



Transforming Stone and Marble Waste into High-Value Handicrafts: Boosting Economic Growth in Lemahdadi, Indonesia

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Abstract. This study aims to boost the economy and promote development in the Lemahdadi region of Bantul, Indonesia by utilizing local wisdom to enhance the competitiveness of the creative industry, particularly in producing high-value handicrafts using stone and marble waste. The high demand for these products has led to continuous mining activities, which, without proper land development, could result in natural disasters. However, the creative economy can be developed by optimizing the use of these waste products, providing a globally oriented economy while maintaining cultural roots. The study found that there are weaknesses in the entrepreneurial abilities of creative industry players, and in the underdevelopment of creative industries based on local wisdom. Traditional sculpting methods also result in monotonous products, as there is no dyeing process in sculptures or other handicrafts. As a result, the study suggests that development in the creative industry is essential in promoting economic growth, and the optimization of waste products from the mining industry can provide a sustainable solution to this issue. By enhancing the competitiveness of the creative industry, the region’s unique local culture can be preserved while providing a potential attraction for domestic and foreign tourists.

Keywords: economic development · creative industry · local wisdom · stone and marble waste · sustainable solution

1 Introduction

Indonesia is one of the countries with an abundant amount of natural resources. Mining activities are activities that are widely carried out in Indonesia. The mining sector absorbs so much labor and adds to the country’s foreign exchange reserves which correlate with the growth of the national economy. The mining sector has until now become the most supportive of national economic growth in addition to the industrial and agricultural sectors [1].

One of the mining activities that are widely carried out is the mining of stone and marble. Judging from the high amount of demand and fairly expensive prices, attracting miners to continuously carry out mining activities for a long period of time and without repair of former mining land will result in natural disasters that will harm many parties.

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H. Ku et al. (Eds.): ICARSE 2022, ASSEHR 748, pp. 139–147, 2023.

https://doi.org/10.2991/978-2-38476-048-0_16

This is the need to optimize the use of mining products, such as the use of stone and marble waste.

The development of the creative economy in the industrial sector is a regional potential that can be developed in each region of Indonesia. Indonesia's abundant natural wealth and unique local culture provide its own attraction for domestic and foreign tourists.

The development of the creative economy sector is one of the potentials for national development that relies on a people's economy and is globally oriented by referring to religious and cultural values, the environment, national unity, and friendship between nations. Hence the process of building the creative economy was 25,098,807 members. The majority of cooperative members are engaged in the MSME sector. Cooperatives indirectly have a role in advancing MSMEs where Indonesia must be carried out systematically, planned, comprehensively, and integrated across sectors and disciplines in order to obtain optimal benefits for stakeholders [2].

Lemahdadi is the center of the stone sculpture handicraft industry (sculpture and print) with a market scale that has reached the export market. In one month, on average, it is able to export 8 to 9 containers to foreign markets (Europe, Australia, America, and the Middle East). In addition to producing various forms of stone sculptures, the craftsmen also make a variety of fountains and reliefs. Not only stone statues, but artisans in Lemahdadi also use marble waste as the basic material for making statues, fountains, and reliefs. The marble waste was obtained from Tulungagung, East Java, which is known for its high-quality marble stones.

Artisan activities are expected to develop a globally oriented economy while maintaining their cultural roots, in accordance with technological advances, in order to build competitive advantages in accordance with the competence and potential of superior resources by utilizing waste that can produce high-value crafts.

Some of the things that are problems with the suboptimal output of handicrafts in Lemahdadi, Bantul include the development of creative industries which are still minimal in optimizing the use of natural resources and superior culture in the existing regions so that they are still lagging behind compared to other regions and have not become a unity of attraction. In the field of the creative economy, among others, the weak entrepreneurial ability of creative industry players and the under-development of creative industries are based on local wisdom. Sculpture craftsmen also still carry out their activities traditionally, there is no dyeing process in sculptures and other handicrafts, so the results of the crafts made still seem monotonous.

Based on the background of the problem and in order to overcome strategic problems in an effort to develop an integrated and sustainable creative industry sector by utilizing the potential of local superior resources in an integrated manner, it is necessary to build a strategy model for strengthening the competitiveness of the creative industry with a cluster-based approach in Lemahdadi, it is necessary to have a strategy model for strengthening the competitiveness of the creative industry with a local wisdom value actions to strengthen competitiveness through improving the conditions of the competitive environment that place more emphasis on the creation of creative industry products and services by utilizing the potential of local superior resources and promoting innovation processes in the creative industry environment that are of local wisdom value The

Long-Term Objective of this study is to improve the community's economy and advance the region by encouraging acceleration.

The benefits of this study are as follows:

1. Adding to the knowledge of community empowerment related to the development of regional potential.
2. Adding to the knowledge related to the discovery of this research will provide direction for further research.

2 Literature Review

2.1 Strengthening the Economy

Strengthening the economy can be done in several ways, including:

a. Empowerment

Webster and the Oxford English Dictionary define empower as “to give power or authority to or give power, transfer power, or delegate authority to another party” and “to give the ability to or assist or efforts to give ability or empowerment” [3].

Empowerment ideas have evolved from this dichotomous socioeconomic format. First, strength is powerlessness. Power has separated and ruined man, according to this view. Power must be abolished to save humanity from alienation and tyranny. Second, freedom is sharing power (power to everybody). This view holds that centralized power abuses moral rights and alienates the weak. To realize oneself, power must be shared. Third, empowerment strengthens the poor without weakening the strong. This view is average. This view opposes power to nobody and power to everyone. Power to nobody is impossible, and power to everyone is chaos and mayhem. The third view holds that powerless power is most plausible [3].

According to [3] the idea of community empowerment, (1) community empowerment cannot be done only through the approach of leaves, branches, stems, or roots because problems occur in all aspects; (2) Community empowerment in the economic sector requires strengthening community economic institutions, human resources, infrastructure, and bargaining position; (3) community empowerment in the economic field or strengthening the people's economy must be done elegantly without hindering and discriminating against the strong economy; for this reason,

b. Strengthening Competitiveness

Basically in general competitiveness defined as the ability of an industry to show superiority in a particular respect, by means of showing the most favorable situations and conditions, and better results of work compared to other industries. So that the factor that must be considered in competition is excellence [4].

Resource management is one way to boost competitiveness. The right strategy must also be tailored to all firm functions to boost performance and value [2].

According to [5], highly competitive MSMEs have (1) an increasing trend in output volume growth, (2) an increasing share of the domestic and/or export market, (3) a local and national domestic market, and (4) a global export market. MSME goods are only as competitive as their manufacturers. The competitiveness of a product can be measured by its export share, overseas market share, export growth rate, domestic market share, production growth rate, product worth or price, domestic market diversification, export market diversification, and customer satisfaction.

Assessment and Improvement of Competitiveness with a Cluster Approach An industrial cluster is a grouping of related companies, suppliers, service providers, communities, and private institutions in certain fields related to externalities [6]. A cluster approach should be used in addition to the usual broad economic or sector-specific analysis with the aim of encouraging engagement with various stakeholder groups where they can develop a common understanding of the underlying public policy issues and act together.

In order to strengthen the SME cluster, it is necessary to build cooperation with the “3C” principle, namely: Cooperation, Concentration, and Competition. Cooperation is aimed at enhancing more selective and effective cooperation, education with a dynamic business model approach, and closer partnerships between government, academia, and business.

2.2 Tourism Village

[7] Defines a tourist village as a form of integration between attractions, accommodation, and supporting facilities presented in a structure of community life that is integrated with applicable procedures and traditions. It is also emphasized that the most important components in a tourist village, are (1) accommodation, which is a part of the locals' residences and or / units that develop according to the place where the residents live, and (2) attractions, namely the entire daily life of the local population along with the physical background of the village location that allows the integration of tourists as active participants, such as dance, language, painting, and other specific things.

According to Cooper 1993 [8] before developing a tourist village, you must first pay attention to the 4 A aspects, namely: seen and carried out by tourists visiting the tourist site. Things that can be seen and done in the tourist village here are intended to be such as natural beauty and uniqueness of nature in the location, photo booths, playgrounds, relics of legend stories, typical attractions of the village, such as cultural arts, traditional ceremonies, local culture, the local language, local specialties, etc. *Accessibility* is the infrastructure and means that will deliver to the tourist location. Transportation facilities, road access, and directions to the tourist location. Many tourists are disappointed because the matter in the access does not meet it. *Amenity* is a supporting tool to look at the facilities of tourists in fulfilling their wishes while in the location. Tourist villages can provide lodging/*homestays*, food stalls or equipment stalls, toilets, parking lots, clinics, places of worship, and other facilities that will provide convenience to tourists. This facility is expected to be far from the intended natural destination because it is feared that it will interfere with the distinctiveness of nature. as a manager, you must be able to map destinations with these public facilities. *Ancillary* are people who are directly involved in managing and managing the location of tourist villages. By being managed

by people who are committed to the village, tourists or visitors will come because the service and uniqueness of the location are very attractive in the hearts of visitors. Access points, attractions, and amenities are good but the person or manager is not good, so it will not be realized that the lecturer team here will help to provide counseling and knowledge related to the management of the tour.

2.3 Creative Industries

The creative industry is a crucial component in the development of the creative economy sector, which has a positive impact on the nation and state. The industry's advantages include being based on renewable resources such as science, creativity, and talent, which tend to grow rapidly during times of crisis. It also prioritizes skills, has a high absorption of labor, and is able to involve local communities. Additionally, the industry is based on local culture, making it unique and diverse with high-profit margins. Creative products within this industry have a short life cycle, high margins, high diversity, high competition, and are easily imitated [9].

Despite its potential, the development of the creative industry in Indonesia faces various challenges. One such challenge is its relatively newness and lack of recognition as a development wheel drive. Other challenges include the lack of policies that support the creative climate, licensing, investment, and copyright protection. Furthermore, there is a compartmentalization of creative activities and a lack of a complete value chain study. There is also a need for higher education to empower the creative industry and the formulation of a unique career system for creative workers. The industry also faces gender-based discrimination in the recruitment, payroll, promotion, and recognition of job opportunities. Additionally, there is no systematic handling of the increase in creative business opportunities in various cities, including Bandung, Jakarta, and cities abroad.

3 Methodology

The method used to achieve the objectives in this study was the survey method using questionnaires and interview techniques as well as *Focus Group Discussions* on respondents, documentation, and field observations.

3.1 Research Subjects

Communities and business actors in the Lemahdadi area which includes joint ventures and Pokdarwis Kajigelem, Bangunjiwo. As a resource person who provided input in this study.

3.2 Research Location

This research will be conducted in Kajigelem Tourism Village, precisely in Lemahdadi, Kajigelem, Bangunjiwo, Bantul.

3.3 Data Types and Research Procedures

- a. Data on the networking, identification, and need assessment of craftsmen involved in the creative industry with the value of Local Wisdom were obtained by means of questionnaire circulation surveys, observations, and interviews.
- b. The simulation material data for model instructors were prepared by means of a Forum Group Discussion with the relevant Government Office, the Lemahdadi Sculpture Craft Association, Pokdarwis Kajigelem, and the Kajigelem Village Government.
- c. Data on the ability of model implementing instructors were collected by questionnaires, interviews, and observations.
- d. Data on the design of the operational implementation of the model was obtained through interviews and observations.

3.4 Data Collection Instruments

- a. Interview and observation guidelines to carry out the identification and need assessment of creative industry players in choosing a strategy model for increasing competitiveness.
- b. A set of questionnaires for surveying or netting creative industry SMEs, as research subjects.
- c. A set of test kits to reveal the ability of creative industry SMEs to follow model simulations.

3.5 Data Analysis

The analysis used is descriptive analysis and multiple quantitative analysis. The use of diagnostic tools (SWOT, market trends, to determine the model of developing strategies for strengthening the competitiveness of the creative industry is worth local wisdom.

3.6 SWOT Analysis

A SWOT analysis is a powerful tool for strategic planning and management. It enables organizations to systematically identify and analyze internal and external factors that impact the feasibility of a project, product, location, or entity. The process involves eight steps, including selecting the objective, checking the business situation, listing strengths and weaknesses, identifying potential opportunities and threats, and prioritizing and analyzing SWOT elements. The purpose of the SWOT analysis is to produce alternative, functional strategies that can be applied to each strategic business unit.

SWOT analysis has several benefits for companies, including identifying their position in market competition, benchmarking decision-making to achieve company goals, and enabling evaluation and adjustment of existing strategies to changes in business conditions. SWOT analysis comprises two essential components: internal and external factors. External factors influence the formation of opportunities and threats, while internal factors affect the formation of strengths and weaknesses, both of which influence

IFAS EFAS	STRENGTHS (S) Faktor-faktor Kekuatan	WEAKNESSES (W) Faktor-faktor Kelemahan
OPPORTUNITIES (O) Faktor-faktor Peluang	STRATEGI SO Ciptakan strategi yang menggunakan kekuatan untuk memanfaatkan peluang	STRATEGI WO Ciptakan strategi yang meminimalkan kelemahan untuk memanfaatkan peluang
THREATS (T) Faktor-faktor Ancaman	STRATEGI ST Ciptakan strategi yang menggunakan kekuatan untuk mengatasi ancaman	STRATEGI WT Ciptakan strategi yang meminimalkan kelemahan dan menghindari ancaman

Fig. 1. SWOT Matrix. Source: Book of Six Management Analysis Tools

company decision-making. The SWOT matrix helps organizations anticipate opportunities and threats from their external environment and use their strengths and weaknesses to formulate various strategies.

The SWOT matrix generates four groups of alternative strategies called SO, ST, WO, and WT strategy. SO strategy involves utilizing all forces to seize and make the most of opportunities. ST strategy is using the deep forces that the company has to overcome threats. WO strategy focuses on utilizing existing opportunities while minimizing existing weaknesses. WT strategy involves defensive activities that seek to minimize existing weaknesses and avoid threats. Ultimately, SWOT analysis can help organizations build and improve their strategies to address SWOT problems and challenges in a variety of industry contexts (Fig. 1).

4 Results

The result of this study is the mapping of Masyarakat and business actors in the Lemahdadi area which includes a joint venture and Pokdarwis Kajigelem, Bangunjiwo. The mapping is carried out by observing data from the government and the existing community and also conducting interviews, and observations on the needs of appropriate mapping. The creative economy began to be recognized as having a very strategic role in economic development and business development. It's just that it hasn't been touched much by government interference. This is because the government has not made it an important source of state revenue. The government is still focusing on the manufacturing, fiscal, and agribusiness sectors. In the last three years, this term creative economy and/or the creative industries are starting to get talked about.

Departments related to creative economy activities immediately followed up on this, by forming a special team called Indonesia Design Power which aims to develop the creative industry in Indonesia. The government through the Ministry of Trade (Depdag), the Ministry of Industry (Deperin), and the Ministry of Cooperatives and SMEs (MSMEs) continue to conduct studies as a foundation for the development of the creative industry.

Given the large contribution of the potential of the creative industry to the economy, the government continues to hold events (activities) to stimulate the growth of the creative industry such as (1) Launch of the 2007 Indonesian Creative Industry Contribution

Mapping Study at the Trade Expo Indonesia event in October 2007, (2) The Launching of the Creative Indonesia Year in 2009, (3) Creative Products Week 2009 (4) Creative Economy Exhibition. Broadly speaking in Indonesia the development of the creative economy is seen in the creative industry.

5 Conclusion

For local governments, the creative economy is a great opportunity to empower regional economies that support sustainable and sustainable development in the regions, so local governments need to socialize and support the development of the creative economy in their respective regions.

Acknowledgement. We would like to express our deepest gratitude to all the Regional Governments of Bantul Regency, who have granted our research permits, and the Ministry of Education, Culture, Research and Technology UPN “Veteran” Yogyakarta LPPM who have funded this research.

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