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Smart City Strategy in Urban Development Management: Effectiveness Study in Banjarbaru City

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ABSTRACT

The concept of a smart city has emerged as a key paradigm in modern urban management, particularly in enhancing public service efficiency, governance, and environmental sustainability. This study explores the smart city strategy in the urban development of Banjarbaru City, aiming to evaluate the implementation and effectiveness of related policies and technologies that support digital innovation. Employing a qualitative approach, data were collected through in-depth interviews, field observations, and document analysis involving stakeholders such as local governments, academics, and community members. The findings reveal that smart city initiatives in Banjarbaru have positively impacted public service efficiency, especially in digital governance, technology-based transportation, and urban environmental management. Nonetheless, several challenges persist, including inadequate digital infrastructure, limited public technological literacy, and insufficient readiness of human resources to adopt new technologies. Resistance to change and a lack of system integration across sectors further hinder progress. This study recommends enhancing data-driven policy formulation, strengthening technological infrastructure, improving human resource capacity, and fostering collaboration between government, private sectors, and the community to support digital transformation. Moreover, innovative financing models such as public-private partnerships (PPP) and green bonds are proposed as viable strategies to accelerate sustainable smart city development. The study also highlights the need for future research on evaluating the sustainability of smart cities, developing measurable performance indicators, and mitigating risks in urban technological implementation. With an inclusive and innovation-oriented approach, Banjarbaru demonstrates significant potential to become a model smart city that is efficient, sustainable, and adaptive to contemporary urban challenges.

Keywords: *Smart city, urban development management, digital innovation, Banjarbaru, public policy.*

INTRODUCTION

The concept of smart city has experienced rapid development along with technological advances and the demands of global urbanization. Basically, smart city is an approach in city planning and management that utilizes digital technology and innovation to improve the efficiency of public services, the quality of life of citizens, and environmental sustainability. Along with the increasing urban population and the challenges faced by modern cities - such as congestion, pollution, limited resources, and ineffective governance - this concept is becoming increasingly relevant and important in urban development. (Albino, V., Berardi, U., & Dangelico, RM (2015)

Historically, the concept of smart city first emerged in the early 2000s as part of a global initiative to improve urban sustainability and efficiency. This development was driven by the information and communication technology (ICT) revolution, which enabled cities to integrate various data-driven systems to improve operational efficiency. Some of the early smart city initiatives were implemented in developed cities such as Barcelona, Singapore, and Amsterdam, which later became models for many other countries. With the increasing use of big data, the Internet of Things (IoT), and artificial intelligence (AI), smart cities have increasingly evolved into complex and integrated systems, covering

various aspects of cities such as transportation, health, education, energy, and governance. (Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M., ... & Portugali, Y. (2012)

The relevance of the smart city concept in urban development can be seen from various main aspects. First, in terms of infrastructure management, digital technology allows cities to manage resources more efficiently. For example, a sensor-based traffic management system can reduce congestion by adaptively adjusting traffic lights based on vehicle volume. In addition, the use of smart grid technology in energy distribution helps improve the efficiency of electricity use and reduce excessive energy consumption. (Caragliu, A., Del Bo, C., & Nijkamp, P. (2011)

Second, in terms of environmental sustainability, the smart city concept contributes to reducing carbon footprints and wiser use of resources. The use of renewable energy, optimization of technology-based waste management systems, and the implementation of environmentally friendly buildings are some examples of how smart cities can support greener and more sustainable cities. Several cities in the world have implemented solutions such as smart waste management, where IoT-based systems are used to optimize waste collection routes and reduce carbon emissions. (Chourabi, H., Nam, T., Walker, S., Gil-Garcia, JR, Mellouli, S., Nahon, K., ... & Scholl, HJ (2012)

Third, from the aspect of governance, the implementation of the smart city concept allows for transparency and more active community involvement in public decision-making. City governments can utilize digital technology to build e-governance, where citizens can access public services online, provide input on policies through digital platforms, and monitor government performance more transparently. This not only increases the efficiency of public services, but also strengthens the relationship between the government and city residents. (Giffinger, R., & Gudrun, H. (2010)

Fourth, in the economic and innovation sector, smart cities open up new opportunities in the development of a technology-based economy. By supporting smart economy initiatives, cities can attract investment in digital technology and encourage the birth of innovative startups. For example, cities such as Seoul and Shenzhen have succeeded in becoming centers of technological innovation due to the support of a strong digital ecosystem, ranging from high-speed internet networks to policies that support the development of financial technology (fintech), e-commerce, and the creative industry. (Harrison, C., & Donnelly, IA (2011)

Fifth, from the aspect of quality of life and social services, the smart city concept also increases public access to health services, education, and security. In the health sector, the implementation of smart healthcare enables digital-based health services, such as telemedicine and electronic medical records, which increase efficiency in the medical service system. Meanwhile, in the world of education, the use of digital technology enables the implementation of an e-learning-based learning system that can reach more people, including in remote areas. (Ministry of Communication and Information of the Republic of Indonesia. (2017).

However, despite its many benefits, the implementation of smart cities also faces various challenges. One of the biggest challenges is the digital divide, where not all people have the same access to technology. This can create social inequality if not balanced with inclusive policies that ensure equal digital access for all levels of society. In addition, data security and privacy issues are also a major concern in the implementation of smart cities, considering that the widespread use of digital technology can increase the risk of misuse of personal data and cyber attacks.

In Indonesia, the smart city concept has begun to be implemented in various cities, including Jakarta, Bandung, Surabaya, and Banjarbaru. The Movement Towards 100 Smart Cities program launched by the government aims to guide cities in Indonesia in adopting the smart city concept more systematically and sustainably. Banjarbaru City, for example, has utilized digital technology in its public service and transportation systems, and developed a city development strategy based on smart governance and smart environment to improve the quality of life of its citizens. Kompas. (2023, April 10)

Overall, the development of the smart city concept has a crucial role in supporting smarter, more efficient and sustainable urban development. With the right use of technology and an inclusive approach, cities can overcome the challenges of modern urbanization and create a better environment for their people. However, the success of smart city implementation still depends on the synergy between the government, private sector, academics and the community in realizing urban transformation based on technology and innovation.

Next, Banjarbaru City, located in South Kalimantan Province, is one of the areas that has experienced rapid development in recent years. This city was previously known as an administrative city that focused

more on the government sector, but has now developed into a center for economic growth, education, and industry. Since being designated as the capital of South Kalimantan replacing Banjarmasin, Banjarbaru has increasingly become the center of attention in the context of regional development. (Nam, T., & Pardo, TA (2011)

Geographically, Banjarbaru has a strategic location because it is on the main route connecting various districts and cities in South Kalimantan. The city is also close to Syamsudin Noor International Airport, which is one of the main gateways for air transportation in Kalimantan. This factor provides an advantage for Banjarbaru in attracting investment and strengthening connectivity with other regions. With an area of around 371.38 km^2, Banjarbaru has great potential for sustainable urban area development. (Setyono, J., & Sari, RP (2022)

In terms of demographics, Banjarbaru has experienced a significant increase in population. This population growth is influenced by urbanization and migration from surrounding areas seeking employment and education opportunities in Banjarbaru. The city is also a major destination for students, as it has several renowned universities such as Lambung Mangkurat University and several other educational institutions. As a result of the increase in population, the need for infrastructure, public services, and housing continues to increase, requiring local governments to develop planned and sustainable development strategies. (United Nations. (2019)

In the economic sector, Banjarbaru is increasingly developing as a center of trade and services. Modern markets, shopping centers, and business areas have begun to emerge to meet the needs of the community. In addition, the industrial and manufacturing sectors have also experienced development with the presence of industrial areas that focus on the production and distribution of various commodities. The tourism sector is also one of the main attractions with destinations such as Lake Seran, Mentaos Pine Forest, and other educational tourism areas. With the support of infrastructure that continues to be improved, the economic sector in Banjarbaru is predicted to continue to experience positive growth. (Zanella, A., Bui, N., Castellani, A., Vangelista, L., & Zorzi, M. (2014)

However, along with rapid growth and development, Banjarbaru also faces various challenges in managing its city development. One of the main challenges is the increasing pressure on urban infrastructure, such as roads, drainage, and public facilities. The increasing number of vehicles and economic activities have caused traffic congestion at several strategic points, which requires more efficient transportation solutions. In addition, environmental problems such as flooding due to poor drainage systems are also a major concern in city development planning.

In terms of governance, Banjarbaru has adopted the smart city concept to improve the effectiveness of city management. Technology-based programs have begun to be implemented in various aspects, including public services, waste management, and transportation systems. Digitalization of government services has also begun to be implemented to increase transparency and efficiency in managing city resources. However, the implementation of the smart city strategy still faces various obstacles, such as the lack of adequate technological infrastructure and the need to increase human resource capacity in operating more complex digital systems. (Central Bureau of Statistics. (2022)

Overall, Banjarbaru is a city with great potential to develop into a center of economy, education, and industry in South Kalimantan. With rapid population growth, increasing economic sector, and adoption of smart city concept, Banjarbaru has a great opportunity to become an example of a modern sustainable city. However, various challenges such as infrastructure management, environmental risk mitigation, and optimization of smart city system must be addressed immediately so that city development can run optimally. Therefore, development management strategy based on innovation and sustainability is the main key in determining the future direction of Banjarbaru City.

In this study, there are two main problem formulations that are the main focus of the study. First, how is the smart city strategy implemented in Banjarbaru City as part of a more modern and technology-based urban management effort. Second, to what extent is the effectiveness of the strategy in supporting urban development management, especially in improving the efficiency of public services, infrastructure, and the quality of life of the community.

The purpose of this study is to examine in depth the implementation of the smart city strategy that has been applied in Banjarbaru. In addition, this study also aims to assess the effectiveness of the strategy in building a more integrated, efficient, and sustainable urban system. By understanding these two aspects, it is hoped that the study can contribute to the formulation of policies and improvements in development governance in Banjarbaru City.

Research on smart city strategies in urban development management in Banjarbaru City has great significance, both in terms of implications for public policy and urban development as well as contributions to smart city and urban management literature. This study not only provides a deeper understanding of the effectiveness of implementing the smart city concept in a local context, but also becomes an important reference for local governments, academics, and practitioners in managing more efficient, sustainable, and technology-based urban development.

The results of this study have a direct impact on the formulation of public policy in Banjarbaru City, especially in the context of implementing the smart city concept to support more effective and sustainable urban development management. Banjarbaru City, as one of the rapidly developing cities in Indonesia, faces challenges in managing urbanization, population growth, and the need for quality infrastructure and public services. With this study, local governments can gain empirical insight into the strategies that have been implemented, including the extent to which they have been successful in improving the quality of life of the community, increasing the efficiency of public services, and encouraging citizen involvement in data and technology-based decision making. (Ministry of Transportation. (2021)

From a policy perspective, this research can be a basis for the formulation of urban development regulations and policies that are more adaptive to technological developments. For example, if the research results show that the integration of digital technology in city governance can improve the efficiency of public services and government responsiveness, then local governments can accelerate the adoption of digital-based management systems. In addition, this research can also be a reference for the formulation of a more comprehensive smart city development roadmap, by considering specific factors that influence the success or failure of smart city strategies in Banjarbaru. (South Kalimantan Provincial Government. (2020).

Furthermore, this study also contributes to mapping the main challenges faced in implementing smart cities, such as limited digital infrastructure, lack of technological literacy among the community and government officials, and budget limitations in supporting technological innovation. By identifying these obstacles, this study can help the government in formulating risk mitigation policies and strategies for increasing human resource capacity in managing smart city technology. Thus, the resulting policies can be more effective in supporting the development of smart, inclusive, and community-oriented cities. (Nugroho, A., & Sari, R. (2021)

In addition to having practical implications for public policy, this study also contributes academically to the development of literature in the field of smart cities and urban management. The study of smart cities in Indonesia is still relatively developing, with much of the research focused on large cities such as Jakarta, Bandung, and Surabaya. Therefore, the research conducted in Banjarbaru City provides a new perspective on the implementation of smart cities in developing cities, which may have different characteristics and challenges compared to metropolitan cities. (Santoso, B., & Prasetyo, D. (2020)

From an academic perspective, this study provides empirical data that can enrich theories and concepts in smart city studies, especially in the Indonesian context. One of the main contributions of this study is to identify an effective smart city implementation model for developing cities that have limited resource capacity but still want to adopt technological innovation in their urban governance. This model can later be used as a conceptual framework that can be applied in other cities with similar characteristics.

This research also opens up space for academic discussion on the best approach in integrating information technology with city development policies, including how local governments can collaborate with the private sector, communities, and academics in creating a sustainable smart city ecosystem. In addition, this research also provides new insights into the social and economic impacts of smart city implementation, which can be used as material for further study in future research.

Methodologically, this study also contributes to developing a qualitative research approach in smart city studies, by emphasizing the experiences and perceptions of stakeholders at the local level. This approach allows for a deeper understanding of the social, cultural, and political factors that influence the success of smart city strategies, which often cannot be revealed through quantitative approaches alone. Thus, this study has broad significance, both in terms of policy and academic aspects, so that it can be a valuable reference for various parties in developing more effective and sustainable smart city strategies in the future.

METHOD

A. Research Approach

The approach used in this study is a qualitative approach, which aims to explore the phenomena and experiences of stakeholders related to the implementation of smart city strategies in urban development management in Banjarbaru City. The qualitative approach was chosen because it allows researchers to understand more deeply the social realities, perceptions, and challenges faced by various actors in the smart city ecosystem.

This approach emphasizes contextual understanding through exploration of data obtained from interviews, observations, and documentation studies. With this method, researchers not only collect data, but also analyze the meaning contained behind the policies, strategies, and practices of smart city implementation applied in Banjarbaru City. In addition, the qualitative approach is also oriented towards the interpretive process, where the interaction between researchers and participants is an important aspect in gaining a broader perspective regarding their experiences and perceptions of the effectiveness of smart city strategies in the area. (Creswell, JW, & Poth, CN (2018)

B. Location and Time of Research

This research was conducted in Banjarbaru City, which is known as one of the cities in Indonesia that is developing the smart city concept in an effort to improve the quality of public services and the effectiveness of urban management. Banjarbaru City was chosen as the research location because it is a city that has experienced rapid growth in terms of digitalization and city governance, making it a relevant case study in evaluating smart city strategies. (Miles, MB, Huberman, AM, & Saldaña, J. (2014)

Geographically, Banjarbaru is the center of government of South Kalimantan Province which has a strategic role in regional development, especially in terms of technology and urban innovation. With the smart city program, Banjarbaru has adopted various digital-based policies in the transportation, public service, environmental governance, and government administration sectors. (Yin, RK (2018) Therefore, this study was conducted to understand how the strategy is implemented and the extent of its effectiveness in supporting sustainable urban development. The research time took place in several stages, namely primary data collection through interviews and observations, and secondary data collection through document studies and official reports. This research process was carried out over a period of several months, including the field exploration stage, interviews with stakeholders, to analysis and preparation of research results reports. (Miles, MB, Huberman, AM, & Saldaña, J. (2014)

C. Data Collection Techniques

In this study, data collection techniques were carried out through in-depth interviews, field observations, and documentation studies to obtain comprehensive information regarding the implementation of smart city strategies in Banjarbaru City.

1. In-depth Interview

Interview techniques were used to explore understanding from various stakeholders directly involved in smart city policies and implementation in Banjarbaru City. Participants in this interview consisted of:

a. Local Government Officials, such as representatives from the Communication and Information Service (Diskominfo), Transportation Service, and other related services that have a role in managing smart cities. (Flick, U. (2018)
b. Practitioners and Academics, who have experience or research related to smart city governance.
c. Communities, as users of smart city services, to understand their experiences, satisfaction, and the challenges they face in accessing urban digital services.

Interviews were conducted in a semi-structured manner, allowing flexibility in exploring deeper and more relevant information to the research context. Data obtained from the interviews were analyzed to identify thematic patterns related to smart city strategies and effectiveness in Banjarbaru City. (Patton, MQ (2015).

2. Field Observation

Field observations were conducted to understand how smart city technology is applied in various sectors, such as transportation, digital-based public services, and urban environmental management. This observation allows researchers to directly observe infrastructure, technology systems, and

community interactions with digital services provided by local governments. (Bryman, A. (2016) Some aspects observed in this observation include:

a. Use of digital-based transportation systems, such as smart traffic management.
b. Application-based public services, such as e-Government or other digital services.
c. Technology infrastructure that supports the smart city concept, such as AI-based CCTV, smart lighting systems, and IoT-based services. (Denzin, NK, & Lincoln, YS (2018)

3. Documentation Study

Documentation study was conducted by tracing various official documents, policy reports, and academic publications related to the implementation of smart city in Banjarbaru City. Secondary data sources used in this study include:

a. Official report from the Banjarbaru City Government regarding the smart city program.
b. Policy and regulatory documents related to the implementation of smart cities in Indonesia.
c. Journal articles and scientific publications that discuss the concept and implementation of smart cities in other cities as comparative material. (Silverman, D. (2020)

This documentation study aims to verify the data obtained from interviews and observations, as well as provide a broader context regarding the policies and strategies that have been implemented.

D. Data Analysis Techniques

The data collected through interviews, observations, and documentation studies were analyzed using thematic analysis and coding processes to identify patterns and main themes that emerged in this study. (Merriam, SB, & Tisdell, EJ (2016) Thematic analysis was conducted by identifying the main themes related to the implementation of smart city strategies in Banjarbaru City and their effectiveness in supporting urban development. (Giffinger, R., Fertner, C., Kramar, H., & Meijers, E. (2007) From the results of data processing, the following are the main themes found:

Implementation of Smart City Strategy in Banjarbaru City

1. Policies and Regulations
    a. The existence of local and national policies that support smart cities
    b. The role of local government in encouraging technology-based innovation
    c. Regulatory barriers are still an obstacle to implementation
2. Technology Infrastructure
    a. Application of information technology systems in public services
    b. Availability of digital infrastructure (CCTV AI, smart traffic, e-Government)
    c. Challenges in developing equitable technology infrastructure
3. Community Participation and Readiness
    a. Public acceptance of digital-based services
    b. Digital literacy and challenges of technology access for certain citizens
    c. Public response to changes in the public service system

Effectiveness of Smart City Strategy in Urban Development Management

1. Public Service Efficiency
    a. Digitalization of public services and its impact on efficiency
    b. Implementation of application-based service systems (e-Government, e-Health)
    c. Barriers to the adoption of digital services by government officials and the public
2. Urban Infrastructure Improvement
    a. The role of technology in optimizing infrastructure management
    b. Implementation of smart traffic management to reduce congestion
    c. Development of IoT-based facilities to support community mobility
3. Quality of Community Life
    a. The impact of smart cities on citizen comfort and well-being
    b. Changes in social interaction patterns due to digital transformation
    c. Data security and privacy in the use of smart city services

Coding Process

After the main themes were identified, a coding process was carried out to group the data based on the patterns found. This process consists of open coding, axial coding, and selective coding to obtain more systematic conclusions.

1. Open Coding

At this stage, data collected from interviews, observations, and documentation are analyzed to identify initial concepts that emerge. Here are some examples of categories in open coding:

Category	Description	Quote
Smart City Regulation	Local government policies in smart city implementation	"The government has adopted an e-Government policy to support digital-based public services."
Technology Infrastructure	Technology development and digitalization of city services	"We have installed hundreds of CCTVs with AI technology to monitor traffic and city security."
Digital Public Service	Transformation of service systems to be digital-based	"Citizens can now access population services online without having to come to a government office."
Regulatory Challenges	Legal and bureaucratic barriers in smart city implementation	"Some regulations do not fully support the development of smart city technology in the regions."
Public Response	Perception and adoption of technology by citizens	"There are still many residents who are not used to using public service applications, especially the older generation."
Data Security	Challenges in protecting user privacy	"There needs to be stricter regulations regarding the security of data for users of government digital services."

2. Axial Coding

Axial coding was used to connect the main categories found in open coding and see the cause-and-effect relationships between variables. Here are some of the relationships found:

Main Category	Sub-Category	Relationship with Other Variables
Smart City Implementation Strategy	Regulations and policies	Strong regulations support the implementation of smart city technology
Smart City Implementation Strategy	Technology infrastructure	Adequate infrastructure accelerates the adoption of smart city systems
Smart City Implementation Strategy	Digital literacy of society	Lack of digital literacy hinders citizens' use of technology
Smart City Effectiveness	Efficiency of public services	Digital services increase transparency and speed of service
Smart City Effectiveness	Infrastructure improvements	Smart infrastructure supports urban mobility and transportation
Smart City Effectiveness	Quality of life of the community	Smart cities contribute to convenience, but pose privacy challenges

3. Selective Coding (Selective Coding)

At this stage, a synthesis of axial coding is carried out to produce key findings that can answer the research questions. The results of selective coding show that:

a. The implementation of the smart city strategy in Banjarbaru City still faces challenges in terms of regulation and infrastructure readiness. Although there are supporting policies, regulations that are not yet in sync with technological needs are still the main obstacle.
b. The effectiveness of smart cities in urban development is seen in the increased efficiency of public services and infrastructure management. The application of technology in administrative and transportation services has increased transparency and speed of service.

c. The quality of people's lives has changed significantly with the digitalization of services, but there is a gap in digital literacy. Some groups of people are not ready to adapt to technological changes, so there needs to be a digital education program.
d. Data security and privacy are important issues in smart city implementation. Tighter regulations and better security systems are needed to protect user data in smart city systems.

Through thematic analysis and coding process, this study reveals that the smart city strategy in Banjarbaru City has had a positive impact on the efficiency of public services and infrastructure, although it still faces various challenges in regulation, infrastructure readiness, and technology adoption by the community. The results of selective coding show that although smart cities can improve the quality of life of the community, there is an urgent need to improve digital literacy, data protection policies, and more equitable infrastructure support so that the implementation of this strategy can run optimally.

RESEARCH RESULTS AND DISCUSSIONS

A. City Profile

Banjarbaru City is one of the rapidly developing cities in South Kalimantan Province. This city has a strategic role as the center of provincial government after the relocation of the capital from Banjarmasin. With an area of approximately 371.38 km^2, Banjarbaru has experienced significant development in the infrastructure, economy, and governance sectors. The relatively high population growth and increasing need for public services have encouraged the local government to adopt the smart city concept in city management in order to improve service efficiency and the quality of life of the community.

In the context of development, Banjarbaru has several leading sectors that support economic growth and public welfare. The trade, service, and creative industry sectors are growing along with urbanization and increasing population. In addition, Banjarbaru is also known as a city of education due to the presence of several well-known universities, such as Lambung Mangkurat University and Banjarmasin State Polytechnic. The presence of these educational institutions also encourages digital transformation and innovation in city governance.

In line with these developments, the adoption of technology in various sectors has also become a major focus of the local government. Several aspects of technology that have been implemented in Banjarbaru include the digitalization of public administration services, technology-based transportation systems, and improvements to communication infrastructure. In recent years, Banjarbaru has begun implementing an e-government system, which aims to increase transparency and efficiency of public services. In addition, the use of the Internet of Things (IoT) in managing urban infrastructure, such as smart street lighting and traffic monitoring systems, has also begun to be developed to support a more integrated smart city concept.

However, the adoption of technology in Banjarbaru still faces several challenges. One of the main obstacles is the digital divide among the community, where not all residents have adequate access to information technology. In addition, the technological infrastructure that is still in the development stage causes limitations in the implementation of a wider smart city system. Therefore, the strategy implemented by the local government is very important in determining the success of realizing an effective and sustainable smart city.

A. Implementation of Smart City Strategy

The Banjarbaru City Government has taken various strategic steps in implementing the smart city concept to improve urban development governance. The first step taken is the development of digital infrastructure, including strengthening the internet network in public areas and government facilities. This is done so that the public and business actors can more easily access digital-based services. In addition, the government has also collaborated with various parties, including the private sector and universities, to support the development of technological solutions in public services.

One of the main initiatives in the smart city strategy in Banjarbaru is the development of an e-government system. The government has implemented electronic-based administrative services, such as e-KTP, e-Samsat, and e-Perizinan, which allow the public to access public services more efficiently. The digitalization of these services aims to reduce complex bureaucracy and increase transparency and accountability in governance.

In the transportation sector, Banjarbaru has begun implementing a smart transportation system, such as installing AI-based surveillance cameras or CCTV at several strategic points to monitor traffic

conditions in real time. In addition, the government has also introduced the concept of green transportation, such as the development of bicycle lanes and public transportation based on environmentally friendly energy. This step is expected to reduce congestion and pollution in this growing city. In the field of security and the environment, Banjarbaru has implemented a smart lighting system, namely the use of sensor-based street lights that can automatically adjust light intensity according to environmental conditions. In addition, a technology-based air quality monitoring system has also begun to be developed to ensure that environmental conditions remain healthy for the community.

To support community involvement in smart city development, the Banjarbaru government has also developed a public service application, such as an online complaint application that allows residents to report problems in their environment, such as damaged roads, uncollected garbage, or other public service disruptions. With this platform, the government can respond faster and ensure more optimal services for the community.

Although various strategies have been implemented, the implementation of smart cities in Banjarbaru still faces several challenges. One of them is the uneven digital literacy of the community, where there are still groups of people who are not accustomed to using technology-based services. In addition, limited budget and technology infrastructure are also factors that hinder the development of smart cities as a whole. Therefore, the sustainability of smart city strategies in Banjarbaru requires synergy between the government, community, academics, and the private sector so that technology-based urban development can run effectively and inclusively. Overall, the efforts made by the Banjarbaru City Government in implementing the smart city concept have shown quite positive results, although there are still various challenges that need to be overcome. With a strong commitment and good cooperation between all stakeholders, it is hoped that Banjarbaru can become one of the successful smart city pilot cities in Indonesia.

C. Effectiveness of Strategy in Urban Development Management

The implementation of the Smart City strategy in urban development management in Banjarbaru City shows varying levels of effectiveness in various aspects, especially in terms of efficiency, transparency, and public participation. Efficiency in urban governance increases with the use of digital technology in the administration and public service systems. Several innovations such as e-government, application-based service systems, and infrastructure management with real-time monitoring systems have had a positive impact on accelerating bureaucracy and reducing operational costs of city government. With the digitalization system, the time needed to access public services, such as making population documents, business permits, and reporting urban problems, is shorter. In addition, optimizing the use of sensors and Internet of Things (IoT)-based technology in transportation and energy management also contributes to the efficiency of city resources.

In terms of transparency, the implementation of the Smart City strategy allows the city government to increase accountability to the community. The existence of a digital platform that allows access to public information openly makes it easier for the community to monitor local government policies and performance. This is also supported by an application-based public complaint system that allows residents to report problems in their environment, such as damaged infrastructure, less than optimal public services, or environmental problems. Thus, the level of public trust in local government tends to increase due to better information transparency.

Meanwhile, public participation in urban development has also increased. With the existence of various digital platforms connecting the government and the community, citizens have wider opportunities to contribute to decision-making related to city policies. Initiatives such as online discussion forums, digital polls, and citizen engagement programs through social media provide space for citizens to convey their aspirations and needs for city development. This creates a more inclusive and democratic model of city governance, where the community not only acts as a beneficiary of public policies but also as a partner in sustainable city development. Although the Smart City strategy has brought various benefits in increasing efficiency, transparency, and public participation, its implementation still faces various challenges that require further attention. Therefore, this study also analyzes the supporting and inhibiting factors that influence the success of the Smart City strategy in urban development management.

D. Supporting and Inhibiting Factors

The success of the Smart City strategy in urban development in Banjarbaru City cannot be separated from various supporting factors that enable the effective implementation of technology. One of the main factors is the commitment of the local government in adopting the Smart City concept as part of the city's strategic development plan. The Banjarbaru City Government has shown strong initiative in developing a digital ecosystem through sufficient budget allocation for technology infrastructure, development of digital-based service systems, and partnerships with the private sector in realizing a smart city ecosystem. In addition, regulatory support is also an important aspect that accelerates the implementation of this strategy. Various policies that support digital transformation, such as data governance policies, privacy protection, and regulations related to technology-based services, provide a clear legal basis for the city government in managing technology-based development.

Another supporting factor is the increasing level of technology adoption among the community. With the increasing use of digital devices, the internet, and social media, the people of Banjarbaru City are more easily adapting to technology-based services provided by the city government. Public awareness of the importance of technology in improving the quality of life is also a factor that drives the success of the Smart City strategy. In addition, the presence of strategic partnerships between the government, private sector, and academics is also a key element in supporting the development of technology-based solutions to address urban challenges.

However, the implementation of the Smart City strategy in Banjarbaru City also faces a number of challenges and obstacles that need to be overcome. One of the main challenges is the gap in digital infrastructure in several areas. Although technology has been used in various aspects of city development, not all areas in Banjarbaru have adequate access to digital infrastructure. Several areas still face limitations in internet connectivity and a lack of technological facilities that can support the optimization of digital-based services.

In addition, the capacity of human resources (HR) in managing the Smart City system is also a challenge in itself. Not all government employees have adequate skills in operating information technology and digitalization of public services. This causes a gap in the implementation of strategies in various government agencies, where some sectors are more advanced in adopting technology than other sectors. Therefore, training programs and capacity building for government officials are needed so that the Smart City strategy can run optimally.

Another obstacle is resistance to change among some communities and bureaucracy. Although many citizens support digital transformation, there are still groups of people who do not understand the benefits of technology or find it difficult to access digital services. This is especially true for the elderly and people with low levels of digital literacy. In addition, bureaucracy that still tends to be conventional can also hinder the implementation of digital systems, especially in the licensing process, cross-sector coordination, and changes in the work patterns of civil servants who were previously accustomed to manual systems.

From a policy perspective, one of the challenges that needs to be faced is the sustainability and consistency of Smart City policies. The implementation of this strategy often depends on the leadership of the local government in power. If there is a change in leadership that does not have the same vision for technology-based development, there is a possibility that the Smart City initiative will stagnate or even stop. Therefore, regulations are needed to ensure that this strategy can continue to run sustainably, regardless of changes in political leadership at the regional level.

Overall, the effectiveness of the Smart City strategy in urban development in Banjarbaru City has had a positive impact in terms of efficiency of city governance, transparency of public services, and increasing community participation. However, the implementation of this strategy still faces challenges that need to be overcome, especially in terms of digital infrastructure, HR readiness, and policy sustainability. By optimizing supporting factors and overcoming existing obstacles, Banjarbaru City has the potential to become a successful example in implementing the Smart City concept in Indonesia, which can be a model for other cities in developing smarter, more efficient, and more sustainable urban systems.

DISCUSSION

A. Interpretation of Findings Explanation of the Relationship between Theory and Reality in the Field

In this study, the Smart City concept in Banjarbaru City is analyzed from the perspective of urban development management with an emphasis on the effectiveness of the implementation of the strategies that have been applied. Theoretically, a smart city is an approach to city development based on technology and innovation that aims to improve the efficiency of public services, optimize resources, and create a more sustainable urban environment that is responsive to community needs. The theory underlying this concept emphasizes six main dimensions of a smart city, namely smart governance, smart economy, smart mobility, smart environment, smart people, and smart living.

However, when this theory is applied in the field, several disparities are found between the idealism of the concept and actual implementation. The results of the study show that Banjarbaru City has implemented several smart city initiatives, such as digitalization of government administration services, development of technology-based transportation, and application of geographic information systems for mapping urban areas. These steps are in line with the theory that the use of information and communication technology (ICT) can improve the efficiency of public services and accelerate decision-making in city management.

However, this study also found structural and non-structural challenges that are obstacles in realizing the smart city concept optimally. From the aspect of smart governance, for example, although the digitalization of government services has been implemented, there are still weaknesses in the aspect of coordination between agencies and the readiness of human resources (HR) in adopting new technologies. This contradicts the theory of good governance in smart cities, which emphasizes that synergy between stakeholders and technological readiness must be the main foundation in smart urban management.

In the smart economy dimension, the theory states that the implementation of smart cities should encourage digital-based economic growth, increase the competitiveness of small and medium enterprises (SMEs), and create technology-based job opportunities. However, the results of the study show that Banjarbaru still faces a digital divide, especially in the SME sector which has not been fully integrated with the digital ecosystem. Although there are various training programs and support from the local government, low digital literacy and limited technological infrastructure are the main obstacles in developing a smart city-based economy.

From a smart mobility perspective, the theory underlines the importance of implementing an efficient and technology-based transportation system to reduce congestion and improve urban mobility. The reality on the ground shows that Banjarbaru has begun to adopt an application-based transportation system, but does not yet have optimal public transportation integration. The lack of technology-based public transportation is still a challenge, so that many people still rely on private vehicles. This shows that the implementation of smart mobility is still in its early stages and is not fully in accordance with the ideal smart city theory.

Furthermore, in the smart environment aspect, the theory emphasizes that smart cities must prioritize the concept of sustainability and technology-based environmental management. The research findings show that Banjarbaru has taken initiatives in terms of digital-based waste management and the use of renewable energy. However, public awareness of the importance of environmental aspects is still a major obstacle. Many government programs have not been optimally responded to by the community, which shows a gap between the concept of smart city theory and implementation in the field.

In the smart people dimension, the theory states that active community involvement in decision-making and technology utilization is the key to a successful smart city. However, this study found that community participation in smart city development in Banjarbaru is still relatively low. Many residents do not fully understand the concept of a smart city, and most digital-based programs are still dominated by academics and the government, not by the wider community.

Finally, in the smart living aspect, the theory emphasizes that smart cities must be able to improve the quality of life of the community through better health services, education, and social infrastructure. Banjarbaru has shown progress in implementing digital health services and e-learning-based education systems. However, limited internet access in some areas and the uneven distribution of technological facilities are still challenges in achieving a better quality of life for the entire community.

From all aspects that have been studied, it can be concluded that the implementation of the smart city strategy in Banjarbaru has shown quite good development, but still faces various challenges in terms

of coordination, HR readiness, and community involvement. The alignment between theory and practice still requires improvement in various aspects, especially in terms of increasing digital literacy of the community, integration of technology-based public services, and the provision of more equitable infrastructure. By understanding this gap, strategic steps can be designed to ensure that Banjarbaru can develop into a more effective and sustainable smart city in the future.

B. Comparison with Previous Studies

1. Similarities with Research in Other Cities

The findings of this study have many similarities with smart city research conducted in various other cities in Indonesia, such as Bandung, Jakarta, and Surabaya. One striking similarity is the focus on digitalizing public services and increasing government efficiency through the use of information and communication technology (ICT). Just like Banjarbaru, big cities in Indonesia have also developed digital-based applications to facilitate access to public services, such as public complaint services, transportation information, and digital payment systems for various administrative purposes.

In addition, the smart city concept implemented in various cities also has a data-based approach to improve city governance, such as the implementation of an IoT-based traffic monitoring system, digital waste management, and the use of artificial intelligence (AI) technology to improve city security. Bandung City, for example, has developed Bandung Smart City with various digital innovations, including a sensor-based traffic monitoring system and a public service application that allows direct interaction between the government and citizens. Likewise, Surabaya has implemented a smart governance system to improve government transparency and more efficient management of public services.

2. Differences with Research in Other Cities

Although there are many similarities in the smart city concept implemented in various cities in Indonesia, this study also found several significant differences between the implementation of smart cities in Banjarbaru compared to other large cities. One of the main differences is the scale and level of readiness of digital infrastructure. Large cities such as Jakarta, Bandung, and Surabaya have more mature digital infrastructure and greater resources, allowing them to implement smart city technology on a wider and more complex scale.

On the other hand, Banjarbaru City still faces several limitations in infrastructure and technology access, so the implementation of smart cities is still more gradual and has not reached the optimal level as in big cities. In addition, another striking difference is the involvement of the private sector in smart city development. In big cities, collaboration between the government and the private sector in developing smart city infrastructure has been going well, especially in the fields of transportation, digital services, and environmental management. For example, in Jakarta, many technology companies have collaborated with the government in providing digital-based services for transportation and public services.

In Banjarbaru, partnerships between the government and the private sector still need to be improved, especially in terms of funding and technological innovation. Most smart city programs in Banjarbaru still rely on local government budgets, while private sector involvement is still limited. This shows that a more inclusive strategy is needed to involve various stakeholders in the development of smart cities in this city.

In addition, another difference found in this study is community participation in the adoption of smart city technology. In big cities, the level of digital literacy of the community tends to be higher, so that the adoption of digital services is faster and wider. On the other hand, in Banjarbaru, this study found that there are still obstacles in terms of digital literacy, especially among people who are not used to using technology in their daily lives. Therefore, more intensive education and socialization programs are needed to increase public understanding of the benefits and use of smart city technology.

Overall, although there are many similarities in the implementation of the smart city concept in various cities, there are striking differences in terms of the scale of implementation, infrastructure readiness, private sector involvement, and the level of digital literacy of the community. Therefore, the smart city strategy in Banjarbaru City needs to be adjusted to local conditions, with a focus on improving digital infrastructure, strengthening collaboration with the private sector, and educating the community to increase participation in the use of digital services.

The discussion in this study revealed that the implementation of the smart city strategy in Banjarbaru City has had a positive impact on the effectiveness of urban development, although it still

faces various challenges. Compared to other big cities in Indonesia, Banjarbaru is still in the early stages of smart city development, with the main challenges in terms of infrastructure readiness, funding, and community participation in adopting digital technology. To increase the effectiveness of the smart city in Banjarbaru, a strategy is needed that is more focused on strengthening digital infrastructure, collaboration with the private sector, and educating the community about the importance of technology in urban development. With a more inclusive and sustainable approach, it is hoped that Banjarbaru can become one of the cities that is successful in implementing the smart city concept to support more efficient, transparent, and welfare-oriented urban development.

C. Implications for Urban Development Management

Urban development management based on the smart city concept requires adaptive policies and holistic development strategies to be able to answer the increasingly complex challenges of urbanization. In the context of Banjarbaru City, the implementation of smart cities must be directed at increasing the efficiency of public services, more sustainable resource management, and strengthening community participation in the planning and decision-making process. Therefore, there are several recommendations for city development policies and strategies that can be implemented to ensure the sustainability and effectiveness of urban development management.

First, local governments need to develop data-based governance policies and digital technology that enable more precise and responsive city planning. The use of big data, the Internet of Things (IoT), and Artificial Intelligence (AI) in city management systems will enable real-time monitoring of various aspects of urban life, such as traffic, waste management, air quality, and public safety. With an integrated information system, the government can make more accurate, evidence-based decisions and respond to city problems more quickly and appropriately.

Second, there needs to be a stricter sustainability and environmental policy in urban development. The use of environmentally friendly technologies, such as renewable energy, green buildings, and sustainable transportation systems must be a priority in urban infrastructure planning and development. The Banjarbaru government can adopt the smart environment concept that emphasizes reducing carbon emissions, energy efficiency, and more optimal waste management through a technology-based recycling system. In addition, sustainable green open space management policies must also be strengthened to maintain the balance of the city's ecosystem and improve the quality of life of residents.

Third, the city development strategy must emphasize strengthening the capacity of human resources (HR) in the urban sector. The development of smart city infrastructure must be accompanied by increasing the competence of government officials, workers, and the community in utilizing digital technology for various urban needs. The government needs to hold training and education programs that encourage digital literacy, technology-based entrepreneurship, and improving skills in managing data and city information systems. With a skilled and innovative workforce, the implementation of smart cities in Banjarbaru can run more effectively and produce maximum impact.

Fourth, in terms of community involvement and multi-stakeholder partnerships, the government needs to build a collaborative ecosystem between the public, private, academic, and civil society sectors in designing and implementing smart city programs. Public-private partnership (PPP) policies must be strengthened to encourage private investment in the development of digital infrastructure, smart transportation, and technology-based public services. In addition, community participation must be increased through a co-creation approach in city planning, where citizens are given access and opportunities to contribute to designing innovative solutions to urban problems.

Fifth, the smart city development strategy in Banjarbaru must include strengthening regulations and clear operational standards in managing various aspects of city development. The government needs to adopt more flexible but firm regulations in regulating the use of digital technology, protection of citizens' personal data, and governance of urban information systems. In addition, operational standards in managing digital infrastructure must follow global best practices in order to improve the quality of services and ensure the security and resilience of urban systems against various threats, including cyber attacks and natural disasters.

Finally, innovative financing and sustainable funding models should be a priority in the smart city development strategy in Banjarbaru. The local government can adopt a result-based financing model and explore alternative funding sources such as green bonds and technology-based social investment. Thus, city development does not only depend on the government budget alone, but also gets support

from the private sector and various international institutions that care about sustainable development. Overall, smart city-based urban development management in Banjarbaru must prioritize an integrated approach, be oriented towards sustainability, and involve various parties in the planning process. With the implementation of appropriate policies and development strategies based on technology and innovation, Banjarbaru can become an example of a smart city that is able to answer the challenges of urbanization and improve the quality of life of its people in the digital era.

CONCLUSION

From the results of this study, it can be concluded that the implementation of the smart city strategy in Banjarbaru City has had a positive impact on urban development management, especially in terms of improving public services, efficiency of city governance, and community participation in development. Various technology-based innovations have been implemented to support the effectiveness of city management, including a digital-based traffic monitoring system, IoT (Internet of Things)-based waste management, and more integrated and responsive public administration services. However, the effectiveness of the smart city strategy in Banjarbaru still faces a number of challenges, such as limited digital infrastructure, readiness of human resources in managing technology, and the lack of specific regulations in supporting smart city transformation. In addition, there is still a gap in the use of technology between various sectors, so a more inclusive approach is needed so that smart cities can provide equitable benefits to all levels of society. Therefore, although the smart city concept has begun to be adopted well, strengthening strategies and continuous evaluation are still needed to increase its effectiveness in developing cities that are more sustainable and adaptive to changing times.

Recommendation

To improve the effectiveness of risk management in smart city development, Banjarbaru City needs to implement efficient, innovative, and sustainable policies and strategies. Strengthening digital infrastructure is the main step, including expanding fiber-optic internet networks, adopting 5G technology, and utilizing big data analytics and AI in decision-making to improve the responsiveness of public services. In addition to infrastructure, increasing human resource capacity is very important. Government officials need to be trained to be able to manage digital systems, while digital literacy of the community must be expanded so that public participation in smart cities is more optimal. Collaboration with the private sector and academics also needs to be strengthened through public-private partnerships (PPP) to create relevant and innovative technology-based solutions.

In order for smart city implementation to run effectively, it is necessary to strengthen regulations and policies related to data protection, technology-based resource management, and cybersecurity. Periodic monitoring and evaluation must be implemented to ensure that the strategy remains in line with technological developments and community needs. In terms of sustainability, the government can adopt innovative funding models, such as result-based financing and green bonds, and establish partnerships with donor institutions to support the development of digital infrastructure. Overall, the effectiveness of smart cities in Banjarbaru depends on the integration of infrastructure, human resources, regulations, and innovative funding models. With a strategy based on innovation and collaboration, Banjarbaru has the potential to become a modern, inclusive, and sustainable smart city, as well as being an example for other cities in managing urban development intelligently.

Suggestions for Further Research

Further research on smart city strategies in urban development management needs to be conducted comprehensively and multidisciplinary. In addition to technological aspects, research should also consider social, economic, environmental, and sustainable governance factors. One of the main focuses is a comparative analysis of smart cities, which can identify best practices from other cities to be adapted in Banjarbaru. In addition, research needs to examine the social and economic impacts of smart cities, including their contribution to economic growth, job creation, and community welfare. Evaluation of smart city sustainability is also important to anticipate challenges such as policy changes, technological developments, and social dynamics. The development of smart city performance indicators is a priority so that the success of the strategy can be measured clearly, covering aspects of mobility, energy, health, citizen participation, and disaster resilience. On the other hand, risk analysis and mitigation strategies are needed to overcome obstacles such as budget constraints, resistance to change, and cybersecurity

threats. Overall, more in-depth research will help Banjarbaru become a model for an innovative, inclusive, and sustainable smart city in the future.

REFERENCE

Albino, V., Berardi, U., & Dangelico, R. M. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. Journal of Urban Technology, 22(1), 3-21. https://doi.org/10.1080/10630732.2014.942092

Albino, V., Berardi, U., & Dangelico, R. M. (2015). Smart cities: Definitions, dimensions, performance, and initiatives. Journal of Urban Technology, 22(1), 3–21.

Central Bureau of Statistics. (2022). Statistics and profile of Banjarbaru City. Jakarta: Central Bureau of Statistics.

Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M., ... & Portugali, Y. (2012). Smart cities of the future. The European Physical Journal Special Topics, 214(1), 481-518. https://doi.org/10.1140/epjst/e2012-01703-3

Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M., ... & Portugali, Y. (2012). Smart cities of the future. The European Physical Journal Special Topics, 214(1), 481–518.

Bazeley, P., & Jackson, K. (2013). Qualitative data analysis with NVivo (2nd ed.). SAGE Publications.

Bernard, H.R. (2017). Research methods in anthropology: Qualitative and quantitative approaches (6th ed.). Rowman & Littlefield.

Bryman, A. (2016). Social research methods (5th ed.). Oxford University Press.

Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart cities in Europe. Journal of Urban Technology, 18(2), 65-82. https://doi.org/10.1080/10630732.2011.601117

Caragliu, A., Del Bo, C., & Nijkamp, P. (2011). Smart cities in Europe. Journal of Urban Technology, 18(2), 65–82.

Chourabi, H., Nam, T., Walker, S., Gil-Garcia, J.R., Mellouli, S., Nahon, K., ... & Scholl, H.J. (2012). Understanding smart cities: An integrative framework. 2012 45th Hawaii International Conference on System Sciences, 2289-2297. https://doi.org/10.1109/HICSS.2012.615

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry & research design: Choosing among five approaches (4th ed.). SAGE Publications.

Denzin, N. K., & Lincoln, Y. S. (2018). The SAGE handbook of qualitative research (5th ed.). SAGE Publications.

Flick, U. (2018). An introduction to qualitative research (6th ed.). SAGE Publications.

Gibbs, G. R. (2018). Analyzing qualitative data (2nd ed.). SAGE Publications.

Giffinger, R., & Gudrun, H. (2010). Smart cities ranking: An effective instrument for the positioning of cities?. ACE: Architecture, Cities and Environment, 4(12), 7-26.

Giffinger, R., Fertner, C., Kramar, H., & Meijers, E. (2007). Smart cities: Ranking of European medium-sized cities. Vienna University of Technology.

Harrison, C., & Donnelly, I. A. (2011). A theory of smart cities. Proceedings of the 55th Annual Meeting of the International Society for the Systems Sciences, 1-15.

Hollands, R.G. (2008). Will the real smart city please stand up? City, 12(3), 303–320.

Ministry of Communication and Information of the Republic of Indonesia. (2022). General guidelines for smart city development in Indonesia. Jakarta.

Ministry of Communication and Informatics of the Republic of Indonesia. (2017). Movement towards 100 smart cities: A guide for local governments in developing smart cities in Indonesia. https://www.kominfo.go.id

Ministry of Transportation. (2021). Report on Transportation and Infrastructure Development in Banjarbaru. Jakarta: Ministry of Transportation.

Komninos, N. (2011). Intelligent cities: Variable geometries of spatial intelligence. Intelligent Buildings International, 3(3), 172–188.

Kompas. (2023, April 10). Smart city implementation in Indonesia: Challenges and opportunities.https://www.kompas.com

Kvale, S., & Brinkmann, S. (2015). InterViews: Learning the craft of qualitative research interviewing (3rd ed.). SAGE Publications.

Merriam, S. B., & Tisdell, E. J. (2016). Qualitative research: A guide to design and implementation (4th ed.). Jossey-Bass.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis: A methods sourcebook (3rd ed.). SAGE Publications.
Nam, T., & Pardo, T. A. (2011). Conceptualizing smart city with dimensions of technology, people, and institutions. Proceedings of the 12th Annual International Conference on Digital Government Research, 282-291. https://doi.org/10.1145/2037556.2037602
Nam, T., & Pardo, T. A. (2011). Conceptualizing smart city with dimensions of technology, people, and institutions. Proceedings of the 12th Annual International Conference on Digital Government Research, 282–291.
Neirotti, P., De Marco, A., Cagliano, A.C., Mangano, G., & Scorrano, F. (2014). Current trends in smart city initiatives: Some stylized facts. Cities, 38, 25–36.
Nugroho, A., & Sari, R. (2021). Smart city and digital transformation in Indonesia: Opportunities and challenges. Journal of Technology and Innovation, 5(2), 123–135.
Patton, M. Q. (2015). Qualitative research & evaluation methods: Integrating theory and practice (4th ed.). SAGE Publications.
Banjarbaru City Government. (2023). Report on the progress of smart city implementation in Banjarbaru City. Banjarbaru City Communication and Informatics Office.
South Kalimantan Provincial Government. (2020). Strategic Plan for Urban Development and Digital Transformation. Banjarbaru: South Kalimantan Provincial Government.
Presidential Regulation of the Republic of Indonesia No. 95 of 2018 concerning Electronic-Based Government Systems (SPBE).
Putra, R. (2021). Implementation of smart city in Banjarbaru City: Opportunities, challenges, and impacts on the quality of life of the community. Journal of Government Science, 12(3), 98–115.
Robson, C., & McCartan, K. (2016). Real world research (4th ed.). Wiley.
Saldaña, J. (2021). The coding manual for qualitative researchers (4th ed.). SAGE Publications.
Santoso, B., & Prasetyo, D. (2020). Technological innovation in city management: A case study of Banjarbaru. Journal of Development Management, 8(1), 45–60.
Setyono, J., & Sari, RP (2022). Digital transformation in smart city development in Indonesia: Case study of Jakarta and Bandung. Journal of City Management, 12(3), 45-62.
Silverman, D. (2020). Interpreting qualitative data (6th ed.). SAGE Publications.
Spradley, J. P. (2016). Participant observation. Waveland Press.
Taylor, S. J., Bogdan, R., & DeVault, M. (2015). Introduction to qualitative research methods: A guidebook and resource (4th ed.). Wiley.
Law of the Republic of Indonesia No. 23 of 2014 concerning Regional Government.
United Nations. (2019). The future of urbanization: Smart cities and sustainable development goals (SDGs). UN Habitat Report.https://www.unhabitat.org
Yigitcanlar, T. (2018). Smart city policies revisited: Considerations for a truly smart and sustainable urbanism practice. World Development, 105, 584–598.
Yin, R. K. (2018). Case study research and applications: Design and methods (6th ed.). SAGE Publications.
Zanella, A., Bui, N., Castellani, A., Vangelista, L., & Zorzi, M. (2014). Internet of things for smart cities. IEEE Internet of Things Journal, 1(1), 22-32. https://doi.org/10.1109/JIOT.2014.2306328