The Quintuple Helix Model as a Strategy for Developing Creative Small and Medium-Sized Industries in the City of Jambi

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Abstract. This research aims to identify a suitable strategic model for the development of creative MSMEs in Jambi City using the "quintuple helix" approach. The research involved all craft MSME owners in Jambi City. A sample of 216 entrepreneurs was chosen using the Slovin formula. Data was collected through FGDs, interviews, and surveys, and analyzed using SWOT and multiple linear regression. The research results produced 5 strategic recommendations for each of the four SWOT combinations. Additionally, the Quintuple Helix Model analysis produced 16 recommendations for all entities involved. This research was limited to craft MSMEs in Jambi City, and other factors that might influence development were not considered. This research provides a strategic model for the development of creative MSMEs involving the "quintuple helix" model, which can be used as a guide for relevant stakeholders

Keywords: development strategy, creative SMEs, quintuple helix.

1 Introduction

Law No. 20 of 2008 on Micro, Small, and Medium Enterprises (MSMEs) serves as the foundation for the government's policy to promote small and medium-sized enterprises. Based on Presidential Regulation No. 72 of 2015 concerning Amendments to Presidential Regulation No. 6 of 2015 on the Creative Economy Agency, the sub-sectors of the creative industry were reclassified from 15 sub-sectors to 16 sub-sectors. These include architecture, interior design, visual communication design, product design, film, animation, and video; photography; crafts; culinary; music; fashion; application and game development; publishing; advertising; television and radio; performing arts; and fine arts.

Crafts and fashion are dominant sub-sectors in terms of economic contribution and serve as locomotives in the development of the national creative industry. Crafts and fashion significantly outperform other industrial sub-sectors in terms of value-added, the number of companies, and exports (http://ekon.go.id/).

In the province of Jambi, the contribution of the creative industry in the craft sector to the Gross Regional Domestic Product (GRDP) dominates, amounting to 9.008%. This is followed by the fashion industry at 5.645% and the culinary industry at 5.626% (https://disperindag.jambiprov.go.id/). The significant contributions of these sectors to the

GRDP have a positive impact on the economic development of the province, particularly in terms of employment opportunities, thereby reducing the unemployment rate.

The number of MSMEs in the city of Jambi has experienced fluctuations. In 2019, there were 41,541 units, which decreased to 21,637 units in 2020, and then increased to 47,313 units in 2021. Among these, there are 135 craft MSMEs. However, the growth in quantity has not been matched by a proportional increase in quality. This has led to easy entry and exit of entrepreneurs in the creative industry (https://idalamat.com/).

The city of Jambi's local government program to achieve Smart City status includes the Smart Economy, which focuses on developing economic governance capable of facing challenges and adapting to change. Therefore, a reliable MSME sector is needed.

The Ministry of Tourism and Creative Economy (2015) defines crafts related to the creative economy as part of applied arts that represent the convergence of art and design. They draw inspiration from traditional heritage or contemporary ideas, resulting in various forms of art, functional products, decorative items, and thematic products, categorized by materials and explorations of techniques and thematic characteristics.

The concepts of the Triple Helix and Quadruple Helix have evolved into the Quintuple Helix (QuiH) innovation approach proposed by Carayannis et al. (2012). In addition to universities, industry, government, and civil society, the Quintuple Helix includes the natural environment, which is crucial for sustainable development and provides natural capital (e.g., resources, plants, animal varieties, etc.). According to Carayannis and Campbell (2014), the Quintuple Helix further elaborates on the concept of sustainable development, emphasizing eco-innovation and eco-entrepreneurship in the present and future. The Quintuple Helix highlights the socio-ecological transition required by society and the economy in the twenty-first century, making it ecologically sensitive.

Development strategies in business refer to the planning and activities undertaken by a company's management to optimize the use of company resources to achieve business goals. Each company can adopt different strategies based on its unique resource strengths and capabilities (Elhamma, A., & Zhang, Y. I., 2013; Rangkuti, F., 2018; Woodward, R., 2009).

Initial surveys of MSMEs in the city of Jambi revealed that the Covid-19 pandemic has significantly affected business performance. Decreased sales revenue, hindered marketing efforts, rising prices of tools and raw materials, and difficulties in obtaining capital are some of the challenges they face. To address these issues, especially in the post-Covid-19 era and in support of the Smart City program, it is essential to conduct research on appropriate business development strategies, including within the field of academia.

Research related to the governance and development strategies of MSMEs has been widely conducted (Elhamma, A., & Zhang, Y. I., 2013; Alfrian, G. R., & Pitaloka, E., 2020; Damuri, Y. R., et al., 2020; Desmaryani S., et al., 2016; Dahmiri and Rosif Rohman, 2013; Willian, R., et al., 2021; Ade Octavia et al. (2012); Dahmiri et al. (2014); and Mustika C., et al., 2016). However, this research is the first to examine the Development Strategy of Creative Small and Medium-Sized Industries in the city of Jambi using the Quintuple Helix model. This research aims to provide solutions to the challenges faced by craft MSMEs, especially in the current Industry 4.0 era. The study will explore development strategies for creative

2 Methods
2.1 Data Collection

Primary data were obtained directly through field surveys involving craft MSMEs and relevant stakeholders in the creative industry. Secondary data were collected from the Jambi City Cooperatives and MSMEs Office, the Central Bureau of Statistics in Jambi City, the Tourism Office, and existing literature.

The population in this research comprises Small and Medium-sized Enterprises (SMEs) in the craft sector in Jambi City, totaling 135 craft MSMEs (https://disperindag.jambiprov.go.id/). Sampling was conducted using non-probability sampling methods (Soeharto I., 2002). The sample size was determined using the Slovin formula according to Sevilla (2013), resulting in a sample of 81 craft MSME owners in Jambi City.

2.2 Data Collection Methods

Various methods were employed to collect primary data, including structured interviews, observations, documentation, and Focus Group Discussions (FGD). Secondary data were obtained from the Jambi City Cooperatives and MSMEs Office and relevant literature.

2.3 Data Analysis Method

This research adopts a mixed-method approach, combining qualitative and quantitative research methods. Specifically, it employs the Sequential Exploratory Design, which begins with qualitative research and is followed by quantitative research. The methods used in this research include the Focus Group Discussion (FGD) technique and multiple linear regression analysis. Descriptive analysis is conducted using the SWOT analysis method (Rangkuti F., 2018), while hypothesis testing is performed using multiple linear regression with a significance level of 5%.

3 Results and Discussion
3.1`Respondent Characteristics

Based on gender, the majority of respondents were females, totaling 46 individuals or 57%. Meanwhile, males accounted for 35 individuals or 43%. Regarding age, the highest number of respondents fell into the 36-45 age group, comprising 40 individuals or 53% of the total respondents. In terms of educational level, the majority had completed high school or its equivalent, with 46 individuals or 57%.

3.2 SWOT Analysis

The results of the Internal Factor Evaluation (IFE) showed that the total score for Internal Strengths was 2.16, while the total score for Internal Weaknesses was 0.650. When Internal Strengths were added to Internal Weaknesses, the total score for the Overall IFE (Internal Factor Evaluation) was 2.814.

On the other hand, the results of the External Factor Evaluation (EFE) revealed that the total score for External Opportunities was 1.94, and the total score for External Threats was 1.49. When External Opportunities were combined with External Threats, the total score for the Overall EFE (External Factor Evaluation) was 3.43.
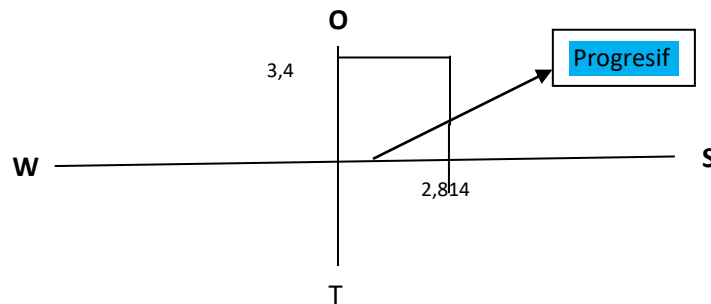
3.3 Matrix IE

Fig. 1. SWOT Analysis Diagram for Creative SME Development Strategy

From the results of the SWOT analysis diagram, it is evident that the development position of Creative Small and Medium Enterprises (SMEs), especially crafts, in Jambi City is currently in Quadrant I. This indicates that craft SMEs already possess strengths and opportunities to compete effectively. Therefore, the appropriate strategy to succeed in the current competition is a progressive strategy.

Based on the SWOT analysis in Figure 1, where the development position of craft SMEs in Jambi City is in Quadrant I, it signifies that craft SMEs in Jambi City have an advantage in terms of strengths that can be leveraged to seize opportunities. This position indicates that craft SMEs in Jambi City are strong and promising. The recommended strategy is progressive, meaning that craft SMEs are in prime and stable conditions, allowing them to continue expanding, growing, and achieving maximum progress.

From the SWOT matrix analysis, 20 suggested strategies for craft SMEs in Jambi City are as follows:

a. Strength-Opportunities (SO) Strategies
    1. Utilize technological advancements to expand market share. This can be achieved by learning to use IT and computer tools, particularly for business development and online promotion.
    2. Establish partnerships with private sector entities, seeking mentorship or financial assistance.
    3. Participate in government programs aimed at improving human resources, enhancing skills, and quality.

4. Harness social media for extensive promotion, as social media platforms offer cost-effective and limitless promotional opportunities.
5. Collaborate with financial institutions to address capital challenges.
b. Weaknesses-Opportunities (WO) Strategies
1. Enhance work ethic and skills, focusing on discipline, time management, and continuous product improvement.
2. Boost innovation and creativity in products, pricing, marketing, and distribution through online research and learning from successful counterparts.
3. Implement standardized financial reporting for effective financial control.
4. Enhance product quality control, from raw material selection to final product inspection.
5. Improve communication accuracy to minimize errors in handling customer orders.
c. Strength-Threats (ST) Strategies
1. Highlight product uniqueness to deter imitation by competitors.
2. Prioritize employee satisfaction to reduce turnover rates.
3. Carefully select business partners to avoid potential losses.
4. Continuously enhance customer satisfaction to maintain loyalty.
5. Adjust pricing to cope with reduced consumer purchasing power.
d. Weaknesses-Threats (WT) Strategies:
1. Strengthen collaboration with universities to improve human resource quality.
2. Explore alternative income sources alongside core products, such as selling craft materials or offering craft workshops.
3. Provide enticing offers to customers, such as bonuses, discounts, free delivery, vouchers, and more.
4. Rapidly adapt to and utilize technological advancements.
5. Seek low-cost transportation alternatives to address transportation expenses related to raw materials, product delivery, and other needs.
e. Quintuple Helix Analysis

By analyzing the results of the SWOT analysis, several formulations of the Quintuple Helix Model strategy perspective were produced, as follows:
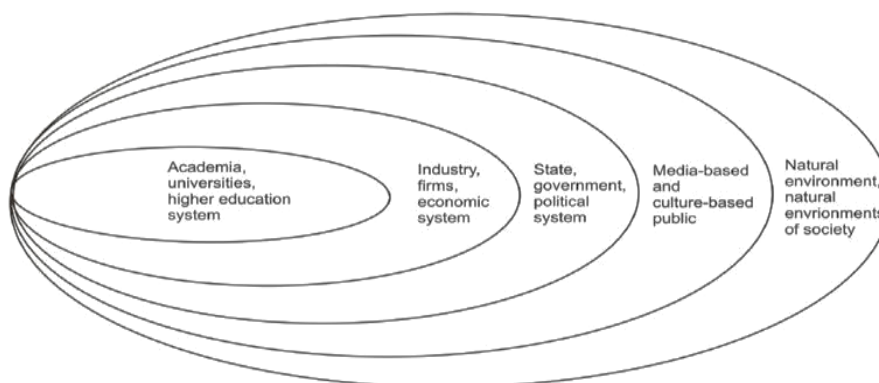

Fig. 2. Subsystems of the Quintuple Helix Model. Modified from Etzkowitz and Leydesdorff (2000) and Carayannis and Campbell (2014).

3.4 Recommendations

Based on the formulated strategies, the following recommendations are proposed for implementation:

a. Education System
1. Universities, through research and community engagement institutions, should create ongoing research and community engagement programs. These programs should encompass product development, outreach, skill training, and align with government needs. The aim is for universities to play a significant role in the development of Creative SMEs (IKM).
2. Universities should offer support in the form of skill training in foreign languages, social media usage, machine operation, and financial reporting skills.

b. Economic System
1. Large industries should collaborate with craft SMEs, offering them direct internship opportunities. These internships can cover various aspects such as business management, planning, marketing strategies, and financial reporting.
2. Industries can support creative SMEs, particularly in Jambi City, through Corporate Social Responsibility (CSR) funding. This funding can be allocated for human resource training, marketing training, or even as financial assistance.

c. Political System
1. The government, through relevant departments such as the Department of SMEs and Cooperatives, Department of Trade and Industry, Department of Education and Culture, and local universities in Jambi City, should form teams consisting of experts from each university. These teams should be responsible for providing guidance, training, and support to Craft SMEs in developing the industry.
2. Government departments should establish incubators that work in synergy with university incubators in Jambi City. These incubators should contain research and community engagement results that can serve as the initial foundation for government departments to develop Craft SMEs.
3. Promote a strong work ethic, perseverance, and entrepreneurial spirit within the community through continuous training programs. Utilize assistance programs provided by local, provincial, and central governments, involving universities as mentors.
4. The Jambi City government should provide financial assistance to Craft SMEs in the form of revolving funds, workforce training financing, or grants.
5. Leverage technological advancements by adding features to the Jambi City website that provide information relevant to Craft SMEs, such as training activities, requirements for financial assistance applications, and up-to-date workforce information.
6. The government must increase politically motivated support through proportional regulations that relate to society, industry, institutions, intermediaries, resources, and technology. This effort aims to create a conducive business environment for the development of creative SMEs in Jambi City.

d. Community
1. The community should activate existing business groups within their localities, utilizing government assistance funds to accelerate the development of creative SMEs.

2. Productive community groups can serve as role models, motivating other Craft SMEs in their vicinity to actively participate in the activities carried out by these groups.
3. The community plays a role in creating a conducive environment by maintaining security, orderliness, and comfort in conducting businesses without fear of security disturbances and disasters.

e. Environment
1. The natural environment, as a subsystem of the quintuple helix, significantly influences the development of creative SMEs by providing "natural capital" (e.g., resources, plants, various animals). Therefore, the natural environment must be continually preserved and conserved to ensure the availability of raw materials required by craft SMEs.
2. The social environment is identified as an opportunity that can further encourage the creation of advantages in sustainable economic recovery and growth efforts. Environmental factors imply and emphasize the innovation of knowledge, understanding, and awareness of the importance of adaptive behavior and interactions among actors in implementing strategies as best practices of government policies as public controllers in accelerating the development of creative SMEs.
3. The social environment represents, frames, and simultaneously influences cooperation and interactions among the five helixes. Adaptive social behavior and interactions among the helixes are necessary to create balance and alignment.
4. The quintuple helix emphasizes the ability to adapt and align interactions with environmental conditions at every stage of the structure, the process itself, input and output, complete with evaluations involving the actors engaged in the quintuple helix.

4 Conclusion

Based on the research results utilizing SWOT analysis, a strategic framework has been developed for Creative SMEs in the craft industry in Jambi City. The formulation of strategies resulted in 5 recommended strategies for the Strengths & Opportunities (SO) category, 5 for Weaknesses & Opportunities (WO), 5 for Strengths & Threats (ST), and 5 for Weaknesses & Threats (WT).

Additionally, the analysis of the Quintuple Helix model has led to the conclusion that there are 16 recommendations provided to the various helixes. These recommendations are categorized as follows: 2 for universities, 6 for the government, 2 for the industrial sector, 3 for the community, and 4 for the environment.

For Creative Small and Medium-sized Enterprises (SMEs) in the craft industry in Jambi City, it is advised to promptly capitalize on their strengths and available opportunities while mitigating weaknesses and averting threats to ensure the successful growth of their businesses.

For the government and universities, which act as mentors and supporters of business players, it is crucial to continually enhance their roles in guiding and assisting SMEs in various aspects, including product improvement, marketing, human resource development, and financial reporting.

Major private sector players are encouraged to expand their roles by partnering with creative SMEs, such as acting as mentors or providing financial assistance or capital loans.

Future researchers are suggested to further develop subsequent research using alternative methods, such as the Analytical Hierarchy Process (AHP), on different objects and broader scopes.

Acknowledgement

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