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ACCELERATION OF POTENTIAL SECTORS TO OPTIMISE REGIONAL DEVELOPMENT STRATEGY IN PALU, CENTRAL SULAWESI PROVINCE

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Abstract

Palu City has a potential comparative advantage that is different from other districts or cities. However, Palu City actually ranks fourth in contributing GRDP for Central Sulawesi Province. This research aims to analyze the business sectors that become the leading and potential sectors in Palu City. This research uses descriptive quantitative approach with secondary data obtained from BPS and some related literature. The analytical tools used are location quotient analysis, shift share, Klassen typology, and scalogram with time series 2016-2020. The results prove that the potential sectors in Palu City include Government Administration, Defense and Compulsory Social Security; Education, Transportation and Trade Services; Water Procurement, Waste Management, Waste and Recycling; Real Estate; Corporate Services; Electricity and Gas Processing; Information and Communication; Provision of Eating and Drinking Accommodation; Repair of Cars and Motorcycles; Wholesale and Retail Trade. Based on SWOT analysis, several strategies through strategic planning to increase economic growth and regional development of Palu City in order to achieve optimal and targeted development.

Keywords: Acceleration, Potential Sectors, Development, Region, Palu City**.**

Introduction

According to Sadono Sukirno (1996), "Economic development is an effort to increase per capita income by means of investment, technology, expansion of knowledge, expansion of innovation, and improvement of organizational and managerial skills." At this time regional development cannot be separated from regional autonomy, which is now regional autonomy has the authority to carry out economic development independently, in this case the region has the opportunity to be able to increase the competitiveness of its region which aims to improve the welfare of the community, regional development can be done if a region knows the superior sector it has and specializes in it. know the superior sector owned and specialize the sector, or can change the potential sector into a superior sector. The economic sector of a region is divided into "Base Sector and Non-Base Sector," what distinguishes between the two sectors is how to fulfill the needs of the region, which includes the non-base sector indicates that the sector has not been able to meet the needs of the region, thus causing export and import flows between regions. Each region has its own sectoral advantages, which causes income inequality between regions. The economic growth of a region can be measured by the level of GRDP, which means that if every year GRDP increases, it can be concluded that the region is included in good economic growth so that the economic development expected by the government can be realized.

Table 1. Economic Growth Rate of Palu City from 2016-2023

Years	Growth PDRB
2016	5,50
2017	5,54
2018	5,00
2019	5,65
2020	-4,63
2021	5,97
2022	4,32
2023	4,96

Source: BPS Palu City

The growth rate of Palu City changes every year. In 2017 to 2018 the growth rate of Palu City decreased, this was due to natural disasters in Palu City, more precisely in Donggala and Sigi Cities. The

disaster caused the dismissal of economic sectors in Palu City. Meanwhile, in 2020 the economic growth rate was negative because at that time the covid pandemic began to enter Indonesia. The covid pandemic has a huge impact on the economy so it is hoped that for the following year economic growth will increase.

Palu City has a geographical condition or natural panorama that spoils the eyes and soul with a stretch of mountains and oceans. However, it turns out that this city ranks fourth in terms of its GRDP contribution even though it is the provincial capital. According to Serly's research (2016) entitled "Identification of Leading Sectors and Economic Sectors in Palu City in 2011-2014" it is known that "Based on the results of the Shift Share analysis of the economy in Palu City during 2011-2014, it shows that there has been a change in the economic structure in Palu City from the primary sector to the tertiary sector. This is evidenced by the role of the tertiary sector which continues to increase through the large contribution to the GRDP of Palu City and followed by the secondary sector and the primary sector."

According to research by Ady Putra Tenggara (2015) "Analysis of Economic Structure and Identification of Leading Sectors in Palu City" which explained that "Based on LQ, SS, and Overlay analysis, the results show that Palu experienced a shift from the primary sector to the secondary and tertiary sectors. However, the shift is relatively small, it can be seen from the decline in the contribution of the primary sector at the same time the secondary and tertiary sectors have increased their contribution."

According to research by Miranti Widya Rumlah, et al (2017) "The influence of the City center as a growth center on the economic growth of the Hinterland area" that "Based on the analysis of the scalogram and the Marshall centrality index, it is known that the City is the center of growth and areas that have interactions, especially space based on Gravity analysis. Therefore, the purpose of this study is to identify the dominating sector category in Palu City, analyze its comparative and competitive advantages, analyze efforts to maximize economic growth, and recommend the development of complete facilities in Palu City.

Methods

This research uses a quantitative descriptive approach method with secondary data obtained from BPS and some related literature. The analytical tools used are location quotient analysis, shift share, Klassen typology, and scalogram with time series 2016-2020 and using SWOT analysis as an effort to determine a suitable strategy for the development of the Palu City area. The following is an explanation of the analysis technique:

a. Location Quotient

Location Quotient (LQ) technique is one of the methods often used in the economic base model as a first step to identify sectors that act as the main drivers of economic growth. This method is used to measure the relative concentration or specialization level of an economic activity through a comparative approach between a particular region and a reference region. Location Quotient (LQ) analysis is a method used to measure the level of specialization of economic sectors in a region with a focus on the base sector or leading sector. This analysis is conducted by comparing the proportion of output of a particular sector (sector i) in a city or district to the proportion of output of the same sector at the provincial level. (Jumiyanti et al., 2018)

The LQ technique is widely applied to analyze the economic condition of a region, help identify highly specialized economic sectors, or evaluate the relative concentration of economic activity. The results of this analysis provide an important picture in determining the leading sector that can be used as a leading sector in the development of economic and industrial activities in the region.

b. Shift Share

Daniel B. Creamer in 1943 introduced the shift share technique for the first time which is used to determine the developing sectors in a region when compared to national economic development. The shift share technique is also used to examine the relationship between economic structure and regional growth.

Shift-share analysis is a traditional method used to compare performance between regions and measure and evaluate sectoral performance. This technique divides changes in employment (or income) in a region into three main parts: the national component (NC), the sectoral shift (SC), and the regional shift (RC). (Fadlli et al., 2023)

c. Klassen Typology

Klassen type analysis is used to explain the pattern and structure of regional sector growth. Each economic sector of each region can be divided into main sectors, developing sectors, potential

sectors, and lagging sectors. This analysis is based on grouping by looking at sector growth and income represented using a matrix or Cartesian diagram (Harjanti et al., 2021).

d. Scalogram

Scalogram analysis is used to assess settlement centers, especially in determining the hierarchy or level of growth centers. This method is based on the number of units and types of facilities available in an area.

Scalogram analysis classifies areas based on three components: differentation, solidarity, centrality (Octaria N. & Hidayat, 2015).

Scalogram analysis is a method used to determine the hierarchy of an area based on the type and amount of facilities and infrastructure available. By analyzing the amount and type of data, it can be identified which districts in the Palu City area have more complete supporting facilities and infrastructure, as well as which districts still have limitations in its provision.

e. SWOT (Strenghts, Weakness, Opportunity, Threats)

Albert Humphrey around the 1960s created a SWOT analysis technique used to conduct strategic planning methods used to evaluate strengths, weaknesses, opportunities and threats. The SWOT analysis technique aims to evaluate conditions within a certain scope of activities, so that it can be used as a basis for formulating institutional development strategies that are more effective and in accordance with the conditions and potential possessed by the institution.(Abdusammad & Amala, 2016)

Results and Discussions

The preparation of the dominant sector in the economy is to know the sector that is the backbone or a foothold for a country to the formation of its GRDP and the sector that characterizes an economy in the country is a function of an economic structure. The results of the contribution of business field sectors can determine the role of the sector. Reporting from sultengprov.go.id, "The main source of community livelihood is agriculture with the main crop is rice. The region's leading trade crops are cocoa, coffee and cloves." Then, launching from the palukota.go.id page, "The business sector which is a reliable or superior sector is the Tourism Sector, Industrial Sector, Forestry Sector, Agriculture Sector, Fisheries Sector, and Agroindustry Sector."

Table 2. ADHK Central Sulawesi Province GRDP by Business Field, 2016-2020

GRDP sector	GRDP at Constant Prices by Business Field (Million Rupiah) of Central Sulawesi Province					Average (%)
	2016	2017	2018	2019	2020	
A. Agriculture, Husbandry, Hunting & Agriculture Services	26929485.22	28131326.47	29346132.97	29992106.69	29593654	28798541.07
B. Mining & Quarrying	12403303.34	14272081.83	15345216.08	17842503.61	22040206	16380662.17
C. Manufacturing	10958227.06	12185034.1	13375739.7	14684898.82	36464639	17533707.74
D. Electricity & Gas	42991.55	46933.28	50354.61	51310.37	52914	48900.762
E. Water Supply, Sewerage, Waste Management & Remediation Activities	121007.2	128370.27	135390.83	135182.08	136267	131243.476
F. Construction	10357674.76	10736245.85	11223758.32	12833466.97	1174644	9265157.98
G. Wholesale, Retail Trade, Repair of Motor Vehicles & Motorcycles	8284645.96	8614822.22	9030399.06	9256704.53	8687492	8774812.754
H. Transportation & Storage	3485479.66	3716839.08	4001464.97	4119254.49	2754819	3615571.44
I. Accommodation & Food Service Activities	462716.9	501113.36	531142.06	520636.68	463101	495742

J. Information & Communication	3470273.51	3716044.09	4063040.81	4461451.15	4843488	4110859.512
K. Financial & Insurance Activities	2070494.21	2217465.69	2253684.61	2239527.61	245906	1805415.624
L. Real Estate Activities	1713901.04	1803831.63	1891749.41	1895370.25	1902493	1841469.066
M,N. Business Activities	222667.66	235012.71	248450.93	261517.43	254783	244486.346
O. Public Administration, Defence & Compulsory Social Security	5193486.03	5532450.09	6106292.14	6453443.15	6467252	5950584.682
P. Education	3372885.77	3571125.85	3763024.03	3891517.61	3828195	3685349.652
Q. Human Health & Social Work Activities	1194547.57	1297546.03	1419826.44	1538599.85	1632674	1416638.778
R,S,T,U. Other Services Activities	730777.45	768616.53	807672.36	825582.47	825219	791573.562
Gross Regional Domestic Product	910145691014564	97474859.1	103593339.3	111003073.8	121367746	104890716.6

Source: BPS Central Sulawesi Province, Secondary Data Processing Results (2024)

ADHK Central Sulawesi Province GRDP (2016-2020), can be seen in (table 2). Central Sulawesi GRDP is used as a comparison for Palu City GRDP. In real terms, the Central Sulawesi GRDP experienced an increase in output from 2016-2020. The increase from year to year indicates that development is getting better. There are 3 (three) sectors that have a large contribution or contribution to the GRDP (Gross Regional Domestic Product) of Central Sulawesi Province, namely Agriculture, Forestry and Fisheries; Mining and Quarrying; and Processing Industry. Of the 17 (seventeen) sectors, the sector that has the smallest contribution or contribution is Electricity and Gas Procurement.

Table 3. GRDP of Palu City ADHK by Business Field, 2016-2020

GRDP sector	GRDP at Constant Prices by Business Field (Million Rupiah) of Palu City					Average (%)
	2016	2017	2018	2019	2020	
A. Agriculture, Husbandry, Hunting & Agriculture Services	612566.31	644505.87	675918.38	670096.23	659800.94	652577.546
B. Mining & Quarrying	912549.53	1008257.63	1014917.92	1166935.8	923843.92	1005300.96
C. Manufacturing	1172290.94	1180130.99	1156388.41	1149778.81	1131203.08	1157958.446
D. Electricity & Gas	27133.88	28671.29	30776.3	31423.5	31749.73	29950.94
E. Water Supply, Sewerage, Waste Management & Remediation Activities	46753.74	48628.51	49114.59	9004.3	48565.1	48413.248
F. Construction	1994550.6	2044265.11	2216300.31	2715278	2655142.89	2325107.382
G. Wholesale, Retail Trade, Repair of Motor Vehicles & Motorcycles	1446399.83	1504427.27	1595235.58	1588898.48	1488641.22	1524720.476
H. Transportation & Storage	1250906.77	1358740.84	1446599.57	1420453.13	910366.75	1277413.412
I. Accommodation & Food Service	149515.13	160688.54	165820.94	148314.8	127796.1	150427.102

Activities						
J. Information & Communication	1365414.91	1471405.68	1597988.25	1755683	1900373.46	1618173.06
K. Financial & Insurance Activities	874117.05	935347.84	942835.92	897407.5	962381.5	922417.962
L. Real Estate Activities	369929.68	385885.41	400804.13	387980.2	388788.16	386677.516
M,N. Business Activities	163142.37	172174.97	179578.49	188654.1	182865.33	177283.052
O. Public Administration, Defence & Compulsory Social Security	1811828.8	1904644.92	2055219.46	2138073.52	2169956.43	2015944.626
P. Education	1098442.2	1161306.17	1164404.34	1201431.7	1174432.47	1160003.376
Q. Human Health & Social Work Activities	383861.66	429233.26	470219.49	514516.81	552661.97	470098.638
R,S,T,U. Other Services Activities	141864.45	149140.39	152909.13	156357.68	154338.87	150922.104
Gross Regional Domestic Product	13821267.84	14587454.68	15315031.21	16180287.56	15462907.92	15073389.84

Source: BPS Palu City, Secondary Data Processing Results (2024)

The GRDP of Palu City at constant 2010 prices for the period 2016-2020 can be seen in the table above (table 3). In real terms, the GRDP of Palu City experienced an increase in output from 2016 to 2019, except in 2020. There are 3 (three) sectors that have a large contribution or contribution to the Gross Regional Domestic Product (GRDP) of Palu City, namely Information and Communication; Construction; and Government Administration, Defense and Compulsory Social Security. Of the 17 (seventeen) sectors, the sector that has the smallest contribution or contribution is Water Procurement, Waste Management, Waste and Recycling.

Location Quotient (LQ) Analysis

LQ analysis serves to classify the basic or non-basic sectors by comparing the amount of ADHK GRDP in Palu City with Central Sulawesi Province.

Table 4. Results of Location Quotient Analysis of Palu City 2016-2020

No.	Business field sector	LQ Analysis Results Based on GRDP at Constant Prices for Palu City in 2016-2020					Average SLQ
		2016	2017	2018	2019	2020	
1.	A. Agriculture, Husbandry, Hunting & Agriculture Services	0.149791810 5	0.1530910362	0.1557963654	0.1532776987	0.1749953283	0.1573904478
2.	B. Mining & Quarrying	0.484486962 4	0.4720600917	0.4473751522	0.4486833352	0.3289993746	0.4363209832
3.	C. Manufacturing	0.704462902	0.6471672958	0.5847899068	0.5371457095	0.2434898024	0.5434111233
4.	D. Electricity & Gas	4.156155717	4.08206037	4.134196516	4.201440124	4.709573294	4.256685204
5.	E. Water Supply, Sewerage, Waste Management & Remediation Activities	2.544299072	2.5312766	2.453777721	2.486931565	2.797342923	2.562725576
6.	F. Construction	1.268077518	1.272324426	1.335685611	1.451506794	17.74163949	4.613846768

7.	G. Wholesale, Retail Trade, Repair of Motor Vehicles & Motorcycles	1.14968118	1.166911645	1.194900744	1.177574838	1.344954955	1.206804673
8.	H. Transportation & Storage	2.36333564	2.442732816	2.445362562	2.365685748	2.59379372	2.442182097
9.	I. Accommodation & Food Service Activities	2.127809752	2.142703207	2.111750597	1.954332696	2.165977787	2.100514808
10.	J. Information & Communication	2.590979339	2.645846631	2.660335095	2.699720044	3.079589606	2.735294143
11.	K. Financial & Insurance Activities	2.780088268	2.81857331	2.829807723	2.749046228	30.71781052	8.37906521
12.	L. Real Estate Activities	1.421334993	1.429471355	1.433119903	1.404314151	1.603991564	1.458446393
13.	M,N. Business Activities	4.824725794	4.895440335	4.889085534	4.948964945	5.633431836	5.038329689
14.	O. Public Administration, Defence & Compulsory Social Security	2.297318474	2.300433134	2.2766411	2.272897837	2.633560785	2.356170266
15.	P. Education	2.14456192	2.172974722	2.093055626	2.118014143	2.407942516	2.187309785
16.	Q. Human Health & Social Work Activities	2.116090814	2.210465239	2.240161419	2.294154445	2.65688172	2.303550727

Source: BPS Palu City, Secondary Data Processing Results (2024)

Table 5. Description of Base and Non-Base Sectors

Base Sector	Non-base sector
The Base Sector refers to a business field sector with an LQ calculation > 1.	Non-Base Sector refers to a business field sector with an LQ calculation < 1.
The Base Sector in Palu City is marked in yellow.	Non-Base Sector in Palu City is marked in white.

Source: Author's Illustration (2024)

Judging from the coefficient indicator, the LQ value is categorized into two parts, namely LQ> 1 and LQ < 1. If the LQ is more than 1, it indicates that the sector in that year has a comparative advantage, which means that it has a lot of output which can meet the needs in the region or the rest can still be exported out. Meanwhile, an LQ of less than 1 indicates that the sector does not have a comparative advantage.

However, LQ analysis alone is not enough to identify what sectors are included in the leading sectors in a region because not necessarily the abundant results can compete with the same sector from other regions when viewed in terms of quality.

From the results of calculations using LQ Analysis in table 4 can be categorized into 2 sectors, namely:
a) Base Sector

Location Quotient (LQ) analysis is usually applied to see regional comparisons with the national. Regional is a narrower area, on the other hand National is a wider area. Based on the results of the LQ calculation for the 2016-2020 period, there are 14 (fourteen) basic sectors in Palu City. These sectors are considered sectors that are able to export to other regions. The fourteen sectors are:

1. Electricity and Gas Procurement
2. Water Procurement, Waste Management, Waste and Recycling
3. Construction
4. Wholesale and Retail Trade; Car and Motorcycle Repair
5. Transportation and Warehousing

6. Provision of Accommodation and Drinking Food
7. Information and Communication
8. Financial and Insurance Services
9. Real Estate
10. Corporate Services
11. Government Administration, Land and Compulsory Social Security
12. Education services
13. Health services and social activities 14. Other Services

b) Non-Base Sectors

Based on the results of the LQ index calculation shown in table 4 above, the results show that there are 3 (three) Non-Base Sectors or LQ results less than 1 in Palu City, namely:

If interpreted, this indicates that the sector in Palu City has not been able to fulfill its own needs or needs so that it allows the need for imports from outside the region. The smallest LQ value falls on Agriculture, Forestry, and Fisheries, even though it is explained above that people in Palu City rely on agriculture as the main source of livelihood for the population. Reporting from the sulteng.antaranews.com page, Laila explained "this happened because of the many land use changes where previously productive land positions are now unproductive triggered by irrigation channels no longer flowing with water due to the impact of the earthquake, tsunami and liquefaction."

Classic Shift Share Analysis (Classic SS)

Table 6. Real Change and Percentage Change to ADHK GRDP of Central Sulawesi Province and Palu City with Time Series 2016-2020

No.	Lapangan Usaha/Sektor	Provinsi Sulawesi Tengah				Kota Palu			
		Atas Dasar Harga Konstan (Jutaan Rupiah)		Perubahan		Atas Dasar Harga Konstan (Jutaan Rupiah)		Perubahan	
		2016	2020	Absolut	Persen	2016	2020	Absolut	Persen
		1	2	3	4	1	2	3	4
1	Pertanian, Kehutanan dan Perikanan	26929485.22	29593654	2664168.78	9.893129253	612566.31	659800.94	47234.63	7.710941531
2	Pertambangan dan Penggalian	12403303.34	22040206	9636902.66	77.69625878	912549.53	923843.92	11294.39	1.23767419
3	Industri Pengolahan	10958227.06	36464639	25506411.94	232.7603891	1172290.94	1131203.08	-41087.86	-3.504920033
4	Pengadaan Listrik dan Gas	42991.55	52914	9922.45	23.0800006	27133.88	31749.73	4615.85	17.01138945
5	Pengadaan Air, Pengelolaan Sampah, Limbah dan Daur Ulang	121007.2	136267	15259.8	12.61065457	46753.74	48565.1	1811.36	3.874256904
6	Konstruksi	10357674.76	1174644	-9183030.76	-88.65919208	1994550.6	2655142.89	660592.29	33.11985617
7	Perdagangan Besar dan Eceran, Reparasi Mobil dan Sepeda Motor	8284645.96	8687492	402846.04	4.862561924	1446399.83	1488641.22	42241.39	2.920450426
8	Transportasi dan Pergudangan	3485479.66	2754819	-730660.66	-20.96298734	1250906.77	910366.75	-340540.02	-27.22345327
9	Penyediaan Akomodasi dan Makan Minum	462716.9	463101	384.1	0.08300971933	149515.13	127796.1	-21719.03	-14.52630914
10	Informasi dan Komunikasi	3470273.51	4843488	1373214.49	39.57078559	1365414.91	1900373.46	534958.55	39.17919352
11	Jasa Keuangan dan Asuransi	2070494.21	245906	-1824588.21	-88.12331864	874117.05	962381.5	88264.45	10.09755501
12	Real Estate	1713901.04	1902493	188591.96	11.00366682	369929.68	388788.16	18858.48	5.097855355
13	Jasa Perusahaan	222667.66	254783	32115.34	14.42299254	163142.37	182865.33	19722.96	12.08941613
14	Administrasi Pemerintahan, Pertahanan, dan Jaminan Sosial Wajib	5193486.03	6467252	1273765.97	24.52622309	1811828.8	2169956.43	358127.63	19.76608552
15	Jasa Pendidikan	3372885.77	3828195	455309.23	13.49910021	1098442.2	1174432.47	75990.27	6.918003514
16	Jasa Kesehatan dan Kegiatan Sosial	1194547.57	1632674	438126.43	36.67718566	383861.66	552661.97	168800.31	43.97425625
17	Jasa Lainnya	730777.45	825219	94441.55	12.92343517	141864.45	154338.87	12474.42	8.793196604
	PDRB	91014564.88	121367746	30353181.12	33.34980633	13821267.84	15462907.92	1641640.08	11.87763741

Source: Secondary Data Processing Results

In Shift Share analysis, the data used is mandatory series to see shifts, where there is a time span, as in table 6, namely the 2016-2020 time series. If we want to analyze the shift share at the district level, it must be compared with the provincial level with GDRP data for the initial year and the final year, whether it is a city or a province. From table 5, after the data is inputted, we can see the real change and the percentage change. We can see that the biggest real change for Central Sulawesi Province is the Mining and Quarrying Industry Sector with a change of 9636902.66 or 77%. Followed by two other sectors, the Information and Communication Industry with a change of 39% and the Health Services Industry with 36%. However, unfortunately there is also a sector that experienced the lowest percentage decline, namely the Provision of Accommodation and Drinking Food by -14%.

Table 7. Regional Growth Calculation

rij	rin	rn
0.07710941531	0.09893129253	0.3334980633
0.0123767419	0.7769625878	0.3334980633

-0.03504920033	2.327603891	0.3334980633
0.1701138945	0.230800006	0.3334980633
0.03874256904	0.1261065457	0.3334980633
0.3311985617	-0.8865919208	0.3334980633
0.02920450426	0.04862561924	0.3334980633
-0.2722345327	-0.2096298734	0.3334980633
-0.1452630914	0.0008300971933	0.3334980633
0.3917919352	0.3957078559	0.3334980633
0.1009755501	-0.8812331864	0.3334980633
0.05097855355	0.1100366682	0.3334980633
0.1208941613	0.1442299254	0.3334980633
0.1976608552	0.2452622309	0.3334980633
0.06918003514	0.1349910021	0.3334980633
0.4397425625	0.3667718566	0.3334980633
0.08793196604	0.1292343517	0.3334980633
0.1187763741	0.3334980633	0.3334980633

Source: Author's Analysis (2024)

To determine the rij value of Palu City, it is obtained from the ADHK GRDP of the City in each sector in the final year which is reduced by the ADHK GRDP of each sector of the City in the initial year, then divided by the ADHK GRDP of each sector of the City in the initial year. Meanwhile, the calculation of rin is obtained from the ADHK GRDP of each Province in the final year minus the ADHK GRDP of each Province in the initial year, then divided by the ADHK GRDP of each Province in the initial year.

The value of rn is obtained from the difference between the total GRDP in the final year and the initial year of the province divided by the total GRDP in the initial year of the province. In Shift Share, rij is used to see the growth rate of a sector at the district/city level, rin functions in knowing whether a sector is growing or not at the province level, and rn is useful to see the average growth in the province.

Table 8. Shift Share calculation results

No.	Lapangan Usaha/Sektor	Komponen Pertumbuhan Nasional (Nij)/RS	Komponen Bauran Industri (Mij)/PS	Komponen Keunggulan Kompetitif (Cij)/DS	PDRB (Dij)
		(000 orang)			
1	Pertanian, Kehutanan dan Perikanan	204289.678	60601.64331	-1336734.681	-1071843.36
2	Pertambangan dan Penggalian	304333.5009	709016.5108	-69772245.43	-68758895.42
3	Industri Pengolahan	390956.7581	27286.28 619	-276971681.3	-273852095.9
4	Pengadaan Listrik dan Gas	9049.09643	6262.16617	-164664.9668	-149353.7042
5	Pengadaan Air, Pengelolaan Sampah, Limbah dan Daur Ulang	15592.28174	5895.619153	-408459.2651	-386971.3642
6	Konstruksi	665178.7623	-176835.2.781	242894473.7	241791299.7
7	Perdagangan Besar dan Eceran, Reparasi Mobil dan Sepeda Motor	482371.5421	70331.75391	-2809069.74	-2256366.444
8	Transportasi dan Pergudangan	417174.9852	-262227.7614	-7831259.212	-7676311.988
9	Penyediaan Akomodasi dan Makan Minum	49863.00629	123.7785917	-2184314.209	-2134327.424
10	Informasi dan Komunikasi	455 363.2 281	540305.0729	-534685.6439	460982.6572
11	Jasa Keuangan dan Asuransi	291516.3433	-770301.2867	87485540.32	85377755.38
12	Real Estate	123370.8318	40705.49594	-2184734.944	-2020658.616
13	Jasa Perusahaan	54407.66444	23529.67896	-380705.1861	-302767.8433
14	Administrasi Pemerintahan, Pertahanan, dan Jaminan Sosial Wajib	604241.3958	444372.84	-8624554.354	-7575940.118
15	Jasa Pendidikan	366328.3464	148279.4798	-7228954.331	-6714346.505
16	Jasa Kesehatan dan Kegiatan Sosial	128017.1202	140789.3202	2801065.63	3069872.07
17	Jasa Lainnya	47311.51933	18333.42673	-585934.0227	-520289.0767
	PDRB	4609366.057	4609365.724	-296772597.7	-287553865.9

Source: Secondary Data Processing

Results:

: green color indicates that the sector has a fast growth rate

: blue color indicates that these sectors have a competitive advantage

In order to determine the sectors that are included in the competitive advantage in a region, several analytical tools are needed, namely LQ and Shift Share. The component seen from SS is where Cij is +, it can be known that the sector has a competitive advantage. Conversely, if Cij is -, it means that the sector does not have a competitive advantage. In the Mij component, if the value of Mij < 0 then the growth rate in the sector is slow and if Mij > 0 the growth rate is fast. From table 8, there are 14 sectors

with fast growth rate and three sectors with slow growth rate. In addition, competitively there are 3 superior sectors, namely Construction; Financial Services and Insurance; and Health Services and Social Activities.

Klassen Typology Analysis

Results of Klassen Typology Analysis of Palu City 2016-2020

Table 9.

	LQ>1	LQ<1
	I. Leading Sector	II. Potential Sectors
SS	Construction	Electricity and Gas Processing
	Financial and Insurance Services	Water Supply, Waste Management, Waste and Recycling
	Health and Social Services	Wholesale and Retail Trade; Repair of Cars and Motorcycles
		Provision of Food and Drink Accommodation
		Information and Communication
		Real Estate
		Company Services
		Government Administration, Defense and Social Security
		Education Services
(Cij+1)		Transportation and Warehousing
	III. Potential Sectors	IV. Backward Sector
SS	Other Services	Agriculture, forestry and fisheries
		Mining and Quarrying
(Cij-1)		**Processing Industry**

Source: Secondary Data Processing Results

Table 10: Quadrant Description and Number of Sectors

Quadrant	Total	Description
1	3	Has an advantage , both both comparatively and competitively
II	11	Has a competitive advantage, but no comparative advantage
III	3	Has a comparative advantage, but no competitive advantage
IV	3	No advantage, either competitively or comparatively

The competitive advantage and comparative advantage sectors can be seen from the Klassen Typology of four types by combining the results of the Shift Share and LQ calculations. This is used to determine the grouping of a region based on economic structure. The determination of quadrants 1, 2, 3, and 4 is determined from the results of the LQ value variable where if LQ> 1, then it has a comparative advantage and Cij + to see the competitive advantage. If a sector has two advantages, namely its LQ is more than one and its Cij is +, then that sector is classified as a leading sector.
From the results of the Klassen Typology Analysis of Palu City 2016-2020 in table 9 above, it is found that the dominating sector category in Palu City is in the Potential Sector with 11 sectors, 3 sectors are in the Leading Sector category, and 3 other sectors are in the Backward Sector category. The 11 sectors that are categorized as Potential Sectors are certainly a good thing as these sectors have a high possibility of increasing to the Leading Sector.

Through this data, we can identify that sectors with comparative and competitive advantages in Palu City are Construction; Finance and Insurance; and Health and Social Services. Meanwhile, 11 sectors were found to be competitively superior, including Electricity and Gas Processing; Water Procurement, Waste Management, Waste and Recycling; Wholesale and Retail Trade; Car and Motorcycle Repair; Provision of Eating and Drinking Accommodation; Information and Communication; Real Estate; Corporate Services;

Government Administration, Defense, and Compulsory Social Security; Education Services; and Transportation and Warehousing. Education; and Transportation and Warehousing. Meanwhile, there is only one sector that has a comparative advantage, namely the Other Services Sector, and the Agriculture, Forestry and Fisheries; Mining and Quarrying; and Processing Industry Sectors are included in sectors that do not have advantages, both competitively and comparatively.

Scalogram Analysis

Table 11: Total Population, Population Facilities, Economic and Social Facilities in Each Sub-district of Palu City in 2020

District	Total	EDUCATION									Forging t	Health		Transportation & Communication			
	Population	TK	SD	SLTP	MTS	SMU	SMK	MA	PESANTREN	UNIV	Worship	Hospital	Health Center	Bridge	Wartel	Total Facilities	Total Unit
West Palu	46.435	0	24	7	0	5	2	0	0	0	50	2	2	9	0	8	97
East Palu	43.318	27	31	12	3	7	8	1	0	0	89	3	1	4	0	11	187
North Palu	24.458	13	16	3	2	1	1	0	0	2	42	1	1	2	0	11	87
South Palu	72.059	24	21	8	1	5	4	0	0	4	105	2	3	6	0	11	182
Tatanga	52.58	0	18	8	5	3	2	2	0	0	77	0	2	10	0	9	122
Ulujadi	35.055	0	18	3	2	1	0	0	0	0	58	1	1	16	0	8	89
Mantikulore	76.745	0	27	5	4	6	6	2	0	0	95	3	2	8	0	10	158
Tawaeli	22.568	0	18	4	2	2	1	1	0	0	41	0	2	5	0	9	76
Number of types		**3**	**8**	**8**	**7**	**8**	**7**	**4**	**0**	**2**	**8**	**6**	**8**	**8**	**0**		
Number of Units		**64**	**176**	**50**	**19**	**30**	**24**	**6**	**0**	**6**	**557**	**12**	**14**	**60**	**0**		

Source: Author's Analysis (2024)

Table 12: The order of Sub-districts with the highest number of units, viz:

No.	District	Number of Units
1.	East Palu	187
2.	South Palu	182
3	Mantikulore	158
4	Tatanga	122
5.	West Palu	97
6.	Ulujadi	89
7.	North Palu	87
8.	Tawaeli	76

Source: Author's Analysis (2024)

Scalogram analysis is used to determine the level of development of an area through the completeness of its facilities, scalogram analysis can also be used to determine the hierarchy or level of the central center of the support area which supports the area as a service center of activity. In addition, this analysis can also be used as an indicator by investors in establishing industry. In this analysis, the hierarchy can be made based on the number of public facilities, in this study the facilities are classified into 3 categories, namely (1) educational facilities, (2) health facilities, (3) transportation & communication facilities, and 1 category of places of worship.

Based on Table 11, when viewed based on the number of existing facilities, East Palu Sub-district, North Palu Sub-district, and South Palu Sub-district are the areas with the highest level of development with a total of 11 facilities. East Palu sub-district became the area with the highest level of development with 11

facilities and 187 units, Ulujadi sub-district with 8 facilities and 89 units and West Palu sub-district became the area with the lowest activity service center with 8 facilities and 97 units. Based on Table 11, a hierarchy can be made as follows.

Table 13: Hierarchy Division of Palu City

NO	District	Number of Facilities	Order/Hierarchy
1.	East Palu	11	I
2.	South Palu	11	I
3.	North Palu	11	I
4.	Mantikulore	10	II
5.	Tatanga	9	III
6.	Tawaeli	9	III
7.	West Palu	8	IV
8.	Ulujadi	8	IV

Source: Results of Secondary Data (2024)

Table 14. Strategy SWOT

Internal / Eksternal	Strength 1. The potential sector is the dominating sector with a total of fourteen sectors 2. Surrounded by the waters of the bay with beautiful mountains and tourist attractions 3. entral Sulawesi Province has approximately 22 languages 4. Has diverse cultures and arts Palu is nicknamed the economic center "Pearl of the Equator"	Weakness 1. Lack of environmental cleanliness awareness 2. School learning and curriculum are quite outdated, which affects the low quality of the Human Development Index (HDI) 3. Central Sulawesi is facing a stunting issue 4. Post-disaster recovery is facing obstacles
Opportunities 1. There are not many factories, so the air quality is still maintained. 2. Opening opportunities for MSMEs through digital economy. 3. After the earthquake and tsunami, many investors contributed to the reconstruction. A lot of reconstruction is being done post-disaster. 4. The central and local governments play a role in optimizing development. 5. Technology is rapidly advancing.	Strategi S-O 1. Optimizing potential sectors to become leading sectors (S1, O4, O5) 2. Developing MSMEs at tourist spots by involving influencers or celebrities to attract investors (S2, O2, O3, O5, O6) 3. Conducting branding for tourism, local culture, and arts through social media and broadcasting media by organizing cultural festivals and art events (S3, S4, S5, O1, O2, O4, O6) 4. The image of Palu City can be developed with its distinctive feature as the "Pearl of the Equator." 5. Tourism branding is carried out by optimizing e-tourism so that all related parties, in this case MSMEs and tourist locations, are integrated, and by developing restaurants, accommodations, and travel agencies (S2, O4, O5).	Strategi W-O 1. Adding more trash bins in areas frequently accessed by the public (W1, O1) 2. Improving the education sector that requires support and assistance from the government (W2, O5, O6) 3. Socialization about stunting and improving access to healthcare (W3, O5) 4. Strategic and thorough planning involving the government, academics, businesspeople, and the community in reconstruction efforts (W4, O5, O6)
Threats 1. It has a high vulnerability to disasters.	Strategi S-T 1. The need for truly thorough planning to optimize development in potential sector categories by considering the multiplier effect and policies related to spatial planning (S1, T1). 2. Regular socialization to the public regarding the distribution of disaster-prone zones, mitigation efforts, and temporary gathering points as well as final gathering points (S2, T1).	Strategi W-T 1. Through education, it is hoped that schools will provide socialization on disaster threats, and that all parties involved in reconstruction efforts will collaborate and be transparent in order to minimize obstacles in maximizing development (W2, W4, T1).

Conclusion

Based on the research that has been carried out, it is concluded that according to the LQ calculation, 14 basic sectors are obtained, these sectors are sectors that are able to export to other regions and there are 3 non-basic sectors, namely the Agriculture, Forestry and Fisheries Sector; the Mining and

Quarrying Sector; and the Manufacturing Industry Sector. Non-base sectors cannot meet the needs of Palu City and must import from other cities. Meanwhile, the Classic SS calculation with the 2016-2020 time series obtained 14 sectors with fast growth rates and 3 sectors with slow growth rates. Based on Klassen Typology analysis, 11 Potential Sectors, 3 Leading Sectors or sectors that have comparative and competitive advantages, and 3 Underdeveloped Sectors were identified. 11 Potential Sectors indicates a good thing because in the future there is a chance to become a Leading Sector if it can be utilized as well as possible. In the Scalogram analysis, the existing facilities in Palu city are quite adequate, it is evidenced that there are 3 sub-districts that are included in the order/hierarchy at Level 1. In order to support regional development through economic development, it is recommended to carry out strategies in accordance with the SWOT approach that we have made and analyzed in this study.

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