Agile Governance and Innovation Measurement Journal

Agile Governance and Innovation Measurement Journal

Vol 1, No 2 (2024): Page no: 59-70

Implementation of Jogja Smart City: Virtual City Hall in Realizing Agile and Digital Governance

Reyga Pramudita [1], Ahmad Syafiqurrohman [2]

[1] Department of Government Affairs and Administration, Universitas Muhammadiyah Yogyakarta, Indonesia

[2] Center for Policy and Smart City, Indonesia

Corresponding Author: reygaapramuditaa@gmail.com

Article Info

Check for updates

Article History;
Received:
2024-04-17
Revised:
2024-08-18
Accepted:
2024-09-16
Published:
2024-09-17

Abstract: This study aims to determine the implementation process of Jogja Smart Service (JSS) as a virtual city hall in realizing Agile Governance and Digital Governance in Yogyakarta City. Therefore, this research will describe the performance of JSS so far based on the six basic principles of Agile Governance and the six dimensions of Digital Governance. This will be useful for developing similar e-services, adding relevant knowledge related to the theory used, and as an alternative or reference point for JSS in maximizing its potential. Based on its original purpose, JSS is the government's response to the development of the times and is one of the Yogyakarta government's ways of realizing a Smart City. However, before becoming a Smart City, an agile and digital government is needed to utilize technology to its full potential. This is directly related to how JSS as a governmental tool can contribute to Yogyakarta in providing agile and digital services. Thus, it would be interesting to know how JSS performs from the Agile and Digital Governance perspective before JSS can realize its initial goal of a Smart City. This research uses a qualitative analysis method with a case study approach, the research stages of data collection, reduction, and analysis, to the conclusion. The results of this study will show that JSS's performance in realizing Agile Governance and the implementation process still faces many challenges.

Keywords*: Jogja Smart Service; Agile Governance; Digital Governance.*

INTRODUCTION

The era of globalization and technology is developing so rapidly, especially in the era of the Industrial Revolution 4.0, the use of electronic services or e-services has now become an integral part of everyday life and is the main foothold in achieving optimal efficiency, accessibility, and responsiveness for the community. Jogja Smart Service (JSS) is a virtual city hall or virtual portal of the Yogyakarta City Government to provide direct services to all people in the city of Yogyakarta (Diskominfo, 2018). JSS takes the concept of technological aids and specifically technology-mediated types, such as e-mail, social media, discussion groups, and virtual meetings as one of the ways for the Yogyakarta City government to respond to developments in the era of the industrial revolution 4.0 as well as being one of the government's means of realizing Smart City (Mutiarin et al., 2023). JSS is a way for the Yogyakarta City government to respond to developments in the Industrial Revolution 4.0 era as well as one of the government's means of realizing Smart City. Although JSS is expected to be a strategic solution, in the implementation process, there are still some weaknesses and cannot operate optimally. Deputy Mayor of Yogyakarta Heroe Poerwadi explained that he did not deny that there were still weaknesses such as the dependence of several Village Work Units (SKPD) on Diskominfo (Adminwarta, 2017). The main weakness of JSS lies in the e-service itself, the concept of a virtual city hall that provides

services directly from JSS still needs to be reviewed regarding whether JSS has fulfilled the apparatus or needs required by an agile government e-service and wants to realize Smart City and Digital Governance concepts.

Amidst the industrial revolution 4.0, the utilization of information and communication technology in public services is crucial. JSS, as an innovative program, is expected to contribute positively to realizing smart cities in Yogyakarta (Saputra et al., 2023). Even so, urban problems such as difficulties in waste management, resource scarcity, air pollution, health problems, traffic congestion, inadequate roads, and severely damaged infrastructure are still problems in Yogyakarta despite the JSS. (Iqbal & Tri Anggraini, 2019). JSS does have positive contributions, but it has not been able to realize its initial goal of realizing a Smart City with Agile Governance. Although the Information and Communication Management Unit (UPIK) has implemented an e-government system as a means of easily accessible public services, the desired results have not been maximized (Azhar & Kumorotomo, 2023). Several problems related to JSS above are rooted in one foundation, namely JSS as a central point that wants to realize Smart City has not been able to work optimally and produce the expected output. Before Smart City is realized, several matters need to be focused on first, one of which is Agile Governance. JSS as an e-service or Digital Governance tool is one of the means to move towards Agile Governance first before realizing Smart City.

Therefore, JSS still needs to be studied regarding its mechanism and essence whether it is appropriate as an e-service or Digital Governance, and then re-examined whether JSS is by the principles of Agile Governance before it can be realized. This research will discuss Jogja Smart Service (JSS) from the perspective of Agile Governance and Digital Governance, specifically about implementing the essence of the concept of good Digital Governance in the JSS work mechanism in realizing Agile. This study examines JSS as an e-service that aims to realize Agile Governance to provide additional relevant knowledge related to the theory of Agile Governance and Digital Governance. Then, to provide alternative ways that can be used as a reference for JSS to increase the potential of JSS to realize Agile Governance. Finally, to increase public understanding of the existence of JSS to realize a modern society that can optimally utilize technology. This research will use a qualitative analysis method, and case study approach, with the help of Agile Governance and Digital Governance theory indicators as testing tools.

This study aims to address the existing void in the discourse surrounding JSS, specifically in the context of Agile Governance and Digital Governance. The research aims to investigate the utilization of JSS as a virtual city hall to achieve Agile Governance and Digital Governance. This study employs six fundamental principles to guide the design of a governance system to facilitate research. These principles include (i) transparency and accountability, (ii) availability of appropriate choices in terms of quality and quantity, (iii) stakeholder participation, (iv) inclusiveness, (v) appropriate allocation of responsibilities, and (vi) availability of corrective actions (Yanagawa, 2017). This research also uses the dimensions of digital governance as another guide that aims to make it easier for researchers to study digital governance: (i) digital by design, (ii) data-driven public sector, (iii) government as a platform, (iv) open by default, (v) user-driven, and (vi) proactiveness (OECD, 2020).

RESEARCH METHOD

This research adopts a qualitative analysis method with a case study approach. The qualitative analysis method is a research framework applied to collect and analyze qualitative data and is commonly used in disciplines such as sociology, anthropology, and psychology.

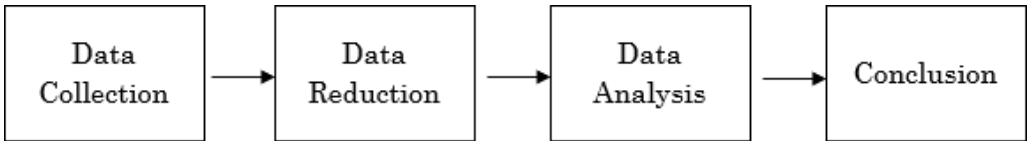

Figure 1. Research Stages
Source: Author (2024)

The main focus of qualitative analysis is to understand the ways in which people act and the accounts that they give for their actions (Amungwa, 2018). Meanwhile, case studies as a research method in social science and political science are directed at analyzing and deeply understanding a particular topic or event. Research with a case study approach generally focuses on descriptive and qualitative analysis of the data collected. The goal to be achieved through the application of case studies is to provide deeper insights related to the social phenomenon being investigated, which in turn can guide the decision-making process and solutions to problems that arise. This research focuses on JSS as a virtual city hall in realizing Agile Governance and Digital Governance. In this research, the library data used is in the form of library data and journal articles, books, and news. Online news analysis also provides insights into government projects related to smart technology, citizen participation, and policies driving sustainable city growth (Mutiarin & Lawelai, 2023). This research also involved several methodological stages, starting with data collection. This stage aims to detail the collection of primary and secondary data. Furthermore, the data reduction stage aims to selectively choose data that has been collected previously. The data analysis stage is designed to classify and analyze the data that has undergone the previous reduction process. Finally, the conclusion-drawing step aims to gain significance and value from the data that has gone through the analysis stage. Thus, this research methodology includes a structured set of steps to ensure the accuracy and relevance of the research results.

RESULTS AND DISCUSSION

Implementation of the Jogja Smart City project, particularly the Virtual City Hall, presents a unique opportunity to realize agile and digital governance principles. Smart city initiatives like the Virtual City Hall aim to leverage digital technologies to enhance urban services, improve governance processes, and engage citizens effectively. By integrating agile methodologies into the governance framework of smart city projects, local governments can adapt to changing circumstances, foster collaboration among stakeholders, and ensure the efficient delivery of services (Faber et al., 2018). Agile governance in the context of smart cities emphasizes iterative and flexible approaches to decision-making, allowing for quick adjustments based on feedback and evolving requirements. The use of digital platforms and technologies, such as digital twins and e-government platforms, can facilitate citizen participation, enhance transparency, and streamline service delivery in smart city projects (Hämäläinen, 2021; Domingo et al., 2021). Furthermore, the successful implementation of smart city initiatives like the Virtual City Hall requires a comprehensive understanding of digital transformation, data-driven strategies, and the readiness of local governments to embrace technological advancements.

Building digital literacy among government officials and citizens, ensuring data security, and addressing implementation challenges are crucial aspects of realizing the full potential of smart city projects (Fazil et al., 2022). Moreover, the governance of smart cities involves not only technological aspects but also societal and environmental considerations. By aligning smart city policies with sustainable development goals, promoting citizen-centered approaches, and enhancing urban resilience, local governments can create inclusive and sustainable smart cities that improve the quality of life for residents (Kolesnichenko et al., 2021). Implementation of the

Jogja Smart City project, particularly through the Virtual City Hall, can benefit significantly from agile and digital governance practices. By leveraging digital technologies, fostering citizen engagement, and embracing agile methodologies, local governments can enhance service delivery, promote transparency, and build smart cities that are responsive to the needs of their communities.

To establish an agile and digital governance experience in Jogja Smart City, it is crucial to draw insights from existing research on smart city development and digital governance. Smart city initiatives aim to utilize digital technologies to improve governance, public services, and urban management (Baltac, 2019). Successful smart city projects necessitate a robust digital governance framework that integrates elements such as support, capacity, and value (Nastjuk et al., 2022). To navigate the complexities of smart city governance, it is vital to consider the socio-technical aspects and engage both public and private stakeholders in the decision-making process. The acceptance and utilization of digital public services, driven by trust and user experience, are key factors in the successful execution of smart city projects. Moreover, the development of a citizen-centered smart city mobile application can enhance digital participation and governance.

Transparency and Accountability

For stakeholders to comprehend the extent to which they are affected by a system, it is crucial that the system providers adequately disclose information regarding the system's objectives, the employed design strategies, the potential positive and negative consequences, the operational structure, the outcomes of operation, and any necessary corrective actions, among other relevant details (Yanagawa, 2017). The presence of specific menus in the Jogja Smart Service application demonstrates a commitment to honesty and adherence to regulatory regulations. This application's functionality consistently upholds the government's commitment to honesty by providing real-time reports and data that are immune to manipulation. The availability of easily accessible and immediately accessible data to the public through this application is seen as a measure towards achieving legal conformity and adherence to rules. This mechanism's application facilitates the establishment of an environment that enables the fulfillment of legal obligations and compliance with relevant legislation. Additionally, it promotes transparency and the disclosure of information. This aligns with the findings of Fauzi & Setiawan (2020), who elucidate that the community and government institutions hold high regard for JSS. Due to constant monitoring by the authority in this community, there is consistent responsibility for all services and a greater level of transparency in real-time reporting on JSS apps.

Pyo Hong and Suk Kim (2020) define agile management as a novel approach to overseeing the design and implementation of engineering, information, and communication technology (ICT) activities, as well as projects related to the development of new products or services. This strategy emphasizes a high degree of adaptability and flexibility. Agile management refers to a methodology or approach utilized by an entity to efficiently and flexibly organize and control information. Subsequently, this approach is integrated with government affairs, resulting in an agile government that is anticipated to operate swiftly, flexibly, and responsively. Mergel (2016) said that the goal is to establish hyper-transparency to advance values and procedures, endorse policies, and facilitate teams in experimenting with novel approaches or outreach. Later, Mergel et al. (2018) further examined agile methods derived from the software engineering field. Agile government practice expands the scope to a wider range and aims to change organizational culture and collaboration methods to achieve a greater level of adaptability.

Availability of Appropriate Choices in Terms of Quality and Quantity

For individuals to make decisions on the types of technological influences that they choose to pursue their happiness under, they must be able to choose from among appropriate options of quality and quantity to begin with (Yanagawa, 2017). Jogja Smart Service stands out in providing the right choices concerning both the quality and quantity aspects of its services. In terms of quality, the app provides users with access to information and services with a high degree of accuracy and reliability. This quality is reflected in the app's ability to display data in real-time, ensuring that the information presented to users is actual and relevant. Jogja Smart Service also demonstrates the availability of quality choices in terms of quantity. The app provides a wide array of service options that cover a wide range of community needs. As such, users have broad access to a variety of information and services that they can access through this platform. The importance of this availability of appropriate choices lies in the ability of users to select and access services according to their individual needs and preferences. By providing an abundance of choices, Jogja Smart Service provides high flexibility to the community in utilizing services according to their needs, making this application a comprehensive and effective solution in supporting various aspects of community life.

According to the research conducted by Onwujekwe and Weistroffer (2019), the benefits of Agile Government can be observed through the results of various projects. The study suggests that implementing an agile methodology for information systems development in government or public sector organizations presents challenges that are closely associated with the bureaucratic nature of these organizations. According to Wen et al. (2020), Agile Government offers several advantages as demonstrated by a case study. They argue that by implementing agile and FLOSS practices along with collaborative development technologies, the resulting software can be easily updated and replicated across different government sectors. Additionally, the management structure employed in Agile Government can serve as a model for future collaborations between government and academia.

Stakeholder Participation

From this perspective, we must develop mechanisms that allow us to discuss the ideal shape of technological system design based on actual participation from a diverse range of stakeholders in the initial design stages of all systems—systems that regulate the cognitive and behavioral options in our lives—as well as in times when these systems experience any problems (Yanagawa, 2017). Stakeholder participation in Jogja Smart Service is a key element that supports the success and effectiveness of this application. Stakeholders, involving various parties such as the government, the community, and the business sector, participate in various stages of the development, implementation, and evaluation of this application. Local government, as the main stakeholder, plays a role in formulating policies, providing resources, and ensuring the sustainability of Jogja Smart Service. The community, as the main users of the app, also participated by providing feedback, reporting problems, and actively using the services provided. Meanwhile, the business sector involved in providing services or technological support also has a role in ensuring the availability of resources and the technical capabilities of the application. Stakeholder participation in Jogja Smart Service is not only limited to contributions in the development phase but also involves continuous interaction to ensure that the application remains relevant, efficient, and meets the needs of the community. By involving all parties involved, Jogja Smart Service can be more responsive to the dynamics of the social, economic, and technological environment and can provide maximum benefits for all stakeholders involved. According to Purnomo et al. (2020), the involvement of the government in programs based on job

descriptions can have an impact on the implementation of government programs. Every stakeholder has a job description depending on its function and purpose. Departments in Yogyakarta include agencies that provide services for society. There are many departments in Yogyakarta with different goals.

Table 1. The Job Description of Stakeholder Toward Public Services

Stakeholder	Role
Mayor and Vice of Mayor in Yogyakarta City	• Responsibility with all activity in public services • Provide ideas for services development • Makes Agenda Evaluation • Has a right gives mandate for staff • Decision maker
Department in Yogyakarta (SKPD)	• Responsibility with a services and complaints for society • Reporting draft for agenda evaluation • Collaborate with partnership, public, and private • Sharing information related to government affairs • Drafting Agenda Meeting
Admin	• Verification all information thought to society with digital platform are complaints, suggestion, question and statement • Distribution of information forward to institutions
Computer Networking	• Development operational system and technology innovation related to public services • Repairs computer system
Government Partner (PMI, BAZNAS,PDAM)	• Provide services in alms • Upgrading information related to blood donors, health, mineral water, legal case, and others

Source: (Purnomo et al., 2020)

Inclusiveness

For everyone to be able to pursue happiness based on CPSs, even those who are not familiar with digital technology need to be able to use the system properly and discern its risks. For this reason, it is important to ensure system inclusiveness and to create a society where no one is left behind (Yanagawa, 2017). Inclusiveness in Jogja Smart Service refers to the ability of this application to cover and serve various layers of society without exception. The app is designed with the principle of ensuring that all individuals, including those who may be in marginalized groups or have special needs, can access and utilize the services provided. The importance of inclusivity in Jogja Smart Service is reflected in its user-friendly interface design that is accessible to different levels of digital literacy. The app ensures that the information presented is clear, easy to understand, and accessible to users with different levels of technological understanding. In addition, Jogja Smart Service also strives to provide services that are relevant and accessible to various social, economic, and demographic groups. This includes providing information in multiple formats, accessibility support for people with disabilities, and

thoughtful consideration of cultural and linguistic diversity. In line with the vision of Yogyakarta City, it is "a city of education, quality, character, and inclusion; culture-based tourism; and a service center with environmental and social economic insights." This vision has four (four) keywords, namely tourism, education, culture, and service centers (Suranto et al., 2021).

Appropriate Allocation of Responsibilities

To ensure the right of people to pursue happiness under the influence of technology, it is important to allocate appropriate administrative, criminal, and civil responsibilities, etc., to provide incentives for system providers to provide the above-mentioned transparency and accountability, options for choosing appropriate levels of quality and quantity, and comprehensive measures for ensuring inclusiveness (Yanagawa, 2017). Responsibility allocation in Jogja Smart Service refers to the proper distribution of roles and responsibilities to the various parties involved in the development, management, and maintenance of this application. JSS encourages efforts to maximize representation, democratic processes, and accountability among stakeholders (Wulandari et al., 2022). Effective management of these responsibilities is a key factor in ensuring the sustainability and optimal performance of Jogja Smart Service. Local governments, as key stakeholders, are responsible for designing policies, providing resources, and ensuring the availability of infrastructure that supports Jogja Smart Service. They also have an important role in managing data and ensuring the security and privacy of information collected through the application. Technology developers, both from the public and private sectors, have responsibilities related to the development, maintenance, and technical updates of Jogja Smart Service. The sustainability and efficiency of the app are highly dependent on the quality of work and the latest updates provided by the developers. The public, as the primary user, has the responsibility to use the app ethically and comply with the applicable rules. Providing feedback, reporting problems, and actively taking part in the utilization of Jogja Smart Service are also the responsibilities of the community. In addition, the involvement of the business sector in supporting the technology and providing related services also plays an important role in ensuring that this application can run well. Proper allocation of responsibilities at all levels creates effective cooperation and coordination, resulting in a balanced ecosystem and supporting the success of Jogja Smart Service in providing quality services to the community.

Availability of Corrective Actions

To guarantee people's right to pursue happiness under the influence of technology, it is important to provide, in addition to pre-defined regulations, export-fact avenues for dispute resolution and rights redress and to ensure the viability of these measures (Yanagawa, 2017). The availability of corrective actions in Jogja Smart Service includes the ability to identify, respond to, and fix any issues or imperfections that may arise in the use of this application. It involves an efficient and effective process of responding to user feedback, reporting bugs, or fixing technical issues. The availability of corrective actions involves a mechanism for actively collecting feedback from users. Jogja Smart Service must have a means of allowing users to report problems, make suggestions, or transparently convey their experiences. The technical development and maintenance team must be prepared to respond quickly to incoming problem reports. A quick response enables quick identification of the root cause so that corrective measures can be taken as quickly as possible. Corrective actions involve the effective implementation of solutions. Developers and technical teams must have sufficient skills and knowledge to design and implement appropriate fixes so that the issue does not recur. It is important to conduct monitoring and evaluation after the fix is implemented. This ensures that the implemented solution is effective and does not cause any other negative impact on the

performance or functionality of Jogja Smart Service. JSS carries out the government's duty of providing public services to the community. This is in line with the objectives of e-government, which encourages the improvement of bureaucratic performance and the improvement of public services through the application of information technology (Bana et al., 2023).

Digital Governance Dimensions

Digital by Design

Digital by design involves anchoring the process of digital transformation in governments and reevaluating the connection between technology, governments, and human relationships. This dimension evaluates the degree to which a government fully utilizes digital technologies from the beginning when creating policies and designing services, regardless of the communication medium employed. Jogja Smart Service is developed using a comprehensive digital strategy that encompasses all of its procedures and features. Digital by Design embodies the concept that digital elements are not only appended post-creation but rather are seamlessly integrated into the design and development of the program. The Jogja Smart Service (JSS) website and application pages are designed with a simple and user-friendly interface, aiming to provide a straightforward and easy-to-use experience for the public (Yogar et al., 2023).

Jogja Smart Service (JSS) functions as a virtual city hall and is a manifestation of digital governance. However, there are still several deficiencies in its execution. The drawbacks of JSS are examined by Saputra et al. (2023), who elucidate that JSS, as a policy instrument for smart cities, still possesses various shortcomings in the functioning of its e-services. Additionally, Anggraini and Iqbal (2020) conducted a study on the readiness of the Yogyakarta City Government to implement the Jogja Smart Service. The study evaluated the government's preparedness based on four factors of the EReadiness model: policy, infrastructure, financial resources, and human resources. In their study, Azhar and Kumorotomo (2023) examined the implementation of the Information and Communication Service Unit (UPIK) through JSS in addressing public complaints.

Data-Driven Public Sector

In the context of implementing a data-driven public sector for the Jogja Smart City initiative, it is crucial to consider insights from various studies on agile governance, digital infrastructure, and smart city strategies. The collaborative elaboration of smart city strategies, emphasizes the importance of agile development for urban digitalization. This approach can reshape government operations and governance practices. Furthermore, the utilization of big data analytics in city governments, as discussed in the context of agile government (Mergel et al., 2018), can enhance customer agility in service delivery. Open government data initiatives, such as those in Smart Cities, can lead to improved service delivery and stakeholder interaction through innovative ICT usage. Smart cities, characterized by advanced technologies and data analytics, aim to enhance citizens' quality of life, infrastructure efficiency, and economic growth.

Importantly, the data-driven public sector acknowledges the use of data as a strategic resource in the development and implementation of policies and services. The statement suggests the establishment of effective data governance systems, which encompass data strategies, institutional arrangements, and rules, along with the necessary mechanisms such as data infrastructures and standards. These measures aim to maximize the potential of data in meeting the demands of users, improving services and policies, and facilitating data integration, access, sharing, and utilization within the public sector (OECD, 2020). Jogja Smart Service's digital governance incorporates data-driven elements into the process of making decisions and delivering services. Utilizing data efficiently in the public sector is the fundamental basis for

enhancing policies, allocating resources, and addressing the community's requirements. The infrastructure under the government of Yogyakarta City has been connected, integrated, and utilizes central data (Rahmawati, 2020).

Government as a Platform

The concept of "government as a platform" refers to the government providing the necessary infrastructure and tools for public servants to effectively formulate policies and deliver services. This approach aims to maximize the production of value and ensure that outcomes are delivered in a timely and convenient manner (OECD, 2020). The government of Jogja Smart Service functions as a transparent platform that offers fundamental infrastructure and services for the execution of this application. This notion facilitates the active involvement of multiple stakeholders, such as communities, enterprises, and the private sector, in enhancing services and fostering innovation. The shift from digital government, which is a simple electronic framework for digitizing government services, to digital governance, which involves a multi-level governance process encompassing democracy, business, and government structure, appears to present challenges when considering the knowledge problem (Erkut, 2020). Digital governance aims to enhance public services by using a standardized set of performance indicators and standards (Milakovich, 2021).

Digital governance enhances the community's ability to actively participate in the governance process, shifting away from a passive position. This aligns with the concept of reinventing government, where the community's involvement is crucial. The concept of reinventing government, which involves seeing citizens as active participants in the governance process rather than passive users of governmental services, is mostly a theoretical principle rather than a practical reality (Mutiarin et al., 2019). In the pursuit of establishing a Virtual City Hall for agile and digital governance within the Jogja Smart City framework, the concept of "Government as a Platform" emerges as a crucial strategy. This approach involves utilizing digital technologies and data-driven solutions to enhance government services and citizen engagement. Public-private partnerships are essential in smart city projects, where city governments collaborate with private entities to enhance service delivery and improve citizens' quality of life.

The implementation of smart city initiatives, such as the Magelang Cerdas Application, demonstrates the integration of e-government services to connect local governments with residents, emphasizing the Government Citizen (G2C) interaction model. Smart cities, by integrating various domains like transportation, energy, health, and governance, aim to create intelligent urban environments that benefit citizens and enhance overall urban operations. In the realm of smart city governance, the utilization of big data analytics and privacy-aware technologies can significantly influence public health policies and service delivery, ensuring the welfare and well-being of citizens. Creative citizenship and collaborative governance in smart cities, facilitated by e-participation platforms, enable effective feedback mechanisms and informed decision-making processes.

Open by Default

The concept of "open by default" encompasses a wide range of initiatives to promote openness, extending beyond the mere publication of government data in open formats. It encompasses initiatives aimed at promoting the utilization of technologies and data to facilitate communication and collaboration in policy-making and service design among many stakeholders, and to establish a public sector that is collective and knowledge-driven (OECD, 2020). Jogja Smart Service's Digital Governance embodies the notion of "By Default," ensuring that the application automatically adheres to security, privacy, and transparency standards without the need for user

intervention. These standards are universally implemented throughout the program to provide a superior level of information security and accessibility.

User-Driven

The transition from e-government to digital government entails a shift from a focus on the user to a more proactive approach driven by the user. User-centric techniques aim to understand and interpret the demands of users, whereas user-driven approaches provide a platform for users to articulate their needs, which are then prioritized in policy-making and service design. This dimension acknowledges that citizens' wants and expectations play a major role in the shift towards a user-driven digital government (OECD, 2020). The User-Driven concept prioritizes the significance of user experience in the design and development of Jogja Smart Service. User engagement is not solely regarded as the final stage, but rather incorporated throughout the entire application development process to guarantee promptness in addressing user requirements and preferences.

Proactiveness

Proactiveness refers to the degree to which a government provides data and services to the public without requiring official requests. It suggests the ability to predict social and economic changes, as well as the needs of users, by gathering current knowledge and using it to improve services (OECD, 2020). In the Proactive dimension, Jogja Smart Service is not only responsive to needs, but also takes initiative in delivering services based on the anticipated needs of the community. This involves the utilization of analytic and predictive technology to accurately foresee and efficiently respond to potential changes or fluctuations.

CONCLUSION

The performance of JSS as a virtual city hall to realize Agile Governance and Digital Governance is at a good level. The level of transparency and accountability is presented by JSS due to the use of innovative systems. Various quality options, the involvement of many stakeholders with clear functions, inclusiveness, participation of those in charge, and the role of monitoring and evaluation follow the six basic principles of Agile Governance. As for Digital Governance, there are still some obstacles due to the user-driven dimension that has not been implemented optimally. The Regional Apparatus Work Unit still depends on the Communication and Informatics Office in operating JSS, then the target of JSS itself, namely the people, is also in a non-optimal position where the people cannot fully understand JSS. This study found many similarities with previous studies that discussed JSS, especially on the weaknesses or weak sides of JSS. These weaknesses still revolve around human resources in its operation. In some cases, it was found that there were still community reports that had not been followed up or the people of Yogyakarta City did not know about the existence of JSS so JSS's performance in facilitating community affairs, especially in carrying out its role as a virtual city hall, was still not optimal. The government as the main actor driving JSS is expected to be able to invite more parties in the success of JSS in the future. Collaboration with more stakeholders, technology optimization, and increased resources from both SKPD and the community are needed. Conceptually, JSS has taken a step forward in realizing Yogyakarta as a Smart City following the initial objectives. However, monitoring and evaluation must still be carried out to improve the JSS application so that it can play a maximum role in the original purpose of JSS.

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