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MEASURING COMPETITIVENESS: PROSPECTS OF THE MANUFACTURING INDUSTRY IN PURBALINGGA

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Abstract

Purbalingga is an appealing regency for the establishment of various industries, such as the production of exhausts, eyelashes, and hairstyles. Despite its recognition as a hub for a variety of industrial commodities, Purbalingga's quality of human resource development is relatively low, and the poverty rate remains high. In contrast, in areas where industrialization is progressing, poverty tends to decrease and human resource capacity is improved. The objective of this investigation is to investigate the industrialization process in the Purbalingga Regency and to determine methods for expediting it. This study employs quantitative analysis with the Location Quotient method and qualitative analysis with the SWOT method to address this issue. The LQ analysis results suggest that Purbalingga's industry is exhibiting early deindustrialization, which is a slowdown in industrial growth in comparison to other sectors such as trade and services. The threat of deindustrialization is further exacerbated by the high competition from neighboring areas, such as Banyumas and Cilacap, which already have a more established industrial structure, and the low realization of new investment. The SWOT analysis results underscore the fact that Purbalingga continues to possess fundamental assets in the form of a tradition of home industries and an export product base (exhausts, eyelashes). Wide-open opportunities for industrial revival are presented by product diversification, downstream agro-industry, and the development of new industrial areas that are integrated with regional supply chains. Purbalingga must promptly resolve structural deficiencies, such as the absence of large-scale industries, restricted capital access, substandard industrial human resources, and dependence on raw materials imported from outside the region. Therefore, Purbalingga requires an industrial strengthening strategy that should be implemented in two main dimensions. The initial objective is to promote the modernization and expansion of prominent sectors by means of digitalization initiatives. The second objective is to enhance the resilience of the micro-industrial sector by modernizing production and marketing, substituting local raw materials, and providing inclusive financing.

Keywords: deindustrialization, Location Quotient, SWOT, structural deficiencies

INTRODUCTION

Stimson, et al 2015 assert that sustainable regional development necessitates the integration of economic, spatial, and social policies to establish a regional system that is both equitable and efficient. They underscore the critical importance of data-based planning, collaboration among stakeholders, and local governance in the development of a location.

In addition, Isard extended Weber's classical location theory and refined it through modern agglomeration theory (Krugman, 1991). This theory posits that industrial activities are disproportionately concentrated in specific regions as a result of transportation costs, labor availability, and economic externalities. Regional development policies frequently implement this theory as the foundation for the industrial cluster strategy. McCann, (2020) emphasized that regional development is not solely influenced by physical and geographical location, but also by the

knowledge-based economy and global market integration, in the context of globalization and the digital era. Consequently, to preserve their competitiveness, regions must establish innovation capacity, digital infrastructure, and exceptional human resources.

Barca & McCann (2012) illustrate the importance of a place-based policy approach, which is a development policy that is tailored to the unique requirements and characteristics of a region, rather than a uniform top-down approach. This approach emphasizes the importance of alignment between central and regional policies. According to a more recent study conducted by UN-Habitat (2022), regions that possess robust local production systems, adaptive governance, and social innovation are more capable of withstanding global economic disruptions, such as pandemics and climate change. Consequently, regional development strategies must now consider economic diversification and resilience.

Purbalingga Regency is an area that merits further investigation. This region is in the southwestern region of Central Java Province and is recognized as one of the regions with a robust economic foundation in the processing industry sector. This sector, particularly micro and small industries (IMK), has emerged as the primary source of labor acquisition and community economic activities. Numerous industries, including exhausts, wigs, and processed food and beverage production, have organically developed and spread across numerous sub-districts. This phenomenon demonstrates that Purbalingga has a promising potential for local industrialization, provided that it is managed strategically. Additionally, the presence of General Soedirman Airport in this regency is expected significantly boost Purbalingga's economic development (Ahmad et al., 2023).

Currently, a variety of industries recognize Purbalingga as an appealing location for establishment. The Purbalingga processing industry depends on processed products such as wigs and eyelashes products. This region is also frequently referred to as an exhaust production area. Nevertheless, the poverty rate in Purbalingga continues to exceed the average for Central Java province, despite its status as a hub for numerous industrial commodities. The poverty rate in Purbalingga was 14.48% higher than the Central Java average of 11% in the most recent data year, 2024 (purbalinggakab.bps.go.id, 2024). This difference is ironic, as regions that are experiencing an increase in industrialization should typically be capable of alleviating destitution. The Human Development Index (HDI) value of 70.97 (Purbalinggakab.bps.go.id, 2025) is below the average of 72.5 for Central Java Province in terms of human resource capacity. Some of these issues raise questions about Purbalingga's industrialization, the region's industry competitiveness, and the policies being implemented to speed up industrialization in Purbalingga. Thus, this study aims to find Purbalingga Regency's industrialization process and ways to speed it up.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Economic development is a multidimensional process that not only reflects an increase in per capita income, but also includes structural transformation in key economic sectors, poverty alleviation, productive job creation, and equitable distribution of prosperity. In this framework, industrialization is often considered the main driver of development, especially in developing countries, because of its ability to drive economic diversification, boost productivity, and strengthen local economic structures (Todaro, M.P., Smith, 2020).

In local and regional development, the endogenous growth theory (Romer, 1994) is important because it focuses on how investing in people's skills, developing local technology, and building strong institutions can help industries grow based on what each region can offer. This model also emphasizes the significance of local industries that adapt to the social, geographical, and cultural characteristics of their communities.

Furthermore, the cluster-based industrial development approach emphasizes the importance of developing integrated and mutually reinforcing industrial clusters. In areas with limited infrastructure or large capital, this strategy can encourage synergy between business actors,

educational institutions, local governments, and financial institutions in creating a sustainable industrial ecosystem.

In the context of contemporary economics, economic development is no longer only interpreted as increasing national income, but also as a process of structural transformation that drives social progress, equal distribution of welfare, and strengthening regional competitiveness. One of the prominent approaches in the past two decades is strengthening the role of the industrial sector, especially the processing industry, as the main driver of sustainable economic growth at the local and national levels (UNIDO, 2022).

According to (McMillan et al., 2014), the shift of labor from the informal and traditional sectors to productive processing industries has proven to be a significant contributor to growth in developing countries. Industrialization in the modern era is also no longer oriented only to import substitution or manufacturing exports, but to active involvement in the global value chain and increasing local technological capacity (Baldwin, 2016)

In the New Structural Economics framework developed by Lin (2011) industrialization is considered a process that must be adjusted to the comparative advantages of each region. This means that industrial development strategies need to consider the potential of local resources, labor, and inter-sectoral connectivity, especially between the agricultural, industrial, and service sectors. This approach encourages vertical and horizontal integration in the development of small and medium-scale industries (SMEs) as the backbone of regional development. Additionally, the place-based industrial policy approach that emerged after 2015 highlights the need for a development strategy that fits the specific geographical, institutional, and cultural conditions of a region. In this context, local governments are expected to be able to design industrialization strategies based on superior local potential, with the support of policy ecosystems, infrastructure, and innovation.

A study of the potential and competitiveness of the processing industry in Purbalingga is important to see if the local industrialization process follows the principles of sustainable, inclusive, and regionally focused development. Also, analyzing the processing industry's prospects and competitiveness in Purbalingga will be vital.

RESEARCH METHODS

Research Type and Approach

Approach and Type of ResearchBased on the official data and documents available, this study employs a descriptive qualitative and quantitative approach to analyze and investigate the potential and competitiveness of the manufacturing industry sector in Purbalingga Regency. This methodology enables researchers to provide a comprehensive understanding of the structure of the manufacturing industry, its development, and challenges by utilizing secondary data that has been interpreted in-depth (Creswell & Poth, 2016).

Data Collection Sources and Techniques

We sourced the secondary data for this study from a variety of official documents and publications produced by government agencies, including:

1. National Statistic Office
2. Gross Regional Domestic Product (GRDP) of Purbalingga Regency by Business Sector (2012–2023)
3. Statistics on Micro and Small Industries
4. Labor Statistics. Statistics on Trade and Micro, Small, and Medium Enterprises
5. Department of Cooperatives, Small and Medium Enterprises, and Industry Purbalingga Regency
6. Regional Medium Term Development Plan of Purbalingga Regency from 2016 to 2021 and 2021 to 20268.

7. Central Java Province industrial sector policy documents

The data was collected by reviewing and accumulating recent statistical documents and data, which were available in both printed and digital formats. The data was obtained from public sources or by directly accessing the relevant agency's portal.

Data Analysis Techniques

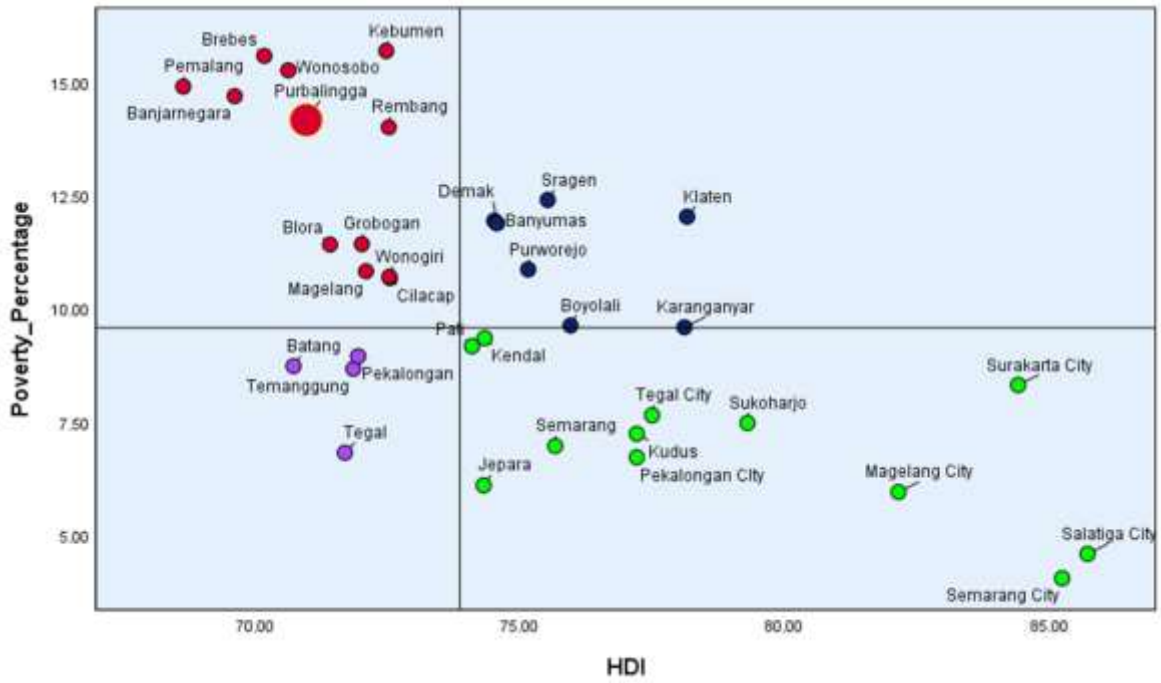
The analysis was conducted quantitatively on statistical data and policy documents, as well as descriptively-qualitatively using content analysis techniques. The implementation process involves the following stages:

1. Secondary data compilation is conducted using primary variables, such as the industrial sector's contribution to the Gross Regional Domestic Product (GRDP).
2. Data categorization to identify significant patterns, including growth trends, key obstacles, and industrial sub-segment segmentation.
3. Contextual interpretation entails the interpretation of data in the context of regional policies, socio-economic conditions, and geographical boundaries that affect the competitiveness of the processing industry sector.
4. The Location Quotient (LQ) analysis is employed to compare regions in Central Java Province, thereby establishing a comparative understanding of their positions and the potential for regional competitiveness. This LQ method is effective in evaluating a region's comparative advantage (Isserman, 1980).
5. In order to identify and assess the SWOT (Strengths, Weakness, Opportunities, and Threats) that an organization, region, or economic sector may encounter, a SWOT analysis is recommended. This approach assists in the formulation of an appropriate development strategy that is informed by a combination of internal and external factors. According to Namugenyi et al. (2019), SWOT analysis is very useful for understanding the strategic position of an entity because it is able to provide a comprehensive view that includes potential competitive advantages and environmental risks that need to be anticipated.

RESULTS AND DISCUSSION

Human resource progress and poverty reduction are the primary macroeconomic indicators associated with development issues. This aspect of poverty has been the subject of significant attention in the Sustainable Development Goals. The Human Development Index (HDI) is a general proxy for measuring human resource progress. Although human development is not an official indicator in the SDGs, all dimensions included in the HDI are directly used as indicators and targets in numerous SDG objectives. The SDGs' objectives for promoting good health and well-being, quality education, and respectable work and economic growth are evident in their encouragement of efforts to achieve HDI.

This study presents poverty and HDI mapping clusters in regions of Central Java Province. The initial cluster encompasses an area with a poverty rate that is lower than the provincial average and a relatively high HDI in comparison to the average for Central Java Province. The cluster is classified into 12 areas, as indicated by the green dots. Dark blue dots are used to indicate the second cluster, which encompasses six areas and has a high HDI but also a high level of poverty. The third cluster is characterized by low poverty and low HDI conditions (purple dots). The fourth cluster is characterized by a low HDI and significant poverty (red dots) (Figure 1).



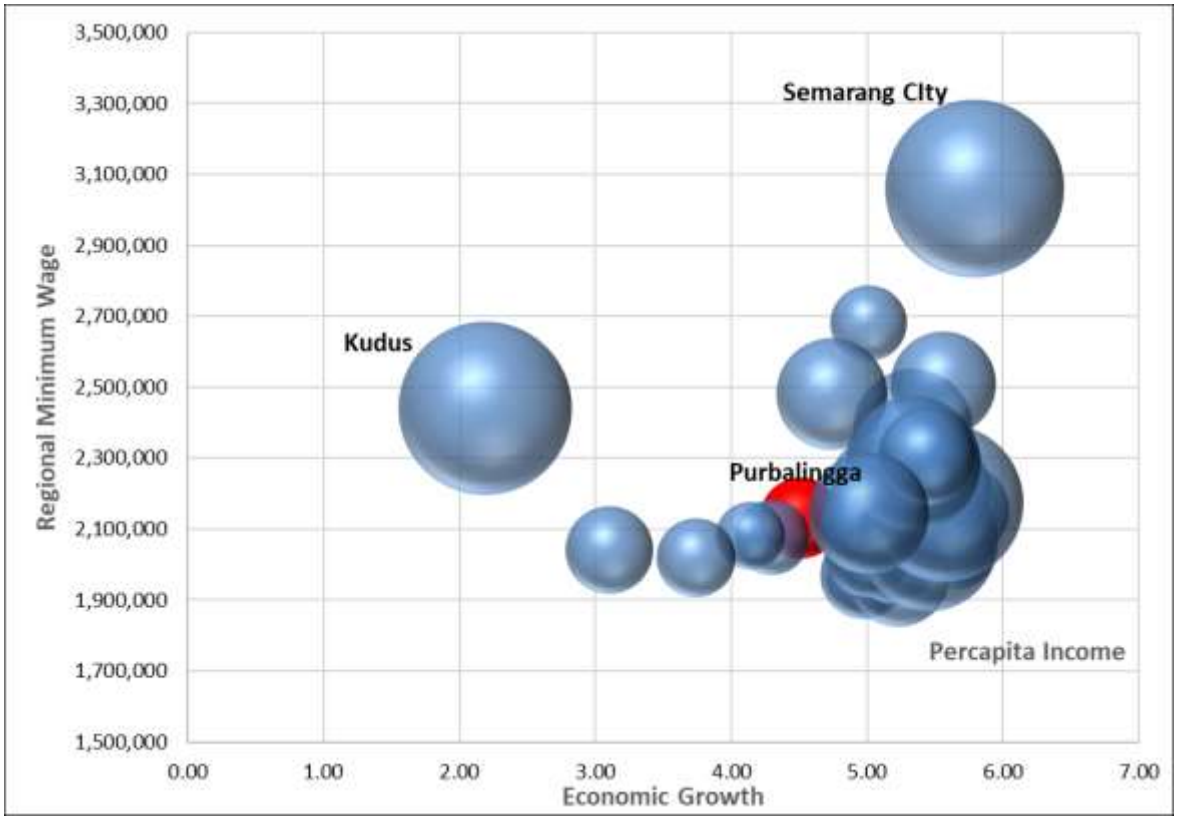
Source: National Statistics Office of Central Java Province, 2025, processed data

Figure 1. HDI and Poverty Mapping Clusters in Central Java, 2024

Identification of HDI versus poverty mapping clusters shows that Purbalingga Regency is in cluster four. This condition explains that economic and social development in Purbalingga Regency is not yet inclusive and sustainable. In 2024, the poverty rate in Purbalingga will reach 14.48%, higher than the provincial poverty rate of 11%. This high poverty rate shows that most people have not been able to meet basic living needs, both in terms of income, education, and health. Meanwhile, the HDI figure in Purbalingga in 2024 was 70.97, lower than the provincial level of 72.50. This low HDI is an indication that investment in human development, such as access to and quality of education, health services, and a decent standard of living, is still limited.

The issue of per capita income also highlights the still weak socio-economic conditions in Purbalingga. The per capita income of this region in 2023 was IDR 30.39 million, lower than the provincial level of IDR 45.19 million. Figure 2 presents the relative position of Purbalingga's per capita income compared to other regions in Central Java.

In terms of economic growth, Purbalingga generally shows a positive trend post-COVID-19 pandemic. In 2023, the economic growth of this region will be 4.51%, while the average for regions in Central Java is 4.99%. However, this growth rate is not yet accelerative enough to significantly drive structural transformation. This distinction is also identified from the economic growth of other regions in Central Java Province, which tends to be higher.



Source: National Statistics Office of Central Java Province, 2024, processed data

Figure 2. Percapita Income, Economic Growth and Regional Minimum Wage of Regencies/Cities in Central Java Province, 2023

Figure 2 also illustrates the Purbalingga Regional Minimum Wage's relative position. Generally, the Regional Minimum Wage (*Upah Minimum Regional* or UMR) has been employed as an indirect indicator in industrial studies to identify the progression of industrialization in a given region. The UMR is closely correlated with the level of industrialization progress, as it reflects economic dynamics, productivity, and employment structure. Capital-intensive and technology-intensive companies typically dominate the industrial sectors of regions that exhibit robust industrialization development. These companies are capable of producing high-value products and promoting labor productivity. The regional government then uses the high productivity generated by these companies as the basis for establishing a higher UMR, which serves as remuneration for the industrial sector's economic contribution to the regional GRDP.

The UMR in Purbalingga was IDR 2,195,571.00 in 2023, which was marginally lower than the average UMR in Central Java that year, which was IDR 2,197,015 per month. The UMR conditions in 18 other regencies/cities in Central Java are superior to those in Purbalingga. The basic issue is that the low UMR can serve as a warning sign of the informal sector's dominance, minimal productivity, and feeble purchasing power, which can lead investors to question the region's competitiveness. This low UMR frequently manifests in regions that are primarily populated by micro and small industries that have not yet achieved the capacity to pay formal standard wages. This environment is comparable to Purbalingga, which is primarily populated by micro and small businesses.

The findings of investment monitoring corroborate this assertion. Investment realization has indeed increased from IDR 1.462 billion in 2021 to IDR 1.535 billion in 2023, as indicated by data from the investment office in Purbalingga. Domestic Investment (PMDN) accounts for the majority of this investment. Nevertheless, the value of foreign investment, which is generally greater than that of domestic investment, has actually decreased in terms of both the number of projects and the

total investment amount. In 2022, the assimilation of labor in the manufacturing sector was 41.35%; however, it has since declined to 37.43% in 2023 due to this decline in investment.

The results of the Location Quotient (LQ) analysis are more revealing of the issue of declining industrialization in Purbalingga. The processing industry in Purbalingga has an LQ value that is less than 1, as determined by the calculation of industrial data and GRDP in Central Java Province.

Code	Economic Sectors	LQ-2024
A	Agriculture, Forestry, and Fisheries	1.9
B	Mining and Quarrying	2.0
C	**Manufacturing**	**0.9**
D	Electricity and Gas Supply	0.5
E	Water Supply; Waste Management, Waste, and Recycling	1.6
F	Construction	0.5
G	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	0.9
H	Transportation and Storage	1.0
I	Accommodation and Food Service Activities	0.7
J	Information and Communication	0.5
K	Financial and Insurance Activities	0.7
L	Real Estate Activities	0.6
MN	Business Services	0.5
O	Public Administration, Defense, and Compulsory Social Security	1.0
P	Education	1.3
Q	Human Health and Social Work Activities	1.1
RSTU	Other Services Activities	1.2

Source: National Statistics Office of Central Java Province, 2025, processed data

Figure 3. Location Quotient of Economic Sectors in Purbalingga Regency, 2024

The decline in the Location Quotient (LQ) value of the manufacturing industry sector in Purbalingga Regency from >1 in 2015 to <1 in 2023 shows that the contribution of this sector to the regional GRDP is lower than the average of Central Java Province recently. This means that the manufacturing industry is no longer a basic sector. The following are some of the main factors driving the weakening of this sector.

1. There are symptoms of deindustrialization in Purbalingga.

   The decline in the contribution of the manufacturing industry has occurred despite the fact that the tertiary sector (services) has not yet reached maturity. This deindustrialization can also be seen from the shift in the economic structure too quickly to the tertiary and service sectors, including in economic sectors with lower productivity. Industrialization in Purbalingga relies heavily on labor-intensive industries (wigs, eyelashes), which are vulnerable to changes in the global market, and field phenomena show that this economic sector is weakening.

   The hair and eyelash processing industry, which is Purbalingga's mainstay export, has experienced a decline in demand from major importing countries, such as the United States and European countries. This is due to the global economic downturn and geopolitical conflicts that affect consumer purchasing power in these countries. As a result, companies in this sector tend to maintain their existence by reducing their workforce and working hours.
2. There is a deficiency in industrial diversification.

Several factors contribute to the lack of industrial innovation in Purbalingga. First, the Purbalingga city area has experienced saturation in terms of industrial land. Industrial zoning based on the Regional Spatial Planning Regulation no longer allows industrial development in the city area because the available land is full. Although there has been an expansion of the industrial zone by around 500 hectares in several sub-districts, such as Bobotsari, Padamara, Kalimanah, Kaligondang, Kemangkon, and Bukateja, these locations are not yet fully attractive to investors because of their relatively far distance from the city center and inadequate infrastructure.

Second, hair crafts constitute the majority of large industries in Purbalingga, accounting for 50% of the sector. The wood, food, and ceramic processing industries are also present but in smaller proportions. This dependence on traditional industries has led to a lack of diversification and innovation in the processing industry sector.

3. Dependence on Small and Home Industries

   Small and micro industries (*Industri Kecil dan Mikro*, IKM), with limited capital, technology, and market access, dominate the industrial structure in Purbalingga. The Purbalingga Industry Service stated that more than 95% of industrial business units in Purbalingga are IKM. In addition, there are not many medium- to large-scale industries that can attract local supply chains and investment. On the one hand, the dominance of Small and Micro Industries (IKM) in the industrial structure of Purbalingga Regency provides an important economic contribution, especially in absorbing labor and local economic growth. However, the limited capital, technology, and market access that are generally owned by IKM also have several negative effects that limit the progress of the industry as a whole. Purbalingga also observes the general problems inherent in IKM. IKM generally operates on a small scale with simple production equipment, so that production efficiency is low. Most IKM in Purbalingga still rely on traditional production methods. These IKM are unable to achieve optimal economies of scale, resulting in higher production costs per unit, which makes it difficult for their products to compete on price and quality with those from large industries in both domestic and export markets. Due to limited capital and digital literacy, SMEs rarely innovate products or processes. The lack of investment in technology in SMEs also causes stagnation in product diversification and improving production quality.

4. Concerns Regarding Human Resources

   The limited human resources and limited raw materials are two main challenges in the industrialization process in Purbalingga Regency, and both are interrelated in inhibiting the acceleration of the growth of the processing industry sector in this area. According to information from the Purbalingga Manpower Office, most of the workforce in Purbalingga consists of high school or junior high school graduates, with a low percentage of skilled workers. On the other hand, the development of the processing industry requires workers with technical competencies such as welding, modern packaging, product engineering, quality management, and mastery of automatic machines, which are still minimally available. This reality is reinforced by National Statistics Office data, which shows that the labor force participation rate is high, but the open unemployment rate in the industrial sector is also high, indicating a mismatch of skills.

   Human resources face significant challenges in terms of managerial capacity and innovation. Family-based leadership without strong managerial capacity continues to dominate IKMs in

Purbalingga. In addition, the low product innovation and adoption of new technologies are largely due to the inability of HR to conduct research and development (R&D). In general, few IKMs are able to create a long-term business roadmap or engage in product branding for market expansion.

5. Issues with basic materials

   Many processing industry sectors in Purbalingga, such as the wig industry, food, processed wood, and crafts, still depend on raw materials from outside the region or even abroad. Such dependency causes high logistics costs, depending on global market conditions, and reduces production efficiency. Some raw materials, such as hair for the wig industry, vehicle exhaust, or wood materials, are very dependent on the season, market prices, and import/export policies.

   Another problem is related to the fact that not many processing industries are integrated with agriculture or the local primary sector. For example, the processed food industry has not fully absorbed local agricultural products, and the potential for local coffee and cocoa has not been absorbed by strong downstream industries. It causes an inefficient supply chain, as well as minimal added value created within the region.

In particular, the findings of this investigation disclose the obstacles and deficiencies encountered during Purbalingga's industrialization initiatives. The following is a map of the weaknesses and threats encountered in the industrialization process in Purbalingga Regency, which has been meticulously organized to facilitate the analysis of the situation and the regional industrial development strategy.

1. Deficiencies in the industrialization process of Purbalingga:
   a. Dominance of Micro and Small Industries (IKM): The majority of industrial players in Purbalingga are small and micro-scale, with limited production capacity, administration, and market access.
   b. Technological and Innovational Limitations: The efficacy and quality of products are impeded by the low level of modern technology adoption in the production and management process.
   c. Poor Human Resource Quality: A significant number of employees lack technical skills and industrial managerial expertise, and they have not received formal industrial training.
   d. Insufficient Supporting Infrastructure: As of now, there is no modern industrial area with standardized logistics, energy, and refuse infrastructure.
   e. Reliance on Raw Materials from Outside the Region: The supply costs and risks of many minor industries, including garments and food, are exacerbated by their reliance on imported or interregional raw materials.
   f. Limited Access to Capital and Financing: The industrial sector is not served by a significant number of microfinance institutions, and SMEs encounter challenges in obtaining credit or investment due to their unbankability.
2. Threats to the Purbalingga industrialization process:
   a. Early Deindustrialization Symptoms: The local industrial structure has been weakened since 2015–2023, as evidenced by the decrease in the processing industry sector's contribution to GRDP and LQ.
   b. Increasing Regional Competition: The industrial area facilities and investment incentives of neighboring regencies/cities, including Banyumas and Cilacap, are superior.

c. Investor Relocation and Investment Cancellation: Due to inadequate infrastructure, licensing, and investment security guarantees, numerous investors delay or cancel their investments.
d. Pressure from Imported and Large-Scale Products: The sustainability of local SMEs is impacted by the pressure of large-scale and imported industrial products, such as processed food and garments, which are unable to compete on price and quality.
e. Energy Crisis and Climate Change: Manufacturing industries are at risk of rising energy and raw material costs, while agribusiness-based industries are susceptible to extreme weather.
f. Investment Attraction Deficit: The absence of industrial areas, suboptimal regulations, and a lack of regional branding deters foreign and domestic investors.

Although this industrialization identification suggests a map of the industry's vulnerabilities and potential threats, the industrialization conditions that have been in place in Purbalingga have also offered advantages and positive potential. Purbalingga Regency is historically one of the regions in Central Java that has a firm foundation in the micro and small industry (IKM) sector. In the past few decades, the processing industry in Purbalingga has evolved organically through the establishment of prominent sectors, including the wig industry (wigs and artificial eyelashes), convection, rubber sandals, processed foods, and metal and crafts.

The Purbalingga community's entrepreneurial spirit is not only exemplified by the existence of these industries, but they also serve as the driving force behind the local economy. The community's socio-economic structure, which has become acclimated to independent business patterns, is one of the primary benefits of Purbalingga, particularly in the household and small business sectors. This structure establishes a robust foundation for the growth of the people's economy and community-based industries. In addition, the regional distribution network that has been established, the availability of productive workers, and the relatively competitive labor costs are significant capital assets that contribute to the sustainability of the industry in Purbalingga.

Additionally, the potential for industrial development in Purbalingga is contingent upon its relationship with the agricultural sector and local resources. Coffee, cocoa, cassava, *porang*, and red ginger are agricultural products that possess significant potential for development as raw materials for downstream industries that are founded on the agro-industry. The concept of down streaming and enhancing the added value of agricultural products has the potential to stimulate the development of new industrial sectors that are reliant on local resources. Purbalingga's superior export products, including eyelashes and extensions, have successfully entered international markets such as the United States and Europe. This success is indicative of the competitive potential of the industrial sector in Purbalingga in the global market, provided that quality, innovation, and promotion are enhanced.

Purbalingga has the potential to become a hub for the development of creative industries and agro-industry in the medium- and long-term, leveraging indigenous wisdom and innovation. Purbalingga has the potential to serve as a model for inclusive, regional-based industrial development in Indonesia by bolstering human resources, establishing integrated industrial areas, and instituting appropriate incentive policies.

It offers a thorough examination of the identification results, with a particular emphasis on the potential for further industrialization in Purbalingga and the assets that are available:

1. Strength of Purbalingga's industrialization process:
   a. Entrepreneurial Tradition and Deep-Rooted Home Industry Base: Purbalingga has a rich history of the wig and refreshment industries, as well as modest and home industries. These activities have fostered a robust entrepreneurial culture within the community, which has served as substantial social capital in the advancement of people-based industrialization.

b. Exported Leading Products: Products such as eyelashes and extensions have effectively entered the global market, making Purbalingga one of the largest centers for exported beauty products in Indonesia. This evidence indicates that the industrial sector in the local area is internationally competitive.
c. Productive and Abundant Human Resources: The regency is home to a significant number of individuals who are of productive age. Although a significant number of them secure employment in the informal sector, there is a significant opportunity to train and empower human resources in the industrial sector.
d. Regional Government and Institutional Support: The Purbalingga Regency Government is committed to the development of the industrial sector, which encompasses the provision of MSME training, the promotion of MSMEs, and the design of industrial areas to facilitate business licensing.

2. Purbalingga's Industrialization Opportunities:
   a. The agricultural resources of Purbalingga, including coffee, cocoa, cassava, *porang*, and red ginger, present numerous opportunities for the development of an agro-industry and the production of valuable agricultural products.
   b. Digitalization and Creative Industry: The emergence of digital transformation has the potential to create innovative opportunities in the areas of industrial administration, production, and marketing. The newer generation of Purbalingga is particularly interested in the potential for development in creative industries, such as digital marketing, product animation, and design.
   c. Opportunities for assistance with technical skills, funding, and linkage to the national supply chain are presented by the central and provincial governments' support for the enhancement of local industries and the value of local products.
   d. Stable Domestic and Export Market Demand: The demand for cosmetic products (e.g., eyelashes, extensions) and food processing products is increasing, both domestically and internationally. This trend presents an opportunity for local industry participants to expand their market exposure.
   e. Investment Opportunities and New Industrial Areas: The industrial area in East Purbalingga's development plan provides opportunities for new investment in the form of village-owned enterprise (Badan Usaha Milik Desa, BUMDes) partnerships, cooperatives, and foreign investment. Such opportunities may accelerate industrialization, provided that technology and geographic regions are favorable.

This study suggests strategies to promote industrialization in Purbalingga after identifying strengths, weakness, threats, and opportunities:

1. The eyelash, wig, and processed food industry sectors are the primary drivers of the regional economy in Purbalingga. Therefore, it is imperative to fortify them. It can achieve this by promoting both domestic and foreign products, offering business incubators, and securing export quality certification.
2. Encouraging investment in downstream agriculture-based industries (coffee, cocoa, porang) through the implementation of the East Purbalingga Industrial Area development plan.
3. Purbalingga MSMEs, especially IKM, can improve their classification and reach a wider market by enhancing digital literacy, providing e-commerce training, and offering production technology incentives as part of the digitalization efforts for micro industries and MSMEs.
4. The active collaboration between polytechnics and industry actors aims to create a ready-to-use and innovative industrial workforce through the revitalization and linkage of industrial vocational education.
5. The implementation of production modernization, soft credit schemes, and business certification is necessary to address the informality, low technology, and limited production scale of small industries.

6. To facilitate the access of SMEs to industrial-scale financing, an innovative financing scheme is required through the Regional Revolving Fund and cooperative investment partnerships.
7. Policies are misguided as a result of inadequate industrial data. To address this issue, Purbalingga must establish a Regional Industrial Information System (SIID) that is capable of mapping markets, personnel, and production capacity.

Several alternative policies aimed at encouraging the expansion of the Purbalingga industry are implemented according to the strategy:

1. Efforts to mitigate the stress that is linked to the symptoms of deindustrialization:
   a. Revitalization of Traditional Industrial Centers. This strategy involves the reengineering of production facilities to incorporate modern machinery and improved production management, as well as the provision of quality certification and training to facilitate the digitalization of SMEs.
   b. Facilitation of Small, Medium and Large Industrial Scale. This entails the development of the Purbalingga Integrated Industrial Area in a strategic location (currently Kalimanah Sub District) and the provision of regional tax incentives, as well as simplified licensing procedures.
   c. Industrial Vocational Program and Competency Certification. This initiative entails a collaboration between local industries and polytechnics to certify human resources in priority sectors, including food processing, packaging, and light automotive industry.
   d. Research and Development Incentives and Local Industry Downstream. Capital assistance for the incubation of novel products, such as coffee, herbs, and organic materials, as well as collaboration with institutions and BUMDes for downstream agro-industry growth
   e. Transformation of Small to Medium-Sized Industries. The utilization of people's business credit (*Kredit Usaha Rakyat*, KUR) and special financing to expand capacity and digitalize production and marketing processes through B2B and e-commerce methods.
2. Strengthening Program for Industrial Human Resources and Raw Material Substances:
   a. Strengthening Industrial Human Resources. The program includes industrial vocational training in mechanics, machines, product design, and digital marketing; industrial apprenticeships external to the region; and industrial entrepreneurship training.
   b. Technology and innovation. Small and medium-sized enterprises (SMEs) undergo incubation. Basic apparatus and equipment facilitation—technical assistance provided by academicians and practitioners.
   c. Substitution of Local Raw Materials. The establishment of raw material procurement cooperatives and the development of raw material plantations (such as bamboo, timber, cocoa, and coffee).
   d. Down streaming (strengthening the local supply chain). Digitalizing the supply chain and establishing a local marketplace enhances connectivity among SMEs, farmers, and producers.
3. Strategies to reduce dependence on household and small industries:
   a. Classification and Clustering of SMEs. Mapping of household industries/SMEs with the potential to advance a class and classification based on superior sectors (food, wood, metal, and fashions).
   b. Classification Acceleration. The provision of regional tax incentives and subsidies for investment loan interest, as well as the implementation of business incubation and scale-up programs.
   c. Industry-Bank Partnership. This integrated investment credit initiative, which is being implemented in collaboration with Rural Bank and Bank Jateng, is designed to assist MSMEs in their upgrading process. The program also offers support in the development of business proposals and the execution of feasibility studies.

d. Mini Industrial Area (Small Estate). The provision of land and shared facilities for medium-sized industries in specific zones, as well as a one-stop service for local investment promotion and licensing.
e. Revitalization of Industrial Centers: Improving the quality of infrastructure and increasing production capacity in MSME centers to facilitate medium-scale operations and the implementation of semi-automatic machinery.

4. Programs for industrial diversification:
   a. Mapping and Prospective Study. A survey of the prospective raw materials, markets, and labor for each new industrial sector.
   b. Facilitation of Business Permits and Locations. Ease of licensing, area zoning, and affordable rent for industrial areas or production shophouses.
   c. Focused Investment Incentives. The provision of fiscal and non-fiscal facilities to non-conventional sector investors who enter Purbalingga.
   d. Business and Technology Incubation. The establishment of new industrial incubators in the fields of food, herbs, packaging, and processing that are based on basic and medium technology.
   e. Market Promotion and Partnership. Partnership with significant manufacturers, exporters, or e-commerce companies to establish new industry connections, as well as regional market access.
   f. Vocational Education Partnership. This involves collaborating with local universities and employment training centers to create industry-specific curriculum.

CONCLUSION

The manufacturing industry sector in Purbalingga, which was a fundamental sector (LQ > 1) in 2015, experienced a substantial decline in 2023 and is no longer a leading sector (LQ < 1), as evident from the Location Quotient (LQ) analysis. This decrease is a clear indication of the early phases of deindustrialization, which are defined by a stagnation of industrial growth in comparison to other sectors, such as trade and services

Purbalingga has been acknowledged for its potential for developing. Nevertheless, Purbalingga continues to possess significant strengths, including a youthful workforce, a favorable location, and a tradition of home industries (IKM) and export products (eyelashes, food processing). These strengths are demonstrated by the SWOT analysis and potential map. The establishment of new industrial areas that are integrated with regional supply chains, downstream agro-industry, and product diversification, all of which present numerous opportunities for industrial revival. It is essential to address structural vulnerabilities promptly, such as the absence of large-scale industries, limited access to capital, low-quality industrial human resources, and the dependence on raw materials from outside the region.

The threat of deindustrialization is further exacerbated by the low realization of new investment and the high competition from neighboring areas, such as Banyumas and Cilacap, which already have a more established industrial structure. In order to address these concerns, Purbalingga necessitates an industrial strengthening strategy that prioritizes two primary objectives. The initial strategy is the SO (Strength-Opportunity) strategy, which emphasizes the development and expansion of critical industries through digital technology, the establishment of industrial clusters, and the enhancement of workers' abilities. The second strategy is the WT (Weakness-Threat) strategy, which entails the modernization of production and marketing, the substitution of local raw materials, and inclusive financing to reinforce the resilience of the micro-industrial sector.

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