



## Balikpapan City Development: Key Sectors for Sustainable Growth

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### Article Information    Abstract

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The main challenge faced by the City of Balikpapan is the disparity in facilities between sub-districts and the lack of optimal development of leading sectors that have the potential to support sustainable economic growth. Inequality in public facilities causes access to essential services, such as education, health, and the economy, to be unequal across city areas. This research aims to identify leading sectors in Balikpapan City and formulate development strategies focusing on sustainable economic growth, equitable distribution of public facilities, and strategic investment recommendations. The research uses quantitative descriptive methods with secondary data from the Central Statistics Agency (BPS) and related literature and analysis of Location Quotient (LQ), Shift Share, Klassen Typology, and Scalogram for the 2016-2022 period. The research results show that the processing industry, electricity and gas supply, and construction sectors are leading sectors with high competitiveness. However, there are disparities in public facilities, especially in North Balikpapan, which has more complete facilities than other sub-districts. These findings indicate the need for a development strategy that prioritizes the development of leading sectors, improving infrastructure, and increasing investment to achieve sustainable economic growth and a better quality of life for the community. The development strategy must focus on equal distribution of public facilities and strengthening leading sectors to make Balikpapan a more livable and economically competitive city.

## INTRODUCTION

Urban planning is an essential factor in achieving sustainable economic development, especially in a developing city like Balikpapan. Through careful planning, land use and infrastructure can be managed efficiently so that access to public services can be more evenly distributed throughout the region. This plays an essential role in creating more inclusive economic equality, ensuring that every group of society benefits from development. In the Balikpapan context, a comprehensive urban planning approach will help overcome infrastructure challenges while encouraging sustainable economic growth by maximizing the potential of leading sectors. Urban planning plays a central role in supporting the development of leading economic sectors and improving people's quality of life, as it emphasizes that sustainable urban planning is the foundation for creating environmentally friendly and livable cities (Wheeler, 2004).

As one of the cities with the most significant economic potential in east Kalimantan, Balikpapan city has superior sectors that contribute significantly to the city's gross regional domestic product (GDRP). Sectors such as the processing industry, electricity and gas supply, and the construction sector are listed as essential sectors with a high comparative advantage ( $LQ > 1$ ). Based on BPS data, Balikpapan GDRP shows a positive growth trend during the 2016-2022 period, except in 2020 when there was a contraction due to the covid-19 pandemic. However, the inequality in the distribution of public facilities between regions, as seen in the north Balikpapan district, which has more complete facilities than other regions, remains a significant challenge.

Various previous studies have discussed aspects of urban planning, leading sectors, and distribution of public facilities in Balikpapan, but research gaps still need to be filled. Research by Nawangwulan *et al.*, (2015) focuses on the advantages of urban planning and environmental management but has not explored the impact of inequality in public facilities on long-term

economic sustainability. On the other hand, Syifa *et al.*, (2021) Shows the important role of the processing industry sector in Balikpapan's GRDP, even though its management faces obstacles from commodity price fluctuations and limited infrastructure. However, this research does not explore the direct relationship between the development of this sector and the distribution of public facilities.

Yulianti, *et al.* (2020) Research has highlighted the inequality in the distribution of public facilities, especially in the East and West Balikpapan regions. Still, it has not linked these findings to the development of leading economic sectors. Meanwhile, (Sutejo, B. A., 2018) The LQ method and multilevel analysis were used to evaluate the industrial sector in East Kalimantan. However, the focus was more on industrial potential than its relation to equitable distribution of public facilities. (Kartika, R., 2022) It also highlights the potential of the service sector in the eastern region of Indonesia, including Balikpapan. Still, it does not explicitly link its development to the distribution of supporting public facilities.

This research provides a more holistic approach by integrating analysis of leading sectors and distribution of public facilities using the LQ, Shift Share, Klassen Typology, and Scalogram methods. It emphasizes the importance of aligning the development of the economic sector and the distribution of public facilities to support sustainable and inclusive economic growth. Thus, it is hoped that the results of this research can become the basis for development planning for Balikpapan that is more equitable, data-based, and oriented towards long-term sustainability.

The uniqueness of this research lies in its holistic approach that directly integrates economic and social aspects, emphasizing the importance of the relationship between the development of leading sectors and the distribution of public facilities. In addition to analyzing the contribution of leading sectors to GRDP, this study pays special attention to the completeness and distribution of public facilities, identified as key elements to support community

welfare throughout Balikpapan. Previous studies tend to be limited to the Location Quotient (LQ) and Shift Share methods to evaluate economic potential without considering in depth how the inequality of public facilities impacts sustainable development.

This research involves the Scalogram method, which has rarely been used in previous studies. This method helps identify the completeness of public facilities in each sub-district, providing a clear picture of which areas require attention in infrastructure development. This approach strengthens the analysis by adding a social dimension, especially regarding inequality in public facilities and its impact on economic inclusion. Hopefully, the results will provide data-based policy recommendations focusing on developing leading sectors and equal distribution of development benefits, thereby supporting more equitable and sustainable development planning in Balikpapan.

Research conducted by Anggraeni (2022) using the location quotient (LQ) and shift-share analysis methods in Balikpapan city in 2015–2019 identified several leading sectors as base sectors, such as transportation and warehousing, which includes land and sea transportation as well as logistics, processing industry, which includes various types of manufacturing, information, and communication which provides information technology, telecommunications, and media, financial and insurance services such as banking and other financial institutions, real estate, and providing accommodation and food and drink. Meanwhile, in this research covering the period 2016–2022, these leading sectors remain dominant, but there are additional sectors that are also part of the base sector, namely construction, electricity and gas procurement, wholesale and retail trade; car and motorbike repair, water supply, as well as garbage, waste and recycling management, and corporate services. These findings illustrate the expansion of a more diverse base sector, reflecting the dynamics of growth and changes in economic structure that have occurred in Balikpapan city over a more extended period.

Research conducted by Nurmaya et al, (2020) using the LQ and shift share methods for 2016-2018 shows that the first leading sector in Balikpapan City is the transportation and warehousing sector, with an LQ value of 2.688. This sector is in a prime position because of its essential role in supporting the smooth distribution of goods and community mobility, which is very relevant to the geographical conditions of Balikpapan as a port city. Followed by the industrial processing sector, which is in second place with an LQ value of 2,645, this sector plays a strategic role in supporting regional economic growth through various production and processing activities. However, the findings of this latest research are different from the results of previous research, where the manufacturing industry sector has now achieved the first leading position with a higher LQ value, namely 2.787. Meanwhile, the transportation and warehousing sector experienced a decline, becoming the second sector with an LQ value of 2.501. This difference shows a change in the economic structure of Balikpapan city, which could be influenced by various factors, such as the increasingly rapid development of the processing industry or changes in market demand patterns. Apart from that, regional policy factors and global dynamics that impact the transportation sector, such as fuel prices or the pandemic, could also be the main reasons behind the movement of this leading sector. These changes illustrate the adaptation of the Balikpapan city economy to new conditions and provide further insight into the potential of economic sectors that play a role in regional growth.

## RESEARCH METHODS

This research aims to identify leading economic sectors in Balikpapan City, analyze their advantages compared to other cities, understand efforts to increase economic growth, and provide recommendations regarding facilities that need to be built to achieve equality in Balikpapan City. The method used is a quantitative descriptive approach using secondary data obtained from the Central

Statistics Agency (BPS) and related literature. The applied analysis includes location quotient (LQ), shift-share analysis, Klassen typology, and scalogram analysis with data covering 2016-2022.

The results of the LQ calculation produce three categories: (1)  $LQ > 1$ , indicating that the commodity is a base sector or source of growth that can not only meet the needs of its region but can also be exported outside the region; (2)  $LQ = 1$ , indicating that the commodity is not a base sector and does not have a comparative advantage, so production is only sufficient to meet regional needs without any surplus for exports; (3)  $LQ < 1$ , meaning that the commodity is also classified as non-basic, where production is not sufficient to meet regional needs and requires external supplies (Subanti, 2009).

Shift share analysis is used to analyze changes in the economic structure of a region, especially in terms of higher regional economic growth. If sectors with slow growth dominate an area, then the region's economic growth tends to be lower than regions with a higher growth rate. This analysis compares sector growth at the district level with the same sector at the provincial level, consisting of three components: the influence of national growth, the influence of industrial structure, and competitive shifts. (Basuki, 2017).

Next, Klassen typology analysis examines the pattern and structure of economic growth in various regions by grouping regions based on two leading indicators: economic growth and per capita income. The regional classification in the Klassen typology includes (1) regions with fast growth and high income; (2) areas that are already developed but experiencing a decline in growth; (3) areas with fast growth but low income; and (4) areas that tend to be left behind. (Pesurnay, 2018).

Scalogram analysis is applied to evaluate the completeness of the function of facilities in an area by recording the presence or absence of socio-economic facilities. In this method, the number 1 is given if the facility exists, and the number 0 if it does not exist. The choice of this analytical tool is very relevant for research in

Balikpapan, considering the complexity of the economic structure and the need to understand the dynamics of growth and development of facilities that can support equality in development (Muliana, 2018).

## RESULTS AND DISCUSSION

Balikpapan City's GRDP, based on constant prices in 2023, shows an increase in production from 2016 to 2022, except in 2020, where there was a decline. Even though there has been a decline, the rate of decline remains in the same range, and the good news is that Balikpapan City's GRDP will increase again in 2021 and 2022. The decrease in East Kalimantan's GRDP in 2020 can be explained by several primary factors, such as the impact of the COVID-19 pandemic, which has a negative impact on economic sectors such as tourism, hotels, and mining. Travel restrictions, business closures, and a decline in global demand have impacted economic performance in the region.

**Table 1.** Results of Analysis Location Quotient Values for Balikpapan City 2016-2022

Economic Sector	Average LQ
Agriculture, Forestry, and Fisheries	0.1348917359
Mining and Quarrying	0.0009476823952
Processing Industry	2.787650737
Procurement of Electricity and Gas	1.559315275
Water Supply, Waste Management, Waste and Recycling	1.436664192
Construction	1.700223501
Wholesale and Retail Trade; Car and Motorcycle Repair	1.48626519
Transportation and Warehousing	2.500660489
Provision of Accommodation and Food and Drink	1.718707882
Information and Communication	2.214006707
Financial Services	2.145948824
Real Estate	1.884995352
Corporate Services	1.349563343
Government Administration, Defense and Mandatory Social Security	0.6918138171
Education Services	0.9305810592
Health Services and Social Activities	0.9015169511
Other Services	1.226107451

Source: Data Processed, 2024

The LQ approach is an analytical method used to see the potential for specialization of a region in main economic activities or to identify leading sectors. These superior sectors are those that can meet the needs of their region and other regions (Restiatun, 2009). Location Quotient (LQ) analysis is used to compare the regional income of Balikpapan City with East Kalimantan Province and separate sectors into two groups based sectors ( $LQ > 1$ ) which have comparative advantages, can meet local needs, and export products or services, and non-based sectors ( $LQ < 1$ ) which do not have a comparative advantage and therefore require imports to meet needs.

Based on the results of the Location Quotient (LQ) index calculation, there are 12 sectors included in the essential sector category in Balikpapan City, which have an LQ of more than 1. These sectors make a significant contribution to the regional economy and have the potential to export products or services to other areas. These essential sectors include Processing Industry (LQ 2.7877), Electricity and Gas Procurement (LQ 1.5593), Water Supply, Waste Management, Waste and Recycling (LQ 1.4367), Construction (LQ 1.7002), Wholesale and Retail Trade; Car and Motorcycle Repair (LQ 1.4863), Transportation and Warehousing (LQ 2.5007), Provision of Accommodation and Food and Drink (LQ 1.7187), Information and Communication (LQ 2.2140), Financial Services (LQ 2.1459), Real Estate (LQ 1.8850), Company Services (LQ 1.3496), and Other Services (LQ 1.2261). These essential sectors have high competitiveness in regional and even national markets, which allows them to become the main driver in Balikpapan's economy.

These essential sectors with high LQ show that Balikpapan has excellent potential to continue developing and optimizing these sectors. For example, the Manufacturing Industry (LQ 2.7877) and Transportation and Warehousing (LQ 2.5007) sectors significantly contribute to Balikpapan's economy, driven by good infrastructure and the variety of existing processing industries. Apart from that, the

Accommodation and Food and Drink Provision sector (LQ 1.7187) is also growing rapidly in line with the increase in the tourism sector and the need for adequate accommodation. Likewise, the Financial Services sector (LQ 2.1459) continues to grow along with the increase in financial institutions and developing a digital-based economy in Balikpapan. Therefore, developing these sectors must be the main focus of regional economic policy to increase Balikpapan's competitiveness at the national and global levels. The government and industry players must also work together to face global challenges, including fluctuations in commodity prices, by strengthening existing base sectors and developing new sectors that have the potential to become base sectors in the future.

Non-based sectors in Balikpapan City, which have an LQ of less than 1, include Agriculture, Forestry, and Fisheries (LQ 0.1349), Mining and Quarrying (LQ 0.0009), Government Administration (LQ 0.6918), Educational Services (LQ 0.9306), and Health Services and Social Activities (LQ 0.9015). The sector with the lowest LQ value is Mining and Quarrying, which shows that Balikpapan tends to import resources from outside the region to meet the needs of this sector. This is quite surprising considering that Balikpapan has a reputation as the operational center for the national oil and gas industry with large companies such as Chevron and Pertamina and the potential for considerable coal resources in this region. However, the low LQ of the mining sector shows obstacles to optimal resource management in Balikpapan. Environmental constraints and problems in managing natural resources are the main inhibiting factors for developing this sector. Therefore, synergistic efforts are needed between the government, society, and related companies to improve the management of this sector and overcome these obstacles. Furthermore, community empowerment through training and skills development programs is essential so that communities can adapt to economic changes and reduce dependence on non-based sectors.

**Table 2.** Shift Share Calculation Results for Balikpapan City 2016-2022

Economic Sector	Nij/ RS	Mij/ PS	Cij/ DS	Dij	SNij
Agriculture, Forestry, and Fisheries	107231.4538	15393.89975	-38245.42357	84379.93	-22851.52382
Mining and Quarrying	5361.972329	-1521.41369	-1707.058639	2133.5	-3228.472329
Processing Industry	6448829.078	-3790374.673	6499657.495	9158111.9	2709282.822
Procurement of Electricity and Gas	10107.54906	23567.53584	-10873.0549	22802.03	12694.48094
Water Supply, Waste Management, Waste and Recycling	7661.727509	11301.19197	-1003.31948	17959.6	10297.87249
Construction	1325583.525	1721639.327	-444033.5226	2603189.33	1277605.805
Wholesale and Retail Trade; Car and Motorcycle Repair	894662.0132	1221812.493	-120471.4267	1996003.08	1101341.067
Transportation and Warehousing	859494.4695	463942.813	-535825.2525	787612.03	-71882.43951
Provision of Accommodation and Food and Drink	155808.1488	171711.2891	1727.072087	329246.51	173438.3612
Information and Communication	374722.108	844998.1257	100973.6764	1320693.91	945971.802
Financial Services	367028.4385	158412.5983	68562.81323	594003.85	226975.4115
Real Estate	192924.2099	-32614.582	12932.58215	173242.21	-19681.99985
Corporate Services	29479.86446	2232.777821	2339.147723	34051.79	4571.925544
Government Administration, Defense and Mandatory Social Security	152345.9556	-39345.21053	-73159.46504	39841.28	-112504.6756
Education Services	144100.1171	133995.6453	13089.91759	291185.68	147085.5629
Health Services and Social Activities	55282.42101	212423.7388	11944.69024	279650.85	224368.429
Other Services	70173.86309	69587.05386	9110.943047	148871.86	78697.99691

Source: Data Processed, 2024

although Balikpapan has many natural resources, this city faces significant challenges in optimizing resource management, which is the main factor in the low performance of the mining sector. The authors suggest that environmental management and technological improvements are essential to unlock the potential of this sector. In addition, (Santosa, D., et al, 2021) emphasize that empowering local communities through skills development is essential in regions that depend on non-leading sectors.

Shift Share Analysis is a method used to evaluate the growth of the economic sector in Balikpapan City by comparing it to similar sectors at the national and provincial levels. The

three main components in this analysis are Mij, which reflects local sector growth; Cij, which shows the sector's competitiveness; and SNij, which describes structural effects or potential stagnation. If the Mij value  $< 0$ , the sector's growth is slower than the national average.  $Cij < 0$  indicates low sector competitiveness, while  $SNij < 0$  suggests the possibility of stagnation. On the other hand,  $SNij > 0$  indicates that the sector is progressive and capable of developing faster than similar sectors at the national level. Based on data, sectors such as accommodation, food and beverage, communications, finance, education, health, and other services in Balikpapan show significant development and

strong competitiveness, outperforming similar sectors in East Kalimantan Province.

The growth of the accommodation sector in Balikpapan is strongly supported by the increase in tourists and investment in developing quality hotels. This phenomenon is related to the development of tourism infrastructure, which has a positive impact on the local economy, as stated by (Sari, D. et al, 2022) the tourism sector and its supporting facilities have significantly contributed to accelerating economic growth in urban areas; apart from that, the food and beverage sector recorded rapid development with various restaurants, culinary centers, and new innovations in the culinary industry. This not only creates jobs but also increases the attractiveness of Balikpapan City as a culinary destination. In the communications sector, progress is driven by the high need for information and communications technology and widespread digital transformation. This is in line with (Setiawan, 2023) study, which underlines the importance of technological adaptation in supporting economic growth in urban areas of East Kalimantan.

The financial sector in Balikpapan also shows rapid development with the expansion of banking and financing institutions that

strengthen financial inclusion, especially for MSME players. (Widyastuti, 2021) A study states that expanding financial access positively correlates with the growth of MSMEs in developing cities, supporting local economic stability. The education sector is also one of Balikpapan's advantages, as is the quality of educational institutions. These institutions provide a skilled workforce that supports other sectors and improves long-term economic competitiveness. The health sector has also experienced significant development with the addition of adequate health facilities, ensuring access to health services for the community.

Developments in other service sectors, such as professional, technological, and creative services, reflect Balikpapan City's economic diversification. This diversification is essential to reduce dependence on traditional sectors such as oil and gas and mining, as stated by (Hutabarat, et al, 2020) who highlight the importance of economic diversification in natural resource-based cities to support long-term financial sustainability. With growth in various progressive sectors, Balikpapan can create new opportunities that keep pace with global economic changes and increase national and international competitiveness.

**Table 3.** Results of Klassen Typology Analysis for Balikpapan City 2016-2022

Index	LQ > 1	LQ < 1
SS (Cij+1)	<b>Leading Industries:</b> Processing Industry Sector	<b>Mainstay Industries:</b> -
SS (Cij-1)	<b>Prospective Industries:</b> Procurement of Electricity and Gas Water Supply, Waste Management, and Recycling Construction Wholesale and Retail Trade; Car and Motorcycle Repair Transportation and Warehousing Provision of Accommodation and Food and Drink Information and Communication Financial Services Real Estate Corporate Services Other Services	<b>Underdeveloped Industry</b> Agriculture, Forestry and Fisheries Mining, and Quarrying Government Administration, Defence, and Social Security Education Services Health Services and Social Activities

Source: Data Processed, 2024

Typology Analysis for Balikpapan City for the period 2016 to 2022, the economic sectors are grouped into four main categories: Leading

Industries, Mainstay Industries, Prospective Industries, and Underdeveloped Industries. This classification is based on two important

indicators, Location Quotient (LQ) and Shift Share (Cij), used to assess sectors' comparative and competitive advantages. LQ measures whether a particular industry has a relative advantage over other areas. At the same time, Cij identifies whether the sector is growing faster or slower compared to the city's average growth.

The Manufacturing Industry sector in Balikpapan shows substantial comparative and competitive advantages, reflected in the high Location Quotient (LQ) value and positive Comparative Location Indicator (Cij) value. This indicates that this sector is experiencing faster growth than other sectors in Balikpapan, making it the main driver of the city's economy. This finding aligns with previous research results, which emphasize the importance of industries with comparative advantages for regional economic growth. According to (Supriyanto, H., et al, 2020) Industries with high LQ values are essential for the local economy and significantly contribute to regional and global competitiveness. In particular, by utilizing local resources and optimizing production processes, the Manufacturing Industry sector creates an environment that supports better growth and development. In line with this, (Kuncoro, M., et al, 2018) emphasize that sectors with high competitiveness, especially those with high LQ and positive Cij, can act as economic pillars by stimulating innovation, attracting investment, and increasing job creation.

No sectors in the Mainstay Industries category meet these criteria in the analysis. Mainstay Industries should cover industries that have comparative advantages but do not yet have full competitive advantages. However, in the analysis results, no sectors fall into this category, indicating that Balikpapan does not yet have a sector with great potential with few remaining competitive challenges. This is in line with the findings of (Darmawan, E. et al, 2021) who stated that sectors belonging to the Mainstay Industries category should show developed competitive advantages, but in the case of Balikpapan, no sectors were recorded in this category.

Prospective Industries are sectors showing positive growth but have not yet achieved competitive advantage. These sectors are seen as having great potential to develop into mainstay sectors in the future with the support of appropriate policies and sustainable investment. Some sectors included in this category are Wholesale and Retail Trade, Car and Motorbike Repair, Provision of Accommodation and Food and Drink, and Information and Communication. Even though currently the competitiveness of these sectors is still limited, they have the potential to become the primary driver of Balikpapan's economy in the future, as stated by (Sari, A., 2020) who emphasizes the importance of appropriate policies in supporting the development of sectors that have the potential to become superior.

Sectors in the Underdeveloped Industries category are sectors that are still lagging behind, both from a comparative and competitive perspective. These sectors, such as Agriculture, Forestry and Fisheries, Mining and Quarrying, Government Administration, Defense and Social Security, and Education Services and Health Services, face significant challenges, such as technological limitations, human resources, and access to markets and capital. Therefore, these sectors require special attention and more intensive policy support to develop and contribute more to the regional economy. This finding also aligns with research by (Wahyu, T., et al, 2022) which identified that sectors in the Underdeveloped Industries category require digital transformation and improving the quality of human resources to push these sectors forward.



**Table 4.** Description of Quadrants and Number of Sectors

Quadrant	Amount	Information
I	1	Have advantages, both comparatively and competitively.
II	0	It has a competitive advantage but does not have a comparative advantage.
III	11	It has a comparative advantage but does not have a competitive advantage.
IV	5	Does not have a competitive or comparative advantage

Source: Data Processed, 2024

After classifying economic sectors using Klassen Typology Analysis, the results show that they are grouped into four main quadrants, each reflecting a sector's comparative and competitive advantages. These results clarify which sectors have superior potential and require more attention for development.

Sectors included in Quadrant I have advantages both comparatively and competitively. This means that this sector is growing faster than the average sector in Balikpapan and has great potential to compete at regional and national levels. In this analysis, only one sector is included in this category, namely the Processing Industry Sector. This sector is Balikpapan's mainstay because it can create significant added value and contribute to the city's Gross Regional Domestic Product (GRDP).

Quadrant II describes sectors with competitive advantages but not comparative advantages. This means that the sectors in this quadrant are growing faster but are not supported by adequate resource potential compared to other industries in Balikpapan. Uniquely, in the results of this analysis, no sectors are included in the Quadrant II category; this shows that all industries with competitive advantages in Balikpapan also have adequate comparative potential.

Quadrant III includes 11 sectors, which show that these sectors have great potential due to their comparative advantages but cannot

compete competitively. Examples of industries in this category include Electricity and Gas Procurement, Construction, and Wholesale and Retail Trade. Even though these sectors have significant resources and potential, improvements in competitiveness are still needed, such as adopting new technology, increasing efficiency, and strengthening management.

Five sectors are included in Quadrant IV, indicating they are lagging comparatively and competitively. Sectors in this category, such as Agriculture, Forestry, Fisheries, and Government Administration, still face various significant challenges, including limited infrastructure, underdeveloped technology, and low levels of efficiency and productivity. These sectors require more intensive policy intervention and investment support to improve their performance and significantly contribute to the regional economy.

Research conducted by Sari *et al.*, (2018) shows the importance of economic sector classification to understand each sector's potential and challenges. They emphasized that industries with comparative advantages must be encouraged to strengthen their competitiveness to develop more quickly and contribute more to the regional economy. A similar thing was also stated by Kusuma (2020) assessed that sectors that have great potential but are not yet able to compete require strategic efforts to increase competitiveness and more efficient resource management.

**Table 5.** Each District of Balikpapan City in 2020

Subdistrict	Population	Education Facilities	Health Facilities	Public Facilities	Communication	MSMEs & SMEs
North Balikpapan	169,15	223	57	16	115	2,194
South Balikpapan	145,007	173	54	76	127	1,712
Center Balikpapan	106,952	149	36	36	53	563
East Balikpapan	90,243	131	19	22	54	418
Balikpapan City	82,843	146	38	53	78	67

Source: Data Processed, 2024

Table 5 presents data on the population and availability of facilities in each sub-district in Balikpapan City in 2020, including educational facilities, places of worship, health facilities, and other public facilities. From this data, it can be seen that North Balikpapan District occupies the top position in terms of population, with 169,150 people. Educational facilities in North Balikpapan are relatively complete, consisting of 33 Kindergartens (TK), 78 Play Groups (KB), 39 Elementary Schools (SD), 15 Middle Schools (SMP), 10 High Schools (SMA), 7 Vocational High Schools (SMK), as well as ten tertiary institutions. Regarding places of worship, North Balikpapan has the most significant facilities, with 223 units consisting of mosques, churches, temples, and monasteries. In the health sector, this sub-district also excels with 3 general hospitals, 4 clinics, 5 health centers, 6 posyandu, and 28 pharmacies. Apart from that, other supporting facilities, such as 1 Waste Disposal Site (TPS), 15 hotels, and 5 markets, serve the needs of residents and visitors in this area.

Meanwhile, South Balikpapan District has a population of 145,007 people and has complete public facilities. In the education sector, this sub-district has 43 kindergartens, 62 KBs, 31 elementary schools, 19 middle schools, 5 high schools, 11 vocational schools and 2 universities. Regarding worship facilities, South Balikpapan provides 173 places of worship, including mosques, churches, and other prayer areas. Health facilities in this sub-district include 2 general hospitals, 1 special hospital, 41

pharmacies, and several clinics and health centers. Other public facilities include 3 TPS, 71 hotels, and 1 market, supporting local economic activity.

On the other hand, East Balikpapan District, which has a population of 90,243 people, appears to have fewer facilities than North and South Balikpapan. Educational facilities in East Balikpapan include 12 kindergartens, 45 KBs, 25 elementary schools, 6 middle schools, 2 high schools, and 3 vocational schools. Regarding health facilities, this sub-district only has 1 general hospital, 4 community health centers, 4 posyandu, and 14 pharmacies. For worship facilities, there are 101 units of places of worship. Other public facilities include two polling stations and 2 markets.

West Balikpapan District, with a population of 139,703 people, has quite limited facilities, especially compared with North and South Balikpapan. The education sector has 28 kindergartens, 55 KBs, 29 elementary schools, 12 middle schools, 6 high schools, and 4 vocational schools. Worship facilities include 148 units, and health facilities include 1 general hospital, 2 clinics, 5 health centers, 5 posyandu, and 18 pharmacies. Other public facilities include 2 TPS and 4 markets.

This scalogram analysis illustrates that North Balikpapan is the sub-district with the most significant number of facilities, followed by South Balikpapan. At the same time, East and West Balikpapan have fewer facilities. This

difference in the number of facilities shows that the level of development is not evenly distributed across all sub-districts, especially in the provision of public facilities and basic infrastructure. Previous research (Adisasmita, 2014) shows that the additional distribution of public facilities can hamper regional economic growth, especially in areas with an increasing population. Another study (Lestari, 2018) Highlights the importance of inclusive, essential infrastructure development to reduce regional inequality within a city. Local governments must consider increasing development in sub-districts with fewer facilities to balance access to public services for the entire population.

Table 6 displays the hierarchical distribution of facilities in Balikpapan City based on the number and type of facilities available in each sub-district. North Balikpapan, South Balikpapan, and Balikpapan City are ranked highest in the facility hierarchy, with 21 units each. These three sub-districts have a variety of complete public facilities, ranging from education and health to economic support facilities such as markets and hotels. As the sub-district with the most complete facilities, North Balikpapan is the main center for social, financial, and educational activities in Balikpapan City, supported by health infrastructure and other public facilities.

**Table 6.** Hierarchical Division of Balikpapan City

Subdistrict	Number of Facilities	Hierarchical Order
North Balikpapan	21	I
South Balikpapan	21	I
City Balikpapan	21	I
Center Balikpapan	20	II
West Balikpapan	19	III
East Balikpapan	18	IV

Source: Data Processed, 2024

Despite having a slightly lower number of facilities, South Balikpapan remains at the top of the hierarchy. This sub-district also supports economic and social activities, with reasonably complete health facilities and adequate access to education. Balikpapan City, as a government and commercial center, also has full and varied facilities, making it one of the main activity centers in this city.

East Balikpapan and West Balikpapan subdistricts, with fewer facilities, each rank lower in the hierarchy. East Balikpapan has 19 facility units, while West Balikpapan has 18 units. This lack of facilities shows that these two sub-districts require more attention in terms of infrastructure development. Increasing the number and quality of education, health, and other public facilities is necessary to support economic growth and improve the quality of life of the people in these two sub-districts.

Based on the results of the analysis, the Balikpapan City government can use this data for more targeted and equitable development planning. Improving infrastructure in sub-

districts that still lack facilities, especially in East Balikpapan and West Balikpapan, can accelerate equitable development. Meanwhile, sub-districts with more complete facilities, such as North Balikpapan and South Balikpapan, can focus on developing the creative economy sector, as well as higher education and advanced health services.

This step allows equal access to public facilities to create a more inclusive and sustainable city. Previous research by (Harahap, M. R., et al., 2016) and (Susilowati, A., et al., 2018) Supports this finding, showing that inequality in public facilities in urban areas has a significant influence on social and economic inequality. In addition, (Rahayu, S., et al., 2021) Highlight that the equitable provision of public facilities improves community welfare and encourages inclusive economic growth.

## CONCLUSION

The results of the Location Quotient (LQ) analysis show that the processing industry sector in Balikpapan City has comparative and

competitive advantages, functioning as a driving force for the economy. Shift Share analysis indicates that the Agriculture and Government Administration sectors are still underdeveloped. In the Klassen Typology, it can be seen that leading sectors need to be improved to optimize their contribution. In contrast, industries that are lagging behind require serious attention to develop. Through Scalogram analysis, North Balikpapan is recorded as having the highest number of public facilities, followed by South and Central Balikpapan, indicating the need to develop infrastructure and public facilities to support community growth and prosperity, which requires collaborative efforts from the government and stakeholders, which are very important to maximize existing potential.

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