ECONOMIC OPPORTUNITIES AND READINESS OF THE CITY OF BALIKPAPAN: TRAILS TOWARDS THE NATIONAL CAPITAL AND THE SMART CITY ERA

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Abstract: The city of Balikpapan has a strategic position as the main gate to the new capital city. This opportunity has a positive impact on the growth of Balikpapan City, especially in encouraging investment. The aim of this research is to determine the economic potential and readiness of Balikpapan City as the home of the National Capital with the development of a smart city. The method in this research uses a qualitative and quantitative approach, the data used is primary data and secondary data, data collection uses a questionnaire distribution technique (Likert scale) with snowball sampling. Data analysis techniques use descriptive analysis and Location Quotient (LQ) analysis. The results of this research show that from the economic aspect in Balikpapan City, this research identified a number of main sectors, such as processing industry, electricity and gas procurement, water supply, waste management, waste and recycling, construction, wholesale and retail trade, car repair and motorbikes, transportation and warehousing, provision of accommodation and food and beverage, information and communications, financial services and insurance, real estate, and other service sectors. The challenges faced by the City of Balikpapan as the home of the National Capital with the development of a smart city involve implementation that is not yet optimal, becoming an obstacle in increasing economic growth and the quality of life of the community. Apart from that, other problems include increasing waste volumes and narrowing waste storage areas in Balikpapan City.

Keyword: Economic potential, Location quotient, Smart City

INTRODUCTION

Penajam Paser Utara, which is in East Kalimantan Province, has been designated by the government as an area for relocating the Indonesian Capital City (IKN) because the area has met the criteria as an area for relocating the country's capital both in terms of environment, geography, population, and is a strategic location in implementing state administration (located at the midpoint of the archipelago) (Farida, 2021). The city of Balikpapan, as one of the cities in the same province as the IKN transfer area, occupies a strategic position as the home of the nation's capital. This fact is certainly a great opportunity that can provide a positive impetus for the development of Balikpapan City, especially in capital investment or investments in Balikpapan City. However, it should be remembered that socio-economic and demographic conditions are essential to attract investor investment in developing infrastructure and industry that supports the relocation of the capital city. Based on socio-
economic and demographic data for Balikpapan City, it shows that the values of inequality, poverty and the average level of education of the people in the area around the new national capital are quite fluctuating.

According to data submitted by BPS (2021), in general the economy in Balikpapan City is dominated by the mining sector (oil and gas) and the service sector. These two sectors contribute to GRDP, respectively 67.37% and 23.82% of total GRDP. However, this is a special concern for the local government not to depend on just two sectors. It is important to consider and start developing other sectors such as industry, trade and tourism to ensure the economic sustainability of Balikpapan City in the future. The fact that the City of Balikpapan still relies on PAD (Original Regional Income) on the services and petroleum sectors will of course provide economic challenges and potential in the future, the government needs to conduct a special study to explore the potential that can be developed in development in the City of Balikpapan.

Apart from being related to economic potential, the position of Balikpapan City as the home of the capital of the archipelago also needs to pay attention to aspects of sustainability and seriousness in managing urban structures. Currently, it cannot be denied that city planning and readiness is often an obstacle for the government in providing maximum public services. The bad impact that can be created by the government’s unpreparedness in managing and regulating urban structures is social conflict between communities which is triggered by limited space in functional and aesthetic aspects. One concept that can be prepared to face this reality is by applying the smart city concept, as stated by Fristikawati, et.al. (2022) who state that by incorporating smart city principles into the design and planning of a new capital city, the government can create a more modern and advanced city that is better prepared to meet the needs of its citizens. Referring to several of these challenges, in preparing Balikpapan City as the home of the National Capital, the Balikpapan City government needs to conduct an in-depth study of the economic potential and carry out an analysis of the readiness of Balikpapan City as the home of the National Capital with smart-city development.

Towards an Integrated Framework to Measure Smart City Readiness: The Case of Iranian Cities (Noori et al., 2020)

The aim of this research is to examine the Smart city initiative in Iran as a case study and analyze the possibility of the city becoming smart and its readiness for implementing the transition to a smart city. The research method used is a qualitative approach with primary and secondary data collected by means of literature studies and surveys. The data analysis technique in this research is by applying the Theory of Change (ToC) approach which includes a situational analysis as a form of empirical analysis. The research results show that the urban governance model is a key factor in the preparation of smart cities in Iran. Despite significant ICT advances, overcoming the impact of international sanctions is important. Iran excels in big data and cybersecurity for smart city development. Public trust and support is critical, especially regarding security. Addressing this with public awareness programs, government transparency, and bottom-up approaches can increase participation. Governance reform is needed so that smart city development runs smoothly. Experiments such as urban living labs and virtual forums can engage citizens more actively.

The Study on the Readiness of Russian Municipalities for Implementation of the “Smart City” Concept (Kamolov and Kandalintseva, 2020)
The aim of this research is to determine the influence of the effectiveness of digital transition management at the city level on the digital transformation of urban settlements. The method in this research uses a qualitative approach with the main variable, namely the smart city concept which consists of several stages in the form of goal setting, planning and implementation stages. The data used in this research is secondary data which is then analyzed using descriptive analysis techniques. The results of this research show that the implementation of the "smart city" concept in Russia will have a significant impact on the effectiveness and efficiency of the national project "Housing and Urban Environment" as well as the national program "Digital Economy". Analysis of legal documents shows that in our sample, all cities focus on specific technical solutions, addressing a limited number of tasks for the digitalization of urban systems. Only three municipalities met all our criteria, indicating a high level of readiness to adopt the "smart city" concept in an integrated manner.

Future Trends and Current State of Smart City Concepts: A Survey (Kirimtat et al., 2020)

The aim of this research is to describe the condition of the smart city concept throughout the world and understand the main trends of the future, including floating cities which can be achieved through the application of innovative technology. The method in this research uses a survey approach with primary data, the data analysis technique used is descriptive analysis. The results of this research show that there are several standards that must be prepared in building a smart city, namely the existence of green open space, massive access to public transportation and implementing the principles of sustainability and providing clean air in the city environment. Apart from that, the fact that sea levels are currently experiencing a rise in sea levels means that the design of floating cities also needs to be prepared for several areas that have a small land area.

Assessment of Economic Benefits of Smart City Initiatives (Wirsbinna and Grega, 2021)

This research aims to determine the economic benefits that can be obtained from Smart cities as well as the variables that encourage and hinder smart city activities in achieving economic benefits in the near and long term. This research method uses a qualitative approach, data is collected through semi-structured interviews and literature review. The data that was collected was then analyzed descriptively. The results in this research indicate that the economic system in a Smart city must be managed carefully to ensure an even or fair allocation of resources among city residents, in order to maintain and increase assets fairly or more profitably. In line with technological advances and increasing automation, Smart cities have emerged as a priority in global urban development.

METHOD

This research combines a qualitative approach and a quantitative approach, this is because this research has two main objectives, namely the economic potential and readiness of Balikpapan City as the home of the National Capital with smart-city development. The data used in this study are primary data and secondary data. Obtaining primary data was carried out using a questionnaire distribution technique (Likert scale) with snowball sampling. The data analysis technique in this research uses descriptive analysis and Location Quotient (LQ) analysis to measure the specialization (base sector) of a region's economy in a particular sector in comparison with the level of economic specialization in the region above it.
RESULT AND DISCUSSION

Economic potential in Balikpapan City

Economic potential in Balikpapan City can be identified using the Location Quotient (LQ) which is an analysis method that compares the structure of the economic sector of a region with the structure of the economic sector. By applying the Location Quotient, it can be measured how strong an economic sector in Balikpapan City is compared to the average national or regional average. LQ analysis can help identify economic sectors that have growth potential and significant contributions to the local economy. The results regarding the economic potential in Balikpapan City through Location Quotient analysis are described in the following table.

Table 1. Location Quotient (LQ) analysis results for Balikpapan City 2015-2022

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</thead>
<tbody>
<tr>
<td>Agriculture, Forestry and Fisheries</td>
<td>0.15</td>
<td>0.14</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>Non-base</td>
</tr>
<tr>
<td>Mining and excavation</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>Non-base</td>
</tr>
<tr>
<td>Processing industry</td>
<td>2.81</td>
<td>2.69</td>
<td>2.69</td>
<td>2.73</td>
<td>2.84</td>
<td>2.84</td>
<td>2.84</td>
<td>2.86</td>
<td>Base</td>
</tr>
<tr>
<td>Procurement of Electricity and Gas</td>
<td>1.84</td>
<td>1.77</td>
<td>1.65</td>
<td>1.54</td>
<td>1.55</td>
<td>1.46</td>
<td>1.46</td>
<td>1.46</td>
<td>Base</td>
</tr>
<tr>
<td>Water Supply, Waste Management, Waste and Recycling</td>
<td>1.67</td>
<td>1.48</td>
<td>1.48</td>
<td>1.44</td>
<td>1.45</td>
<td>1.44</td>
<td>1.38</td>
<td>1.35</td>
<td>Base</td>
</tr>
<tr>
<td>Construction</td>
<td>1.78</td>
<td>1.76</td>
<td>1.70</td>
<td>1.64</td>
<td>1.69</td>
<td>1.77</td>
<td>1.75</td>
<td>1.57</td>
<td>Base</td>
</tr>
<tr>
<td>Wholesale and Retail Trade; Car and Motorcycle Repair</td>
<td>1.67</td>
<td>1.58</td>
<td>1.53</td>
<td>1.48</td>
<td>1.50</td>
<td>1.42</td>
<td>1.43</td>
<td>1.44</td>
<td>Base</td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>2.79</td>
<td>2.72</td>
<td>2.70</td>
<td>2.62</td>
<td>2.56</td>
<td>2.31</td>
<td>2.25</td>
<td>2.32</td>
<td>Base</td>
</tr>
<tr>
<td>Provision of accommodation and food and drink</td>
<td>1.86</td>
<td>1.76</td>
<td>1.75</td>
<td>1.77</td>
<td>1.79</td>
<td>1.67</td>
<td>1.63</td>
<td>1.63</td>
<td>Base</td>
</tr>
<tr>
<td>Information and Communication</td>
<td>2.44</td>
<td>2.26</td>
<td>2.25</td>
<td>2.21</td>
<td>2.22</td>
<td>2.20</td>
<td>2.16</td>
<td>2.15</td>
<td>Base</td>
</tr>
</tbody>
</table>
The results of the analysis of 17 business sectors, Balikpapan City in 2015-2022 has 5 non-based sectors and 12 basic sectors or leading sectors (LQ > 1). Non-basic sectors include Agriculture, Forestry and Fisheries business fields; Mining & Quarrying, Defense, Government Administration & Mandatory Social Security; Education Services; & Health Services and Social Activities. Of the 12 basic sectors in Balikpapan City, this has become a magnet for opportunities that can be developed to increase economic growth in Balikpapan City. Moreover, we welcome the existence of IKN which makes Balikpapan City the muscle for downstream oil and gas and logistics and the realization of the vision of Balikpapan City as a MICE (Meeting, Incentives, Conference and Exhibition) city. Then in the basic sector, there are four business sectors that have a high level of competitiveness or LQ > 1, namely Information and Communication, Financial Services and Insurance, Transportation and Warehousing, and the processing industry. Furthermore, with the high competitiveness, the advantages of these basic sectors can be an effort to attract investors to Balikpapan City. This is a reflection and characteristic of a city that operates in the service sector and is aiming to become a MICE city.

**Implementation of smart city in welcoming Balikpapan City as the homepage of IKN**

Technological advances followed by the development of ICT have encouraged people to carry out various activities efficiently. Good governance is one aspect that bridges the implementation of effective and efficient social and economic activities. Rapid population growth and technological advances have caused various obstacles in economic, social and cultural life. The city of Balikpapan in the 2021-2026 RPJMD has raised smart-city as an effort to realize a sustainable livable city. Smart cities involve developing technological infrastructure that supports connectivity, intelligent public services and operational efficiency. This sophisticated infrastructure and services create an environment that supports economic growth and provides benefits for society, the creative economy and the business world, in implementing the smart city of Balikpapan City in existing conditions in the
regulatory development stage. In its realization, smart city in Balikpapan City itself is still on a scale of 2 from the maximum value of 20. The following are several smart city development facilities that have been applied in government in Balikpapan City.

Table 2. Results of Existing Smart-City Analysis for Balikpapan City

<table>
<thead>
<tr>
<th>Smart-city components</th>
<th>Conditions of the Existing Smart City of Balikpapan City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart government</td>
<td>E-government or e-office</td>
</tr>
<tr>
<td></td>
<td>Electronization of KTP processing</td>
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<tr>
<td></td>
<td>OSS (centralized) in managing investment and capital</td>
</tr>
<tr>
<td>Smart people</td>
<td>Balikpapan city has orderly traffic</td>
</tr>
<tr>
<td>Smart living</td>
<td>Balikpapan, a Child Friendly City</td>
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<td></td>
<td>Balikpapan City of Youth</td>
</tr>
<tr>
<td></td>
<td>Balikpapan as a livable city</td>
</tr>
<tr>
<td>Smart Economy</td>
<td>Creative economy development (music, film, culinary)</td>
</tr>
</tbody>
</table>

Source: Results of interviews with State Civil Apparatus

In the previous discussion, it was explained that the opportunity for Balikpapan City to become an IKN homepage is the potential for absorbing investment and capital, this potential is in line with the existing conditions of the smart city of Balikpapan City which has implemented OSS (Online Single Submission) in managing investment and capital. Smart government which is implemented in a centralized form in managing investment and capital creates a coordinated and automated administration system. This centralized approach suggests the adoption of sophisticated information and communications technology (ICT) to manage crucial aspects of the economy. In this context, the government takes a central role as the entity that coordinates the entire decision-making process regarding investment and capital. One of the advantages of a centralized approach is the creation of efficiency in resource management and investment allocation.

Using an automated system will make it easier for the government to monitor and manage investments in real-time, identify new opportunities, and respond quickly to market changes. This helps increase the effectiveness of decision making in investment management, thereby creating a more dynamic and adaptive economic environment. Investment decisions taken by the central government involve in-depth analysis of sectors that have significant growth potential and economic impact. By using data analysis technology and artificial intelligence, governments can identify economic trends, potential risks and investment opportunities. This enables more precise and data-based decision making, which in turn can optimize resource allocation to support sustainable economic development. The implementation of centralized smart government also provides benefits in terms of transparency and accountability. With the adoption of blockchain technology or other digital security systems, governments can create immutable records of every investment decision and use of capital. This not only increases public trust in government policies, but also ensures integrity and accuracy in every transaction and asset management. Apart from government and economic aspects, readiness for sustainable city development must be supported by adequate environmental cleanliness infrastructure in the form of providing Balikpapan City waste facilities and infrastructure as shown in the following graph.
Figure 1. Number of Balikpapan City Waste Infrastructure Facilities 2016-2020
Source: RPJMD Kota Balikpapan (2021) dan DLH Kota Balikpapan (2021)

Waste has become a very important urgency by considering and assuming increasing population growth and the relocation of the prospective National Capital City (IKN). In conditions of limited land, it is essential to be able to maximize the use of existing land by building efficient and sustainable waste management facilities, such as well-managed final disposal sites, recycling facilities with a 3R system, waste processing technology and processing waste in a circular manner. In dealing with waste which continues to increase, several innovative and sustainable steps are needed which are in line with the Sustainable Development Goals (SDGs) which consist of:

1. Campaigns and community education

   Increasing public awareness about the importance of waste management, especially waste sorting, waste reduction and recycling practices, needs to be carried out regularly, by sorting waste from upstream will be something that will streamline the waste management process at the next stage. Furthermore, public education about the negative impact of waste on the environment must also be improved.

2. Increasing the provision of sustainable waste infrastructure

   Building an effective and sustainable waste management infrastructure is very important. The construction of 3R TPS and Waste Banks can be a medium that can be applied in efforts to reduce upstream waste. TPS 3R and Waste Bank are a means that can also increase the potential income of people at the bottom line.

3. Sustainable waste management system

   Waste management through a circular economy can be an alternative to overcome the increasing volume of waste and limited disposal space in urban areas. In a circular economy, waste is considered a valuable resource. Recycling, reuse and energy recovery from waste is a major focus. This concept can reduce the need for new waste disposal sites, reduce environmental impacts, reduce dependence on natural resources, and create a sustainable cycle for materials and products.
The city of Balikpapan will become an urban area with high population density accompanied by high migration. It is assumed that in the next few years, obstacles in producing and distributing food efficiently will become quite a strategic issue. This can lead to high dependence on food supplies from outside the city, increasing food prices, low access to quality food, and the risk of nutritional imbalance. This is important to be able to provide sustainable food strengthening innovations that can be accessed en masse or independently by the community in order to increase the food security of Balikpapan City. Partnerships with all stakeholder elements are also essential to continue to be strengthened in meeting food security in the years to come along with welcoming Balikpapan City as the home of the National Capital City. A holistic solution that can be developed is the urgency of encouraging urban agriculture by utilizing available land, such as city parks, empty land, or building roofs as agricultural land or through urban farming. Through urban farming, people can produce a small portion of their own food needs, reducing dependence on supplies from outside the city and if it can be cultivated in large quantities, this process can also provide added economic value for the community.

CONCLUSION

The conclusion of this research is that from the economic aspect in Balikpapan City there are several sectors which form the basis of the economy in the form of processing industry, electricity and gas procurement, water supply, waste management, waste and recycling, construction, wholesale and retail trade; car and motorbike repairs, transportation and warehousing, provision of accommodation and food and drink, information and communications, financial services and insurance, real estate and the service sector. The problem with the readiness aspect of Balikpapan City as the home of the National Capital with the development of a smart city is that the implementation of smart city as a catalyst for increasing economic growth and improving the quality of life of the people in Balikpapan City is not yet optimal, as well as the continuing increase in the volume of waste in Balikpapan City and the narrowing of waste storage areas.

The suggestions proposed are as follows: Suggestions on the smart city aspect: need to implement a smart city that can be used to monitor or supervise spatial conditions that ensure the land use process is in accordance with the local regional spatial plan, implement digital-based public complaints that are connected to relevant agencies to get action in real time, Implementation smart-market by utilizing an online buying and selling system through traders in the market, and implementing smart living, one of which can be by rejuvenating slum villages into villages that have added value, open space facilities combined with festivals or youth talent show events. Suggestions on the waste management aspect: it is necessary to implement a circular economic system and increase the number of 3R TPS, provide education to the public that waste does not always have a negative connotation but if managed further can add economic value to the community, provide adequate institutions to carry out the functions of 3R TPS or Banks Waste and stakeholder partnership support for the development of sustainable waste management.

REFERENCES


