollution.

However, there are also challenges in the implementation of the Smart JAKI Indonesia program. A study (Nugraha, 2020) shows that the main challenge is the lack of community involvement in Smart City programs. The lack of digital literacy and limited access to technology in some regions are also obstacles to implementing the Smart City program in Jakarta.

The stages of development of eGovernment implementation in Indonesia have been divided into four: 1) Web Presence, namely bringing up regional websites on the internet. At this stage, the government website will display the basic information needed by the community's needs; 2) Interaction, a regional web that provides interaction facilities between the community and the Regional Government. At this stage, the government website displays more varied information, such as the availability of download facilities and communication via email; 3) Transaction is a regional web that is equipped with the existence of public service transaction facilities from the government in addition to the presence of interaction facilities; 4) Transformation, namely, government services are increased in an integrated manner. JAKI is an e-government product released by the government in November 2019. JAKI is an application made by Jakarta Smart City, a management unit under the DKI Jakarta Provincial Government of Communication, Information, and Statistics.

JAKI application is supported by Regional Regulation Number 1 of 2018 regarding the 2017-2022 DKI Jakarta Provincial RPJMD. Namely, in the Regional Regulation, it is explained that DKI Jakarta builds a clean, modern, and serving government based on transparency, accountability, and exemplary by optimizing public involvement and the use of technology (Smart City). JAKI makes it easy for the public to access various official

information and various public services from the DKI Jakarta Provincial Government with only one application. Through JAKI, the public can access official information about Jakarta directly from Regional Apparatus Organizations (OPD) and Regional Owned Enterprises (BUMD). JAKI is also a portal for integrating various public services in Jakarta, providing a new space for reporting city problems and the first city-based application developed by the Jakarta Smart City Management Unit. JAKI makes it easy for the public to access various official information and various public services from the DKI Jakarta Provincial Government with only one application. In addition to improving services to the people of DKI Jakarta, JAKI is also a form of developing Jakarta's smart city. In essence, a smart city utilizes technology to maximize public services and data-based decision-making so that policies issued will be more effective and efficient. Therefore, many cities worldwide, especially those that develop the concept of smart cities, use technology to bring government as close as the tap of a smartphone screen.

A study (Syalianda & Kusumastuti, 2021) also shows that JAKI Indonesia's Smart program can help improve waste management in Jakarta. Through the waste management system implemented in Jakarta, waste can be managed more effectively and efficiently, thereby reducing the negative impact of waste on the environment and public health.

In addition, the Smart JAKI Indonesia program has also had a positive impact on the tourism sector in Jakarta. According to a study by Astuti et al. (2020), the Smart Tourism application implemented in Jakarta has helped improve the accessibility and experience of tourists in Jakarta. Tourists can easily find information about tourist attractions, accommodations, and transportation in Jakarta through this application.

However, a study by Satispi & Mufidayati (2019) shows that there are still some obstacles to implementing the Smart JAKI Indonesia program, such as data security problems and a lack of integration between different systems in the Smart City program. Therefore, efforts are needed to overcome these challenges and improve the integration between systems in the Smart City program.

Overall, the Smart JAKI Indonesia program has brought many benefits to Jakarta, such as improving the quality of life, efficiency of public services, and reducing negative environmental impacts. However, there are still challenges in implementing the Smart City program in Jakarta that need to be overcome, such as a lack of community involvement and data security issues. Therefore, there is a need for collaboration between the government, the private sector, and the community to ensure the implementation of a sustainable and inclusive Smart City program in Jakarta.

MATERIALS AND METHODS

This study uses a qualitative approach. In research, a qualitative approach is used to describe the findings for analysis with an inductive approach to the process, and meaning (informant perspective) is more highlighted in qualitative research. This study uses a qualitative approach because

the phenomenon under study requires in-depth description and analysis. It is hoped that various answers can be found in the research and reveal actual events in the field.

Qualitative research methods are used to examine the condition of natural objects. (Sugiyono, 2018), where the researcher is the key instrument, data collection techniques are carried out by triangulation (combined), data analysis is inductive, and data analysis inductive research results emphasize the meaning than generalizations.

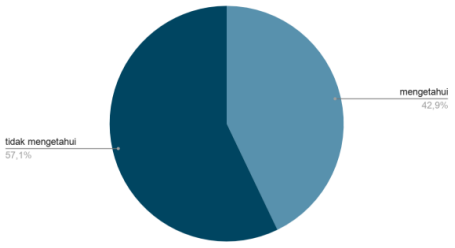
The informant determination technique carried out by the author in this study was a purposive sampling technique. The purposive sampling technique is a sampling technique of data sources with specific considerations determined based on the research objectives. The informants in this study consisted of 5 implementers of the JAKI application policy and 154 application users in South Jakarta who had used the JAKI application or did not know the JAKI application. The data collection technique is how the author collects data for research needs following the existing problems. The data collection techniques that the author did in this study were interviews. The respondent must be answering about the indicator of JAKI, and then the question flexibly develops conversation.

According to Sugiyono (2018), data analysis starts from formulating and explaining the problem before going into the field and continues until the writing of research results. Data analysis systematically searches and compiles data obtained from interviews, field notes, and other materials to be easily understood and findings informed (Sugiyono, 2018)

RESULTS AND DISCUSSION)

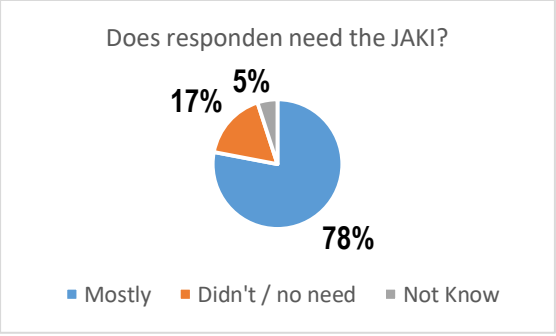
Jakarta Smart City Lounge is a place provided by the DKI Jakarta Provincial Government as a creative space to support the implementation of Jakarta Smart City. Jakarta Smart City Lounge is in DKI Jakarta City Hall Building on Block B 3rd Floor, Central Jakarta, reported on Jakarta Smart City's official website. The JSC Lounge is equipped with monitoring equipped with a hyper wall – a large LED screen–to display a variety of information integrated with the Jakarta Smart City.

The DKI Jakarta Provincial Government is trying to develop an ICT called Jakarta now or JAKI, which all DKI Jakarta residents can download on the Play Store and Apple Store. The JAKI application is an application that is targeted to be a one-stop-service application where all DKI Jakarta residents can access information centers or get official services quickly through their smartphones with just one application. The public must know policies issued by the government to be assessed together on how they are implemented. Therefore, JAKI application to all the people of DKI Jakarta. But People's ignorance of using JAKI will hinder the success of JAKI.



Graph.1: Diagram of Public Knowledge of the JAKI Application, 2022

Graph 1 shows that of the 154 application users who do not know about JAKI, it is 57.1%, while those who know about the JAKI application 42.9%. This shows that the low use of the JAKI application is due to public ignorance in using the JAKI application. Results of interviews with product analyst officers: The social media used by the DKI Provincial Government, especially Twitter, has often posted and promoted the Jaki application, especially "JakLapor" and "JakRespons" because Twitter is also an official complaint channel. In addition, the social media "JSC lounge" has also been maximized to promote and inform the public regarding the Jaki application, but it cannot be denied that the people of DKI Jakarta are as active in accessing social media. Therefore, JSC has a product trainer division, their job is to socialize JAKI to the village and sub-district parties regarding the new application and what are the features of JAKI.



Graph.2: Respondents' attitude towards the benefits of JAKI, 2020

The JSC did not only socialize in one direction through social media but also went directly to the field through regional officials to be conveyed back to the community. Based on the research findings, shows that the process of policy communication that occurs between public bodies such as DKI Jakarta Provincial Government, Jakarta Smart City, to sub-districts, has been implemented. However, the implementation of the JAKI application is not communicated between the government and the community. Policy communication that is only carried out between policymakers and implementers makes the information in the form of socialization not conveyed to the public.

Disposition is one aspect that determines the success of policy implementation. According to George C. Edward III, Disposition is an attitude or characteristic possessed by the implementor. If the implementor has a good disposition, he will be able to carry out the policy well. Disposition in this study is interpreted by looking at the attitude of the Pesanggrahan District in following up on complaints or complaints. Reports in the JakLapor feature in the JAKI application. The attitude given by the implementing party in following up on the information must be accompanied by an exemplary commitment. The officers should also provide a good impression in providing services to the community.

So that people are satisfied with the services provided by the officers. However, in practice, the service delivery was not optimal according to the Pesanggrahan District community, who had made a complaint report in JakLapor. In Graph 2, the attitude of the officers has been good. But the response in following up on the message has not been maximized. This indicator is shown by the government's extended response in solving problems, careless handling, and even just an appeal. The officer feels the cause is public awareness is still lacking in sorting out the urgency of reporting so the attitude of officers in following up reports is considered unsatisfactory for residents. From the research findings, it can be

concluded that the response and attitude of Pesanggrahan District officers do not yet commit and show a good attitude.

Policies require conducive cooperation between employees. When the bureaucratic structure is not conducive to the available procedures, it can cause resources to become ineffective and unmotivated, hindering the implementation of policies. Jakarta Smart City officers admit that their bureaucratic mechanism is not complicated so that the implementing party or officers can immediately follow up on incoming reports. The bureaucracy of the follow-up action is not complicated. So that sub-district employees can directly handle messages without having to wait for confirmation in advance and can work now with or contact the Sub-Department. If the sub-district or village can no longer govern the weight of the information. The working mechanism established by the manager for implementing a policy requires a Standard Operating Procedure used to regulate the flow of work, especially if the program's implementation involves more than one institution. The implementing party has an SOP for handling reports in implementing the JAKI application, especially the JakLapor feature (Shihab & Hidayanto, 2021); (Reza & Azmi, 2021); (Ardianto & Nuryakin, 2021).

The research findings show that the bureaucracy in handling complaints in the JakLapor part is not complicated. The use of the JAKI application makes it easier for the public to process reports and complaints. Therefore, the bureaucratic structure in the application of services in the JAKI application is running well. However, the JAKI application has factors that hinder its implementation. Impeding factors for implementation can cause a policy not to work correctly. The inhibiting factors need to be corrected by the DKI Jakarta Provincial Government to improve procedures. Three factors hinder the implementation of the JAKI application, including:

The socialization that the sub-district and sub-district of Pesanggrahan should carry out is an obstacle to the implementation of JAKI. The lack of socialization causes people to not know about the JAKI application. The geo-tagging system also can become an inhibiting factor for officers who handle complaints reports in the JAKI application. There are indications of problems from the public's ignorance of the existence of a geo-tagging system which causes complaint reports not to be tracked correctly with the coordinates of the location of the problem. Bugs in the application system and slow CRM notifications are often complained about by the public. Public complaints against the JAKI application system can be seen in the low user experience value. The slow notification of CRM can cause complaint reports not to be followed up immediately.

Here are some possible weaknesses that can occur in the Jakarta Smart City application:

Infrastructure Limitations: Jakarta Smart City application requires adequate infrastructure to function properly, such as a fast and stable internet network. However, infrastructure availability in certain regions may be inadequate, which can hinder application accessibility and performance.

Reliance on Technology: Jakarta Smart City applications rely heavily on technology, such as IoT sensors and data processing systems. If there is a failure in the technology, such as damage to the sensor

or damaged software, then the Jakarta Smart City application will not be able to function properly.

Data Limitations: Jakarta Smart City application requires accurate and up-to-date data to provide useful information to its users. However, limitations in data collection, processing, and storage can reduce the quality of information provided by applications.

Privacy Concerns: Jakarta Smart City app collects personal information from users, such as location and preferences. If the information is not processed properly and stored securely, then the information can be misused and threaten user privacy.

Digital Divide: Jakarta Smart City applications can experience a digital divide among users, especially those who do not have access to or the ability to use digital technology. This can exacerbate social and economic inequalities in society.

Limited Accessibility: The Jakarta Smart City app may not be accessible to everyone due to factors such as limited internet access, lack of technology skills, and inability to read or write. Therefore, such applications may not be effective in reaching all groups in society.

However, keep in mind that the weaknesses of the Jakarta Smart City application can be overcome by improving infrastructure, improving data quality, and strengthening security and privacy. In addition, training and education on digital technology can also help reduce the digital divide and improve accessibility.

Smart City is a city development concept that integrates information and communication technology (ICT) to improve the quality of life of residents, efficiency of public services, and sustainable development. Indonesia as a developing country has adopted the Smart City concept and began to apply it in several big cities such as Jakarta, Surabaya, Bandung, and others. More efficient and effective public services. Smart City can help improve public services by providing easy and fast access to information for citizens through digital platforms. For example, public service applications allow citizens to report environmental, infrastructure, and healthcare issues quickly and easily.

Increased security and safety. Smart cities can improve people's security and safety by integrating technologies such as CCTV, sensors, and entrance security systems. This can help prevent crime, traffic accidents, and fires. But the reduction of operational costs. Smart cities can help reduce government operational costs by optimizing resource and energy use. For example, the use of energy-efficient streetlights, or efficient waste management systems.

Improve environmental quality. Smart cities can help improve environmental quality by optimizing the use of natural resources and reducing pollution. For example, the use of renewable energy and environmentally friendly transportation systems. Increased transport efficiency. Smart cities can help improve transportation efficiency by optimizing road use, introducing more efficient public transportation, and increasing the use of alternative transportation such as bicycles and walking. By utilizing Smart City, Indonesia can improve the quality of life of citizens, increase the productivity and efficiency of public services, and contribute to sustainable development.

CONCLUSIONS

In recent years, Indonesia has adopted the Smart City concept as an effort to improve people's quality of life, efficiency of public services, and sustainable development. Through the integration of information and communication technology (ICT), Smart City has brought benefits to the people of Indonesia, such as more efficient public services, increased security, and safety, reduced operational costs, improved environmental quality, and improved transportation efficiency. However, there are also challenges in implementing Smart Cities in Indonesia, such as inadequate infrastructure, data security problems, and limited access to technology for people in rural areas. Therefore, there is a need for collaboration between the government, private sector, and society to overcome these challenges and ensure the implementation of a sustainable and inclusive Smart City in Indonesia.

Implementation of "JAKI as One-Stop-Service" based on the Communication Aspect is considered not to meet the indicators of the daily needs of the urban community of South Jakarta City. Because user still 57.1% of the public who do not know the JAKI application. Then there is no socialization carried out by the district as evidenced by primary data. Information resources still do not meet the indicators of IT-based work requirements both in quantity and quality. WFO and WFH even constrain them due to implementing the PSBB (Social Distancing) policy in DKI Jakarta. Disposition is considered not optimal, and this is because officers from Pesanggrahan District do not yet have a good commitment attitude in following up on community reports and the response of officers in following up reports. The bureaucratic structure has been formed to be uncomplicated so that pieces of complaints public directly followed up. In addition, the availability of Standard Operating Procedures (SOP) regulates the flow of work so that the follow-up of problems is directed. Furthermore, the JAKI application also has to support inhibiting factors in its application. These supportive factors include a geo-tagging system in the JAKI application and the availability of full features. Meanwhile, the inhibiting factors are lack of socialization, geo-tagging system, and applications like bugs and slow CRM notifications.

REFERENCES

Alamsyah, N., Susanto, T. D., & Chou, T.-C. (2016). A comparison study of smart cities in Taipei and Surabaya. *2016 International Conference on ICT for Smart Society (ICISS)*, 111–118.

Al-Hader, M. & R. A. (2021). The Smart City Infrastructure Development and Monitoring. *Theoretical and Empirical Research in Urban Management*, *4*(2), 87–94.

Appio, F. P., Lima, M., & Paroutis, S. (2019). Understanding Smart Cities: Innovation Ecosystems, technological advancements, and societal challenges. *Technological Forecasting and Social Change*, *142*, 1–14.

Ardianto, Y., & Nuryakin, C. (2021). Public-Service Efficiency Based on Qlue in

Jakarta Smart City Development. *MEC-J (Management and Economics Journal)*, *5*(3), 231–246.

Chang, I.-C. C., Jou, S.-C., & Chung, M.-K. (2021). Provincializing smart urbanism in Taipei: The smart city as a strategy for urban regime transition. *Urban Studies*, *58*(3), 559–580.

David, N., & McNutt, J. (2019). Building a workforce for smart city governance: Challenges and opportunities for the planning and administrative professions. *Informatics*, *6*(4), 47.

Evans, J., Karvonen, A., Luque-Ayala, A., Martin, C., McCormick, K., Raven, R., & Palgan, Y. V. (2019). Smart and sustainable cities? Pipedreams, practicalities, and possibilities. In *Local Environment* (Vol. 24, Issue 7, pp. 557–564). Taylor & Francis.

Firman, F., Sumatono, S., Muluk, M. R. K., & Setyowati, E. (2022). Smart Governance: A Study of the Jakarta Smart City During the Covid-19 Pandemic. *KnE Social Sciences*, 491–502.

Kencono, D. S., & Iqbal, M. (2021). Do Cultural Values Affect the Implementation of Smart Living Policy in Yogyakarta City? *4th International Conference on Sustainable Innovation 2020–Social, Humanity, and Education (ICoSIHESS 2020)*, 35–41.

Najjar, M., Linhares Qualharini, E., Figueiredo, K., & Soares, C. A. P. (2021). N Haddad, A. *Multiple Dimensions of Smart Cities' Infrastructure: A Review. Buildings*, *11*, 73.

Nugraha, Y. (2020). Building a smart city 4.0 ecosystem platform: an overview and case study. *2020 International Conference on ICT for Smart Society (ICISS)*, 1–7.

Pacheco Rocha, N., Dias, A., Santinha, G., Rodrigues, M., Rodrigues, C., Queirós, A., Bastardo, R., & Pavão, J. (2022). Systematic literature review of context-awareness applications supported by smart cities' infrastructures. *SN Applied Sciences*, *4*(4), 90.

Picioroagă, I.-I., Eremia, M., & Sănduleac, M. (2018). SMART CITY: Definition and evaluation of key performance indicators. *2018 International Conference and Exposition on Electrical and Power Engineering (EPE)*, 217–222.

Reza, I. F., & Azmi, I. F. (2021). Comparison of Technology, Human Resources, and Institutional Resources Perspectives: Cases of Jakarta Smart City. *IOP Conference Series: Earth and Environmental Science*, *717*(1), 012029.

Shamsuddin, S., & Srinivasan, S. (2021). Just smart or just smart cities? Assessing the literature on housing and information and communication technology. *Housing Policy Debate*, *31*(1), 127–150.

Shihab, M. R., & Hidayanto, A. N. (2021). CITIZEN ADOPTION OF PARTICIPATION: A STUDY OF JAKARTA SMART CITY PARTICIPATION INITIATIVES. *Journal of Management Information & Decision Sciences*, *24*(4).

Stübinger, J., & Schneider, L. (2020). Understanding smart city—A data-driven literature review. *Sustainability*, *12*(20), 8460.

Syalianda, S. I., & Kusumastuti, R. D. (2021). Implementation of smart city concept: A case of Jakarta smart city, Indonesia. *IOP Conference Series: Earth and Environmental Science*, *716*(1), 012128.

Ullah, F., Qayyum, S., Thaheem, M. J., Al-Turjman, F., & Sepasgozar, S. M. E. (2021). Risk management in sustainable smart cities governance: A TOE framework. *Technological Forecasting and Social Change*, *167*, 120743.

Widiachristy, L., & Rachmanto, A. S. (2021). The Effectiveness of Jakarta Smart City Application in Enhancing Community Resilience in Facing Flood Risk. *Journal of Architecture&ENVIRONMENT*, *20*(1), 45–54.

Wu, Y. C., Sun, R., & Wu, Y. J. (2020). Smart city development in Taiwan: From the perspective of the information security policy. *Sustainability*, *12*(7), 2916.

Yang, J., Kwon, Y., & Kim, D. (2020). Regional smart city development focus: The South Korean national strategic smart City program. *IEEE Access*, *9*, 7193–7210.