

Effectiveness of Public Services through Smart City in Realizing Good Governance in Semarang City

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Abstract. This study aims to examine the effectiveness of public services through the SiHati Smart City application in realizing good governance in Semarang City. SiHati application, as part of the smart city initiative, is designed to improve the quality of public services by utilizing information and communication technology. This research used a qualitative method with a case study approach, which involved in-depth interviews, observation, and document analysis. The results show that the SiHati application has a positive impact in improving transparency, accountability, and participation in the community governance process. The application facilitates access to information, accelerates government response to community complaints, and reduces bureaucratic red tape. However, challenges remain, such as limited technological infrastructure and a lack of digital literacy among the community. Overall, this study concludes that the SiHati Smart City application is effective in realizing good governance in Semarang City, although there are some aspects that need to be improved to reach its full potential. Recommendations are given for improving technological infrastructure, digital literacy training, and developing application features that are more responsive to the needs of the community.

Keywords: Public Service Effectiveness, SiHati Application, Good Governance, Semarang City, Smart City.

1 Introduction

The application of information and communication technology in governance has become a global trend that aims to improve the efficiency and effectiveness of public services. The smart city concept is one of the innovative approaches used by many cities around the world, including Semarang City, to face the challenges of urbanisation and improve the quality of life of its citizens. Smart cities utilise digital technology to manage city resources more efficiently and provide better public services (Panahi Rizi & Hosseini Seno, 2022).

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Semarang City, as one of the major cities in Indonesia, faces various challenges in terms of governance and public services (Peralta Abadía et al., 2022). The complexity of restrictions, limited resources, and increasing public demand for transparency and accountability are issues that must be addressed. To address these challenges, the Semarang City Government developed the SiHati application as part of its smart city initiative (Kalarachchi, 2022).

The SiHati (Integrated Information and Service System) application is designed to improve the quality of public services through the utilisation of information technology. This application allows the public to access various public services easily and quickly, as well as provide direct feedback to the government (Myeong et al., 2022). Thus, SiHati is expected to encourage active community participation in government processes and increase transparency and accountability (Sharif & Pokharel, 2022). The implementation of the SiHati application in Semarang City cannot be separated from the vision to realise good governance. Good governance includes principles such as transparency, participation, accountability, responsibility, and efficiency. With SiHati, it is expected that public services can be carried out more effectively, bureaucracy can be cut, and the government can respond to the needs of the community more quickly (Savastano et al., 2023).

While the SiHati application offers many benefits, its implementation also faces a number of challenges. One of the main challenges is the uneven technology infrastructure in all areas of Semarang City. In addition, the low digital literacy of the community is also an obstacle in optimising the use of this application (Dashkevych & Portnov, 2022). Semarang City government needs to take various measures to overcome these challenges, including infrastructure improvement and public education (Al-Besher & Kumar, 2022). The success of SiHati application in improving public services also depends on the government's commitment and synergy between various parties. The Semarang City government needs to work closely with the private sector, academia, and the community to ensure that the app is effective and sustainable. Collaboration between various parties is essential to create an inclusive and competitive smart city ecosystem (Razmjoo et al., 2022).

Since its launch, the SiHati application has shown some progress in terms of improving public services. Some indicators of success can be seen from the increase in the number of users, the acceleration of response time to public complaints, and increased transparency in government processes. However, a comprehensive evaluation is still needed to measure the extent to which this application is truly effective in realising good governance (Sheng et al., 2022). This study aims to examine the effectiveness of SiHati application in improving public services in Semarang City. Using a qualitative approach, this research will explore the experiences of app users, as well as identify factors that support and hinder the implementation of this app (Gracias et al., 2023). The results of this study are expected to provide valuable input for the Semarang City Government in an effort to improve the quality of public services through information technology (Barrutia et al., 2022).

In the global context, this study is also expected to contribute to the literature on smart cities and good governance. Many cities around the world are striving to implement the smart city concept, and the results of this study can serve as a reference for them in developing effective strategies and policies. As such, this research has relevance not only for Semarang City, but also for the international community (Verma, 2022). As part of the evaluation, this research will look at various aspects such as ease of access, user satisfaction, and the impact of the application on government performance. In addition, this research will also examine how the SiHati application affects transparency, accountability, and public participation in government. With a comprehensive approach, this research is expected to provide a clear picture of the effectiveness of the SiHati application (Zhu et al., 2022).

In an effort to achieve good governance, the use of information technology such as the SiHati application is a significant step. However, technology is only a tool that must be supported by the right policies, strong commitment from the government, and active participation from the community. Therefore, this research will also examine the contextual factors that influence the effectiveness of the SiHati application. This research is expected to provide practical recommendations for the Semarang City Government and other stakeholders in their efforts to improve public services through information technology. These recommendations may include strategies to improve technology infrastructure, digital literacy education programmes, and the development of application features that are more responsive to public needs. Overall, this research emphasises the importance of innovation in governance to respond to the challenges of modernisation and globalisation. Through the application of information technology such as the SiHati application, Semarang City can serve as an example for other cities in terms of effective public services and good governance. As such, this research is not only relevant for the local context, but also provides valuable insights for governance practices at the global level.

2 Literature Review

2.1 Concept of Good Governance

Good governance is a concept that describes good governance, in which principles such as transparency, accountability, participation, responsiveness, effectiveness, efficiency, and the rule of law are optimally applied (Nayaka & Darma, 2020). Good governance aims to improve the quality of public services and public trust in government (Wibowo, 2020). Good Governance is a concept that emphasizes the importance of good and effective governance in managing the public interest (Widanti, 2022). The concept encompasses a number of principles and practices that are applied to ensure that governments and public institutions act in a transparent, accountable, responsive and participatory manner to the needs of society (Nurman, 2022).

2.2. Public Service

Effective public services are services that meet the needs of the community quickly, precisely, and with quality (Saputra & Widiyarta, 2021). Public services refer to a wide range of services and facilities provided by governments or authorized bodies for the benefit of the general public. These services are typically funded through taxation or other forms of public revenue and are intended to meet the essential needs and interests of society as a whole. Public services play a crucial role in promoting the well-being, safety, and development of communities, often focusing on areas such as education, healthcare, transportation, sanitation, public safety, and social welfare. The use of information technology in public services has become a global trend to improve efficiency and effectiveness (Afriyani et al., 2022). Technology-based complaint management systems, such as the Sapa Mba Ita application, are one form of innovation in public services (Widanti, 2022).

3 Research Method

This research method uses a qualitative approach with a case study approach to the effectiveness of public services through the SiHati Smart City application in realising good governance in Semarang City. This approach was chosen because it aims to understand the

phenomenon in depth and gain comprehensive perspectives from various parties involved. With a qualitative approach, researchers can explore the experiences, perceptions, and views of SiHati application users as well as the government parties responsible for the implementation of the application. This research design is descriptive and explanatory. Descriptive research aims to describe the use and effectiveness of the SiHati Smart City application, while explanatory research aims to explain the relationship between application use and Good Governance principles. This research was conducted in Semarang City, Central Java. The selection of this location is based on the implementation of the SiHati application as part of the smart city initiative in the city. The researcher will visit various government agencies as well as interact with the community of application users to collect the necessary data. Data was collected through in-depth interviews with various stakeholders, including government employees, application users, and information technology experts. In addition, direct observation of the use of the SiHati application and document analysis related to reports and feedback received through the application were conducted. This method also includes descriptive analysis of quantitative data generated from the application system, such as response time and user satisfaction levels. The results of these analyses were used to disseminate the impact of the application on transparency, accountability, and community participation in governance, as well as to identify challenges and areas for improvement.

4 Results and Discussions

4.1 Effectiveness of Public Services through SiHati Smart City application in Realising Good Governance in Semarang City

The SiHati application is a mobile application developed by the Central Java Provincial Government to monitor commodity prices and production in the province. The SiHati Smart City application was launched by the Semarang City Government in 2020 with the aim of improving the quality of public services and realising good governance. The app is designed to help the government identify and address potential inflation issues.

How to use the SiHati app:

- 1) The SiHati app is available for free download on the Google Play Store and App Store.
- 2) After downloading the application, you can create an account and start using it.
- 3) To view price data, select the "Price" tab. You can then filter the data by commodity, district, or date.
- 4) To view production data, select the "Production" tab. You can then filter the data by commodity, district/city, or date.
- 5) To view inflation data, select the "Inflation" tab. You can then view the inflation rate for the province as a whole or for each district/city.

Here are some screenshots of the SiHati application:

Picture 1.1 SiHati Application



Source: Processed by researchers, 2024

While SiHati focuses on economic data, it also lays the foundation for data-driven decision-making, which is a key principle of good governance. Overall, SiHati can be seen as a tool that contributes to transparency, accountability, and community engagement, all of which are important aspects of good governance. The application provides various services, such as:

- 1) Population administration services
- 2) Licensing services
- 3) Public information and complaints
- 4) Tax and levy payment
- 5) Health services
- 6) Education services

Here are some examples of how the Sihati Smart City app has improved public services:

- a) People can manage various population administration services online, such as making ID cards, birth certificates, and marriage certificates.
- b) People can apply for business licences online, making it easier and faster.
- c) People can report complaints to the government online, making it easier and faster to follow up.
- d) People can pay taxes and levies online, making it easier and faster.
- e) People can access information about health and education online.

The Sihati Smart City application is a good example of how technology can be used to improve public services and realise good governance. It is anticipated that the app will continue to be developed and expanded to provide greater benefits to the people of Semarang City.

This application provides various services for the community, such as:

- 1) Population administration services: citizens can access population information, apply for domicile certificates, and conduct population mutations online.
- 2) Licensing services: citizens can apply for business licences, building permits, and other permits online.
- 3) Public complaint services: people can report various complaints and problems to the city government online.
- 4) Public information services: the public can access various public information, such as news, activity agendas, and local regulations.

Overall, the Sihati Smart City app has proven to be an effective tool in improving public services in Semarang City. The app has helped realise good governance and effective public services for the people of Semarang City.

The Sihati Smart City app is one clear example of how information and communication technology can be used to improve public services. This application has proven to be an effective tool in realising good governance and effective public services for the people of Semarang City. Semarang City's SiHaTi application has several advantages over other applications for aggregating production prices and commodities, including:

- 1) More complete and accurate data: SiHaTi provides price data for more than 200 commodities across 35 sub-districts in Semarang City. This data is collected directly from traders in traditional and modern markets, making it more accurate and up-to-date than other applications that only rely on data from secondary sources.
- 2) More complete features: SiHaTi is equipped with various features that are useful for users, such as:
- 3) Display of average prices and price changes: This feature allows users to view average prices and changes in commodity prices over a certain period.
- 4) Histogram map display: This feature allows users to view the distribution of commodity prices across different regions in Semarang City.
- 5) Early warning system: This feature will notify users if there is a significant increase or decrease in commodity prices.
- 6) Data analysis: SiHaTi provides data analysis of commodity prices and production that can help users in making business decisions.
- 7) Easy access: SiHaTi can be accessed for free through the website and mobile application.

Overall, SiHaTi Kota Semarang is a powerful and easy-to-use application for aggregating commodity prices and production in Semarang City. The SiHaTi Kota Semarang application provides a variety of data, graphs, figures, and images that can assist users in aggregating commodity prices and production in Semarang City. According to data from the Semarang City Communication and Informatics Agency, as of July 2024, the SiHaTi Kota Semarang application had more than 10,000 users. This number shows that the SiHaTi application has been well received by the people of Semarang City. It shows that people are increasingly aware of the importance of commodity price and production information to make informed decisions when shopping and doing business. The Semarang City Government continues to strive to increase the number of SiHaTi application users by conducting various socialisation and education programs to the public. It is expected that with more SiHaTi application users, commodity price and production information in Semarang City will be more transparent and efficient, thus helping to improve the welfare of the community. SiHaTi is an example of how digital technology can be used to improve the transparency and efficiency of commodity markets. By using SiHaTi, all parties involved in the commodity supply chain can benefit.

4.2 Satisfaction Level of SiHaTi Application Users in Semarang City

According to a survey conducted by the Semarang City Communication and Information Agency in 2023, the satisfaction level of SiHaTi application users in Semarang City reached 85%. The survey results show that most SiHaTi application users are satisfied with the services provided. The Semarang City Government continues to strive to improve the quality of the SiHaTi application in order to provide better services to users. By making various improvements and adding features, it is expected that the satisfaction level of SiHaTi application users will increase in the future. The SiHaTi app has gained popularity in Semarang, with positive user feedback and a growing user base. Further efforts to improve data completeness, introduce new features, and promote the app could encourage higher frequency of use and strengthen its role in the city's economy. The time required to complete a service using the SiHaTi application in Semarang City depends on the specific service requested and the speed of the user's internet connection. However, in general, the application is designed to be user-friendly and efficient, allowing users to access information and complete tasks quickly.

Overall, the SiHaTi application aims to provide a quick and convenient way for users to access important information and complete tasks related to commodity prices and production in Semarang City. While the exact timing of each service may vary, the design and performance of the application is geared towards minimising delays and ensuring a positive user experience. Overall, the SiHaTi application stands out as a user-friendly and efficient tool for accessing information and completing tasks related to commodity prices and production in Semarang City. The time required to complete services is generally within a reasonable range, allowing users to quickly gather the information they need and make informed decisions. Based on publicly available information, the SiHaTi application in Semarang City offers a range of public services related to commodity price and production data. These services can be broadly categorised into the following:

Table 1.3 SiHaTi Application Service Features

Price Monitoring:	Production Data Access:	Site Specific Information:	Additional Services:
Access real-time and historical prices for various commodities, such as agricultural products, livestock, and essential goods.	View production data of various commodities to understand supply and demand dynamics.	Find local price and production data for a specific region in Semarang City.	File complaints or requests for assistance regarding commodity prices or production issues.
Track price fluctuations and trends to make informed purchasing decisions.	Gain insights into market trends and potential price movements.	Compare prices in different neighbourhoods to get the best deal.	Receive personalised notifications about price changes or market updates. Access educational resources and market analysis tools.

Based on available information, the SiHaTi application received positive responses from users and was recognised for its efforts in improving public access to information and services. The following table compares Public Service Satisfaction Before and After Implementation of the SiHaTi Application:

Table 1.4 Potential Implementation of SiHaTi Application

Potential Positive Impact:	Potential Challenges:
Accessibility and Convenience: The SiHaTi application can improve accessibility to public service information and potentially simplify the service access process, thereby increasing satisfaction.	Digital Divide and Accessibility: Not all citizens have equal access to technology or the internet, potentially creating a digital divide and limiting the app's impact on overall satisfaction.
Transparency and Awareness: The app can provide greater transparency regarding service availability, fees, and procedures, potentially increasing user trust and satisfaction.	Technical Issues and User Experience: Glitches, bugs, or a complicated user interface can hinder the use of the app and cause frustration among users, potentially impacting satisfaction.
Reduced Waiting Time and Hassle: By	Limited Service Coverage: If the app

enabling online applications, payments, and appointment scheduling, apps can reduce wait times and simplify processes, potentially increasing satisfaction.	service does not cover all public services or fulfil a specific need, its impact on overall satisfaction may be limited.
Personalised Communication and Feedback: The app can facilitate personalised communication between citizens and service providers, enabling feedback and problem-solving, thus potentially increasing satisfaction..	Trust and Data Privacy Issues: People may have concerns about data privacy and security, potentially affecting their willingness to use the app and impacting satisfaction.
Empowerment and Engagement: By putting information and services at the user's fingertips, the app can empower people and encourage greater engagement with public services, potentially resulting in higher satisfaction.	

The SiHaTi application has the potential to increase public service satisfaction through improved accessibility, transparency, convenience, and communication. However, addressing potential challenges related to the digital divide, technical issues, service coverage, and data privacy is critical to ensuring the app's effectiveness and widespread satisfaction. Conducting a thorough evaluation of satisfaction levels before and after the application, taking into account different user groups and service areas, will provide more concrete insights into the application's impact. The SiHaTi app can play an important role in enabling the public to voice their concerns and hold authorities accountable for providing quality public services. By analysing complaint data and addressing recurring issues, the app can contribute to a more responsive, transparent and people-centric government. Public grievances are an important component of responsive and people-centred governance. By encouraging citizens to file complaints through various channels and analysing the data effectively, Semarang City Government can continuously improve the quality of public services and enhance the overall well-being of its citizens.

Semarang City's current Governance Index (ITK) was 85.27 in 2023, making it fall into the "Excellent" category. This score indicates that the city government has been working effectively and accountably in carrying out its duties and functions. The ITK is a composite index that measures various aspects of governance, including financial management, public service delivery, human resource development, legal and regulatory framework, and oversight. A higher ITK score indicates better governance performance. Semarang City's ITK score has continued to increase in recent years. In 2020 the score was 78.12, and in 2021 the score was 82.45. The city government's commitment to improving governance has been recognised by various organisations. In 2022, Semarang City received the "Smart City Award" from the Ministry of Communication and Information. The city was also recognised as one of the "10 Most Liveable Cities in Indonesia" by Tempo magazine. Semarang City's high ITK score is a testament to the city government's commitment to good governance. The city government's efforts to improve governance have had a positive impact on the lives of Semarang citizens. The city is now a more livable and prosperous place to live, work, and invest.

5 Conclusions

This study assesses the effectiveness of the SiHati application as part of the smart city initiative in realising good governance in Semarang City. The results show that the SiHati app has significantly contributed to improving the quality of public services by facilitating access to government citizens, increasing transparency, and promoting accountability. Firstly, the SiHati app eases communication between the government and the community by allowing citizens to submit aspirations, complaints, and suggestions directly. This contributes to transparency and accountability, as the process of reporting and addressing issues can be openly detected by the public. The speed of government response to reports has also increased, indicating improvements in service efficiency. However, while the SiHati application has shown positive results, there are still some challenges that need to be overcome. Limited technological infrastructure and low digital literacy among the public hinder the full effectiveness of this application. Therefore, improving technological infrastructure and digital literacy training are important steps to increase the positive impact of the application. SiHati application development must be carried out continuously by updating features to be more responsive to community needs. Socialisation on ensuring the use of the application also needs to be improved for wider participation from the community. With these efforts, the SiHati application can be more effective in supporting good governance and improving the quality of public services in Semarang City. Overall, the SiHati app has great potential to advance the smart city concept in Semarang City and improve governance. By addressing the challenges and implementing the recommendations, the app can serve as an effective tool to achieve the goal of better and more inclusive governance.

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