

SMART CITY DEVELOPMENT READINESS AND STRATEGY IN BANGKA REGENCY

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Abstract: The development of information technology has driven transformation in various fields, including the government sector. Bangka Regency, with all its potential, is trying to adopt the Smart City concept to improve the efficiency and quality of life of the community. This study aims to analyze the readiness and strategy for Smart City development in Bangka Regency. The research method is descriptive qualitative and inductive approach, by collecting primary data through interviews and observations, as well as secondary data from related agencies. The analysis was carried out using the Garuda Smart City Maturity Model (GSCMM) to measure the level of Smart City readiness in Bangka Regency. The results of the study found that Bangka Regency is at a structured integrative stage, but is still in the early planning stage. There is great potential in the development of Smart City, supported by digital infrastructure, good governance, and quality human resources. The contribution of the study provides a proposed strategy that can improve the readiness and implementation of Smart City in Bangka Regency, with the ultimate goal of improving the quality of life of the community, the operational efficiency of local government, and supporting sustainable development. The novelty of the study lies in its approach which not only focuses on technical aspects, but also considers the social, economic, and environmental impacts of technology implementation.

Keywords: Smart City, Readiness, Garuda Smart City Maturity Model.

1. Introduction

1.1 General Background

The development of information and communication technology (ICT) has become a major pillar in driving transformation in various sectors, including government. The Smart City concept emerged as a response to increasingly complex urban challenges, such as transportation management, energy efficiency, and more responsive public services (Albino, 2015). Bangka Regency, as one of the areas with great economic potential in the Bangka Belitung Islands Province, has demonstrated its commitment to adopting the Smart City concept to improve the quality of life of its people through the use of technology (Kominfo, 2020).

Along with increasing urbanization and the need for sustainable urban solutions, the Bangka Regency government is trying to integrate technology into governance, resource management, and public services. Bangka Regency has great potential, but still faces challenges in terms of digital infrastructure readiness, community digital literacy, and human resource capacity in supporting Smart City implementation. (Bangka Regency, 2023).

1.2 Previous Literature Review

Previous literature reviews show that the success of Smart City implementation is highly dependent on three main factors: information technology, effective governance, and quality human resources.

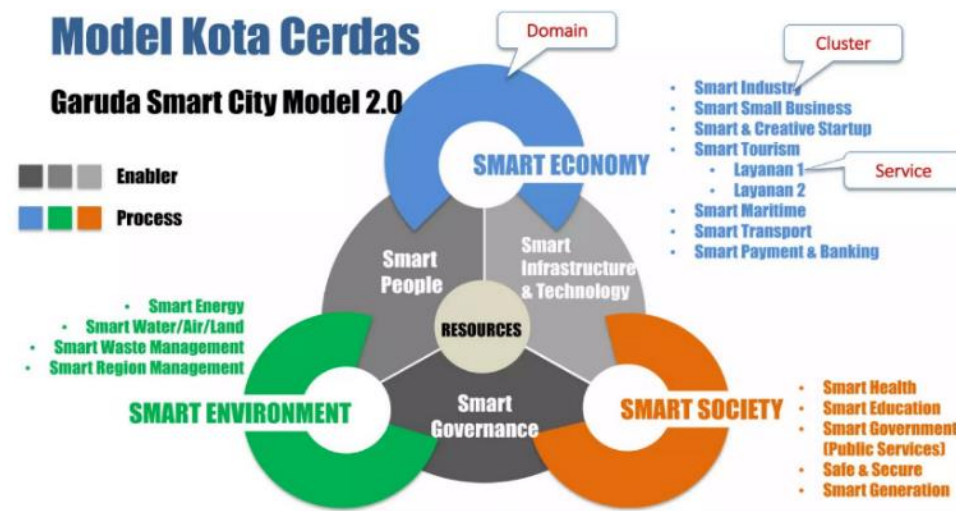


Figure 1. Garuda Smart City Maturity Model (GSCMM)
 Source: [Supangkat \(2018\)](#)

Framework Garuda Smart City Maturity Model (GSCMM), developed by the Bandung Institute of Technology, is often used to measure the level of readiness of a city in adopting the Smart City concept. The percentage of readiness is calculated by comparing the sub-indicators that have been met with the total sub-indicators. The results obtained are in the form of a percentage score (%) which shows the comparison in each condition to achieve the ideal condition. using the following equation:

$$\text{Score (\%)} = \frac{\text{Number of Sub Indicators Fulfilled}}{\text{Total Number of Sub Indicators}} \times 100\% \dots\dots\dots(1)$$

From the results of the analysis, researchers made findings and recommendations resulting from measuring Smart City readiness and initiatives, referring to the Smart City readiness level table as follows:

Table 1. Smart City Readiness Levels

No.	Level Readiness	Information	Score
1	Ad hoc	Low economic level, uncomfortable environment, minimum ICT, governance, and human resource support.	0% – 20%
2	Initiative	Low economic growth, less comfortable environment, ICT-based services are only partially started.	21% – 50%
3	Scattered	Better environment, well-planned ICT-based services	51% – 75%
4	Integrative	Comfortable environment, integrated ICT-based services.	76% – 85%
5	Smart	Comfortable environment, easy ICT-based services.	86% – 100%

Source: [Supangkat \(2018\)](#)

Previous studies in various regions in Indonesia, such as Semarang City and Surakarta City, emphasized the importance of improving digital infrastructure and collaboration between government, society, and the private sector to support sustainable development (Sari, 2024; Zulfa, 2024). Studies on governance in the context of Smart City show that active community participation and transparency in public budget management are the keys to the success of Smart City implementation. (Pangestu, 2024).

1.3 Statement of Scientific Novelty

This article offers novelty by integrating a multidisciplinary approach that combines theories from the fields of

information technology, strategic management, and public policy in the analysis of Smart City development readiness and strategy in Bangka Regency. Unlike previous studies that generally focus on technical or social aspects separately, this article explores the role of Smart City in increasing transparency, accountability, and integrity in natural resource management, especially in the context of the tin industry in Bangka Regency

1.4 Research Problems

Based on literature review and current conditions in Bangka Regency, this study formulates the main problems as follows:

- a. To what extent is Bangka Regency ready to adopt the Smart City concept based on the framework? Garuda Smart City Maturity Model?
- b. What strategies can be proposed to address challenges and take advantage of opportunities in implementing Smart City in Bangka Regency?

1.5 Research Purposes

This research aims to:

- a. Analyzing the level of readiness of Bangka Regency in implementing Smart City using the framework Garuda Smart City Maturity Model.
- b. Develop a Smart City development strategy that is in accordance with the conditions and needs of Bangka Regency, with a focus on improving the quality of life of the community, operational efficiency of government, and support for sustainable development.

2. Research Methods

2.1 Research Design

This study uses a qualitative descriptive approach with the aim of analyzing the level of readiness and strategy for Smart City development in Bangka Regency. This research design was chosen because it allows for in-depth exploration of the phenomenon and obtaining a comprehensive understanding of Smart City readiness and its implementation strategies in a complex context.

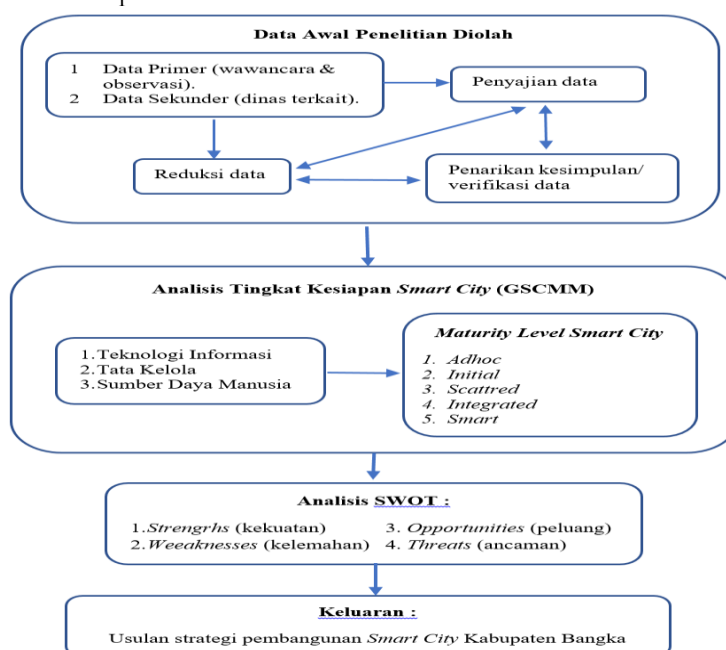


Figure 2. Conceptual Research Model

Source: Miles and Humberman in (Harahap, 2020), (Supangkat, 2018), & Rangkuti (2014), modified.

Figure 1 shows the conceptual model of the study to analyze Smart City readiness in Bangka Regency. Primary and secondary data are processed through reduction, presentation, and verification, then analyzed using the Garuda Smart City Maturity Model (GSCMM) which includes aspects of Information Technology, Governance, and Human Resources to assess the level of Smart City maturity. SWOT analysis is used to identify strengths, weaknesses, opportunities, and threats, which results in a proposed Smart City development strategy in Bangka Regency.

2.2 Research Location

This research was conducted in Bangka Regency, Bangka Belitung Islands Province, Indonesia. Bangka Regency was chosen as the research location because the local government has shown commitment in adopting the Smart City concept and is in the early stages of implementation.

2.3 Research Subjects and Respondents

Respondents in this study consisted of various stakeholders involved in the implementation of Smart City in Bangka Regency, including local government officials, staff of the Communication and Informatics Office, the Regional Development Planning Agency (BAPPEDA), and academics. The total number of respondents interviewed was 7 people, who were selected by purposive sampling to ensure that they had knowledge and direct involvement in the Smart City development process.

Table 2. Interview Respondents

No .	Interview Respondents	Interview Topics	Location Interview	Time	Type	Interview Results
1	Drs. Teddy Sudarsono, M.Si, as Head of the Communication, Information and Statistics Service of Bangka Regency.	Smart City Policy, Institutions, Infrastructure, Smart City Innovation.	Office of Communication and Information Technology of Regency	July 2024	Face to face	https://youtu.be/z5ud1rANhwQ
2	Suharman, SE, as Head of E-Government Division at the Communication, Information and Statistics Service of Bangka Regency.	Smart City Policy, Institutions, Infrastructure, Smart City Innovation.	Communication and Information Technology Office	July 2024	Face to face	https://youtu.be/bz7puCaOdd0
3	Ahmad Zuriansyah, SE, as a Computer Administrator in the E-Government Sector at the Communication, Information and Statistics Service of Bangka Regency.	Smart City Policy, Institutions, Infrastructure, Smart City Innovation.	Communication and Information Technology Office	July 2024	Face to face	https://youtu.be/_4Yi60WJ5Y
4	Mirawati, SE, as Head of General Affairs and Personnel Sub-Section.	Human resources at Diskominfoti.	Communication and Information Technology Office	July 2024	Face to face	https://youtu.be/aSbCNEAxSU8
5	Dr. Darol Arkum, MSi, as Head of Research and Development Division of BAPPEDA Bangka	Smart City Planning.	BAPPEDA Office	July 2024	Face to face	https://youtu.be/oRQIqZWAF

	Regency.					<u>Rw</u>	
6	Tri Nofansyah Putra, ST, as the Young Expert Planner of the BAPPEDA of Bangka Regency.	Smart City Planning.	City	BAPPEDA Office	July 2024	Face to face	https://youtu.be/4jRpKMqX5o
7	Riki Afriansyah, MT, as an Academic (Head of the Information Systems UPT and Lecturer at the IT Software Engineering Technology Study Program in Polman Babel, as well as a Member of APTIKOM Bangka Belitung Islands Province).	Smart City and Smart City Innovation.	City	Polman Babel Campus	July 2024	Face to face	https://youtu.be/KeG1tYyy02s https://youtu.be/AGHLi-fkqWY

Source: (Sugiyono, 2013) & (Harahap, 2020) , processed.

2.4 Data Collection

Primary data were collected through in-depth interviews with selected respondents, as well as direct observation at the research location. Interviews were conducted using a semi-structured interview guide designed to identify key factors in Smart City development readiness and strategy. Secondary data were obtained from official documents such as annual reports, the Bangka Regency Smart City masterplan, and related scientific publications.

2.5 Data Analysis

The collected data were analyzed using qualitative analysis methods with an inductive approach. The analysis began with the transcription of interview and observation results, followed by a data reduction process to identify key themes relevant to the research objectives. The reduced data were then presented in the form of descriptive narratives and linked to the theoretical framework used.

This study uses the Garuda Smart City Maturity Model (GSCMM) as the main analysis tool to measure the level of Smart City readiness in Bangka Regency. This model has five levels of maturity, namely Ad hoc, Initiative, Scattered, Integrative, and Smart. Each level of maturity is evaluated based on indicators that include information technology infrastructure, governance, and human resources.

2.6 Data Processing

Interview and observation data were processed using triangulation techniques to ensure the validity and reliability of the findings. The analyzed data were compared with secondary data to identify congruences and differences. Final conclusions were drawn based on the results of this triangulation, taking into account all available data sources.

2.7 Main Instruments and Equipment

Microsoft Office software to manage and analyze interview data, as well as a digital voice recorder to record interviews.

2.8 Research Procedures

The research began with the planning stage, which involved the preparation of interview guides and identification of key respondents. Data collection was conducted through interviews and observations at the research location. After the data was collected, the researcher conducted an analysis using GSCMM and other qualitative methods. This process ended with the preparation of a research report containing findings, analysis, and strategic recommendations for Smart City implementation in Bangka Regency.

3. Results and Discussion

3.1 Research Findings

This study identifies the level of readiness of Bangka Regency in implementing Smart City, using the Garuda Smart City Maturity Model (GSCMM) as an evaluation framework. The findings show that Bangka Regency is currently at the integrative stage, which indicates that Smart City initiatives have begun to be integrated into regional development strategies, but are still in the early stages of planning and implementation. This finding is supported by data showing that several technology initiatives are already underway, such as the provision of public information portals and the implementation of digital applications for public services.

3.2 Analysis of Scientific Findings on Digital Infrastructure Readiness

The results of the analysis show that the readiness of digital infrastructure in Bangka Regency still needs improvement, especially in terms of internet network coverage and connectivity quality. Although there have been efforts to provide wider internet access, this finding indicates that the existing infrastructure is not fully ready to support effective Smart City operations. This condition is caused by various factors, including budget constraints and geographical challenges that affect the distribution of technology infrastructure in the Bangka Regency area.

This condition is also in line with previous research which states that inadequate digital infrastructure can be a major obstacle in implementing Smart City. (Sari, 2024). Geographical challenges such as varying topography and uneven population distribution are the main factors influencing the quality of digital infrastructure (Pangestu, 2024), such as in the context of Bangka Regency.

3.3 Analysis of Scientific Findings on Governance and Community Participation

From the governance aspect, the research results show that there are significant efforts from local governments in integrating technology into the government system. Community participation in decision-making related to Smart City implementation is still limited. Interview results show that most people do not fully understand the concept of Smart City and its impact on their daily lives. This has an impact on their low participation in Smart City initiatives launched by the government.

Scientifically, low community participation can be explained by the lack of digital literacy and the lack of educational programs that direct the community to understand the importance of Smart City. The success of Smart City is highly dependent on the active participation of citizens in every stage of its implementation, as explained by Albino (2015). Without sufficient understanding, the community tends to be apathetic towards changes initiated by the government, which can ultimately hinder the success of the Smart City program.

3.4 Analysis of Scientific Findings on the Quality of Human Resources

Analysis of human resources shows that despite efforts to improve the capacity and technical skills of government employees, there is a significant gap between the need for and availability of skilled workers in the field of information technology. Data obtained from interviews and observations show that most local government employees still need further training in the use of digital technology and data management which are the backbone of Smart City.

This condition is in accordance with previous research findings which emphasize the importance of skilled human resources as one of the main pillars in developing a Smart City (Zulfa, 2024). This gap can hamper the effectiveness of Smart City implementation because sophisticated technology requires competent management. The level of digital literacy in society is also low, which causes a lack of utilization of available digital services.

3.5 Discussion

Based on the results of research and data analysis, the following is a discussion of Smart City readiness in Bangka Regency. Table 2 displays key indicators that cover various important aspects such as information technology,

governance, and human resources. Each indicator is scored based on actual conditions in the field, supported by relevant sources.

Table 3. Discussion of Smart City Readiness in Bangka Regency

ENABLER	INDICATOR	SUB INDICATORS	INFORMATION	Yes/ No
Information Technology	Telecommunication Infrastructure	Availability of a wide and reliable telecommunications network.	Bangka Regency has reached 81 percent of areas with 4G/3G networks, indicating the availability of a fairly wide network even though there are still blank spot areas that need to be improved.	There is
		Provision of fast and stable internet access throughout the district.	Broadband networks are available to 30 percent of households, with accelerated efforts to address blank spots through the construction of BTS and free public Wi-Fi.	There is
		Availability of public Wi-Fi hotspots.	Public Wi-Fi has been installed at 9 blank spot areas with assistance from CSR PLN Icon Plus.	There is
	Online Applications and Services	Availability of local government applications.	The Bangka Regency Government has developed applications such as TREC MATRAS for population document services.	There is
		Use of online applications or platforms for public services.	The MPP Digital program uses single sign-on for all lines of public service, facilitating service access.	There is
		Adoption of technology in health and education sectors.	Innovations such as Sister DeSi (Disability and Elderly Friendly Health System) and the Dulang Yamani application have been implemented to improve access to health services.	There is
	E-Government	Readiness of local governments in implementing e-government systems.	Policies such as Regional Regulation No. 7 of 2022 and the Regent Regulation regarding SPBE show a commitment to implementing e-government.	There is
		The level of community involvement in using e-government services.	Initiatives such as TREC MATRAS demonstrate the government's efforts to increase citizen engagement through e-government services.	There is
		Data integration between government agencies.	The implementation of SPBE and the development of the Command Center supports data integration between government agencies.	There is
	Provision of ICT Infrastructure	Data center availability.	Planned development of the Data Center in collaboration with the National Data Center (PDN) supports the need for data centers in Bangka Regency.	There is
		Provision of public computer rooms.	Specific information regarding public computer rooms is not yet available.	There isn't any
		ICT training and	ICT training programs are planned to	There

		skills development programs.	improve people's digital literacy.	is
	Cyber Security	Implementation of policies and protection of people's personal data.	ICT related regulations and SPBE policies cover personal data protection.	There is
		Adopt security measures.	Cyber security measures adopted.	There isn't any
		Readiness to respond to security incidents.	There is no specific information regarding security incident response readiness.	There isn't any
Governance	Policies and Regulations	Availability of regulations that support the development of Smart City.	Regional Regulation No. 7 of 2022 and the Regent's Regulation regarding Smart City show strong regulatory support.	There is
		Level of compliance and implementation of policies.	The implementation of ICT policies has been underway, although challenges in preparing SOPs still exist.	There is
	Innovation and Entrepreneurship	The existence of incubators or creative spaces.	There is no specific information regarding the incubator or creative space.	There isn't any
		Involvement of the private sector, research institutions and universities.	Collaboration with various parties in the Gerbang Dewi program shows the involvement of the private sector and other institutions.	There is
	Collaboration and Partnership	The level of cooperation between local governments, the private sector, civil society, and non-governmental organizations.	Cross-sector collaboration in various programs such as TREC MATRAS and Gerbang Dewi demonstrate a good level of cooperation.	There is
		Readiness to establish cross-sectoral partnerships.	The Bangka Regency Government is ready to establish cross-sectoral partnerships, as seen from various program collaborations.	There is
	Community Participation	The level of community involvement in the decision-making process.	Gerbang Mulya Innovation involves the community in handling social problems through mobile -based applications.	There is
		Adoption of technology to facilitate interaction between government and society.	The Gerbang Mulya and TREC MATRAS applications facilitate government interaction with the community.	There is
	Transparency and Accountability	The level of transparency in the management of public budgets and resources.	Quick Win program and use of the application supports transparency and accountability.	There is
		Availability of public	The MPP Digital program provides	There

		information online.	public information online.	is
	Performance Evaluation	The existence of a structured performance evaluation mechanism.	The implementation of data-based performance evaluation and analysis is seen in various smart city evaluation reports and documents.	There is
		Utilization of data and analysis to monitor and evaluate the achievement of city development goals.	The use of data and analysis in monitoring and evaluation of smart city programs has been implemented.	There is
Human Resources	Digital Literacy	The level of community understanding and expertise regarding ICT.	ICT training programs are planned to improve people's digital literacy.	There is
		Availability of training programs or workshops.	There is no specific information regarding training programs or workshops.	There isn't any
	Availability of Skilled Workforce	Availability of workers who have skills and expertise in the ICT field.	Efforts to increase the availability of skilled labor through ICT training are underway.	There is
		Adopt sustainable human resource development practices.	There is no specific information regarding sustainable human resource development practices.	There isn't any
	Entrepreneurship and Innovation	The level of community involvement in entrepreneurship and innovation activities.	The Gerbang Dewi Program encourages community involvement in village tourism entrepreneurship.	There is
		Support from local governments in facilitating the development of local entrepreneurship.	The Bangka Regency Government supports the development of local entrepreneurship through various innovation programs.	There is
	Accessibility of Education	Availability of access to formal and non-formal education.	Adequate educational infrastructure is the focus of social development.	There is
		Provision of adequate educational infrastructure.	Educational infrastructure has become part of the smart city development initiative.	There is
	Diversity and Balance of Human Resources	Efforts to create diversity in the composition of the workforce.	There is no specific information regarding efforts to create workforce diversity.	There isn't any
		Implementation of inclusion policies.	Policies related to inclusion are seen in programs such as Sister DeSi which supports access to health services for the disabled and elderly.	There is
Use of Technology for	Utilization of technology in	The use of online applications and platforms for education and training has	There is	

	Human Resource Development	education and training.	been implemented.	
		Adopt knowledge management and collaboration systems.	There is no specific information regarding the adoption of knowledge management and collaboration systems.	There isn't any
Number of Sub Indicators Fulfilled (Existing)				31

Source: (Supangkat, 2018) processed.

Smart City Readiness of Bangka Regency in table 1 show that 31 sub-indicators have been fulfilled out of 39 indicators. The following is the score calculation based on equation (1):

$$\text{Score (\%)} = \frac{31}{39} \times 100\% = 79\%$$

The findings regarding the readiness of Bangka Regency which is still at the integrative stage can be associated with limited resources, both in terms of infrastructure and human resources. Bangka Regency has great potential in the economic and natural resource sectors, facing major challenges in building adequate technological infrastructure. Budget limitations and geographical challenges also affect the ability of local governments to accelerate the development of Smart City.

The SWOT Matrix Analysis in Table 3 identifies the strengths, weaknesses, opportunities, and threats in the development of Smart City in Bangka Regency. This analysis helps formulate effective strategies to maximize potential and overcome existing challenges. With this understanding, Bangka Regency is expected to be able to design the right strategy to achieve the vision and mission of a sustainable and inclusive Smart City.

Table 4. SWOT Matrix of Smart City Development Strategy for Bangka Regency

	Strengths (Strengths) 1. Local Government Commitment. 2. Adequate Infrastructure. 3. Support from Various Parties 4. Tourism and Creative Economy Potential. 5. Food Industry Development. 6. Abundant Natural Resources. 7. Technology Readiness. 8. Commitment to Sustainability.	Weaknesses 1. Human Resource Limitations. 2. Budget Constraints. 3. Suboptimal use of technology. 4. Uneven distribution of ICT infrastructure. 5. Low Digital Awareness and Literacy. 6. Resistance to Change 7. Ineffective Coordination and Collaboration. 8. Regulatory and Policy Limitations. 9. Lack of Infrastructure Maintenance. 10. Data and Analysis Limitations.
Opportunities 1. National Digital Transformation. 2. Tourism Potential and Creative Economy 3. Support from the Private Sector and International Institutions.	SO Strategy (Strengths-Opportunities) 1. Improving huma resource capacity through training and education. 2. Overcoming budget constraints by seeking	WO (Weaknesses-Opportunities) 1. Leveraging government commitments and infrastructure to support national digital transformation. 2. Supporting the development of tourism and the creative

4. Food Industry Development 5. Technology Innovation . 6. Active Community Participation. 7. Funding and Grants from International Institutions. 8. Education and Human Resource Development. 9. Increasing Regional and National Competitiveness. 10. Improvement of Quality of Life and Public Services.	public-private partnerships. 3. Optimizing the use of technology in governance.	economy through technology. 3. Increasing the competitiveness of local products through food security and food industry
Threats (Threats) 1. Cyber Security Threats. 2. Infrastructure Dependence. 3. Resistance to Change. 4. Budget and Funding Constraints. 5. Changes in Policy and Regulation. 6. Competition with Other Regions. 7. Digital Divide. 8. Climate Change and Natural Disasters. 9. Economic Crisis. 10. Social and Demographic Change.	Strategy (Strengths-Threats) 1. Develop a strong cyber security system. 2. Ensuring sustainability of ICT infrastructure with collaborative support. 3. Overcoming resistance to change through education and community participation.	WT Strategy (Weaknesses - Threats) 1. Overcoming human resource limitations by improving skills through intensive training. 2. Overcoming budget constraints through innovative funding. 3. Overcoming suboptimal use of technology by implementing infrastructure dependency with backup plans and regular maintenance. 4. Overcoming resistance to change through education and community engagement.

Source: Rangkuti (2014), edited.

Table 5. EFAS

No.	External Factors	Weight	Rating	Score = Weight*Rating
1	National Digital Transformation	0.15	4	0.60
2	Tourism Potential and Creative Economy	0.12	4	0.48
3	Support from the Private Sector and International Institutions	0.10	3	0.30
4	Food Industry Development	0.08	3	0.24
5	Technology Innovation	0.10	4	0.40
6	Active Community Participation	0.10	3	0.30
7	Funding and Grants from International Institutions	0.10	3	0.30
8	Education and Human Resource Development	0.08	3	0.24
9	Increasing Regional and National Competitiveness	0.10	4	0.40
10	Improvement of Quality of Life and Public Services	0.07	4	0.28
	Total	1		3.54

Source: Rangkuti (2014), edited.

With a total score of 3.54, it can be concluded that external factors have a significant and comprehensive influence in supporting the development of Smart City in Bangka Regency. Strengthening collaboration, technological innovation, and active participation from various parties are the keys to success in achieving this goal.

Table 6. IFAS

No.	Internal Factors	Weight	Rating	Score Weight*Rating =
1	Local Government Commitment	0.13	4	0.50
2	Adequate Infrastructure	0.10	4	0.42
3	Support from Various Parties	0.10	3	0.31
4	Tourism Potential and Creative Economy	0.10	4	0.42
5	Food Industry Development	0.08	3	0.25
6	Abundant Natural Resources	0.10	4	0.42
7	Technology Readiness	0.10	4	0.42
8	Commitment to Sustainability	0.10	3	0.31
9	Human Resource Limitations	0.08	2	0.17
10	Budget Constraints	0.08	2	0.17
	Total	1		3.4

Source: Rangkuti (2014), edited.

The results of the IFAS analysis with a total score of 3.4, it can be concluded that internal factors have a significant influence in supporting the development of Smart City in Bangka Regency. Support from local governments, adequate infrastructure, and utilization of local potential are the keys to success in achieving this goal, although challenges in limited human resources and budget need special attention.

Cartesian SWOT diagram used to analyze the strategic position of Bangka Regency in developing Smart City. This diagram maps internal and external factors that influence the readiness and strategy of Smart City development

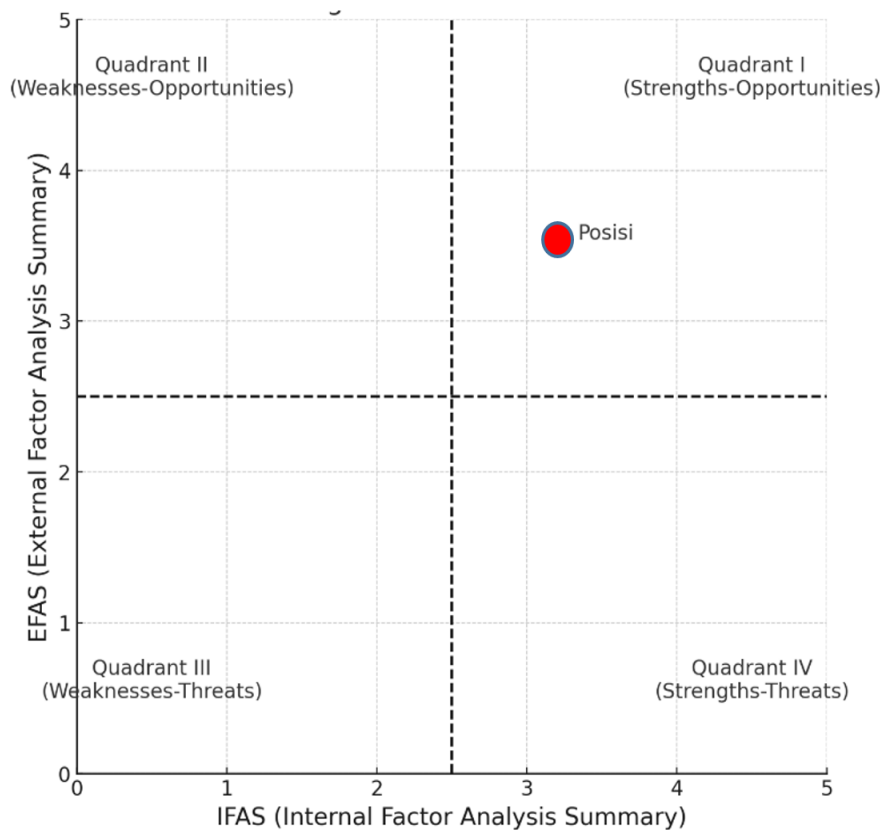


Figure 3. Cartesian SWOT diagram

Source: Rangkuti (2014), edited.

The red dot at coordinates (3.4, 3.54) indicates the position of Bangka Regency in the SWOT analysis. This position is in Quadrant I (Strengths-Opportunities), which shows that Bangka Regency has many strengths and opportunities to be developed in the construction of Smart City.

3.6 Comparison with Other Studies

These findings are in line with the results of other studies that emphasize the importance of infrastructure and digital literacy in the successful implementation of Smart City (Amelia, 2020). Research in Tanjung pinang City shows that despite initiatives to develop a Smart City, infrastructure and human resource challenges are major obstacles to achieving a higher level of maturity (Damayanti, 2024). This shows that the problems faced by Bangka Regency are not unique, but rather common challenges faced by many regions in Indonesia that are in the process of transforming into a Smart City.

This study also shows that community participation is a key element in the success of a Smart City, in line with Albino's (2015) research, which states that a Smart City not only requires advanced technology, but also active participation from the community to achieve the desired goals.

4. Conclusion and Suggestions

This study shows that Bangka Regency is at the integrative stage in Smart City development, characterized by better coordination of initiatives, but is still in the early planning stage. Analysis using the Garuda Smart City Maturity Model (GSCMM) identified that Bangka Regency's readiness is supported by fairly good digital infrastructure, supportive governance, and adequate human resource potential. However, there are significant challenges, such as the need to strengthen cross-sectoral collaboration, increase digital literacy, and improve accessibility and information and communication technology (ICT) infrastructure.

The proposed strategy to strengthen the readiness and implementation of Smart City in Bangka Regency includes the development of more integrated digital infrastructure, strengthening transparent and participatory governance, and improving the quality of human resources through training and continuing education. This implementation aims to improve the quality of life of the community, the efficiency of government operations, and support sustainable development.

Research opens up opportunities for further exploration related to the integration of advanced technologies, such as artificial intelligence (AI) and the Internet of Things (IoT), in supporting Smart City in Bangka Regency. This effort can involve broader collaboration with the private sector and research institutions to address existing challenges and encourage sustainable innovation.

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