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CLUSTER BUSINESS DEVELOPMENT MODEL OF AGRIBUSINESS-BASED MSMES DURING THE COVID-19 PANDEMIC

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Abstract: Currently in Indonesia, Micro, Small and Medium Enterprises (MSMEs) play a strategic role in the development of the national economy. This study aims to develop an integrated framework that incorporates the innovation and strategic sustainability behaviors into the cluster business development model of agribusiness-based MSMEs during the COVID-19 pandemic. This study uses mixed methods with quantitative and qualitative approaches. The subjects in this study were 150 members of the center member entrepreneurs, managers of the Regional Innovation System (SIDa), cooperative administrators/managers, related agencies, universities and other parties involved in the implementation of the SIDa program, and MSMEs business development. The results of the analysis using the radar scale and scoring analysis show that there are twelve potentials and economic opportunities for MSMEs business spread over three zones. The results of the mapping using the value-added matrix found that most of the MSME business characteristics had a "*none*" or "*simple*" value. This study also found developing an integrated framework that incorporates the innovation and strategic sustainability behaviors into the cluster business development model of agribusiness-based MSMEs during the COVID-19 pandemic. The main theoretical contribution of this paper is that this study proposes a model that explains how the different elements of strategic sustainability behavior and innovation types that focus on the cluster business into the model affect the business performance, business sustainability, and business survival of the cluster business of agribusiness-based MSMEs during the COVID-19 pandemic.

Keywords: cluster business; agribusiness; innovation; MSME; COVID-19.

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) play a strategic role in the development of the national economy especially in Indonesia (Mariyudi, 2019) Moreover, it is related to Indonesia's export performance (Salim, 2013) Data shows that in 2018 there were more than sixty-four million MSMEs (or about 99% of the total business units) and employed more than 116 million workers (or about 97% of the total workforce in the economic sector) (Winarso, 2020).

The MSMEs sector is very important for national socio-economic development, both for developed and developing markets and the economy (Forsman & Temel, 2011). They are important drivers in the process of structural change in emerging markets and economies (Szirmai, Naudé, & Goedhuys, 2011) They are important for local entrepreneurship and innovation activities and are able to take advantage of the opportunities of globalization (Lari, Hamid, & Lari, 2020). Their important role continues to be important in diversifying sources of national income, in increasing competitiveness and economic development, and in contributing to the flexibility and resilience of the Indonesian economy (Mariyudi, 2019) MSMEs play a role in fields related to entrepreneurship, innovation, productivity, competition, job creation, diversification, income, and growth (Mariyudi, 2019). Entering the 21st century, the literature shows that active and stretching agribusiness clusters have a strategic role for the long-term transformation process in the food economy (Molema, Segers, & Karel, 2016).

These structures are mainly co-created by agribusiness entities, traditional agricultural sectors, including MSMEs, agricultural ownership, R&D sector entities and social organizations related to agriculture and food production (Skousen, 2016). MSME's business cluster development approach has been recognized globally for its role in driving economic progress (Rwekaza & Anania, 2021), maintaining competitive advantage (Rwekaza & Anania, 2021), and enhancing the development of infrastructure for professional, financial, legal, and other specialist services (Rwekaza & Anania, 2021). The business cluster approach has the potential to transform regional and national economies in developed and developing countries such as Europe, Africa, Asia, and Latin America (Rawat & Wang, 2017). The MSME business cluster development approach has played an important role in promoting equitable regional development and economic growth (Unido, Evvaluation, & Nations, 2013). MSMEs with a business cluster approach have succeeded in employing at least 45 percent of the workforce (Rwekaza & Anania, 2021) creating job opportunities, promoting exports and innovation and by developing entrepreneurial skills. (Rwekaza & Anania, 2021). Clusters enable the production of different products and services based on grouped companies and allow them to manage competition.

MSMEs are business groups that can survive when the economic crisis hits developing countries such as Indonesia (Dharmanegara, Sitiari, & Wirayudha, 2016). However, the current COVID-19 pandemic has had an impact on various

sectors. At the global economic level, the COVID-19 pandemic has had very significant negative implications on the country's domestic economy and the existence of MSMEs, decreased consumption and people's purchasing power, decreased company performance, loss of consumer confidence, the collapse of the stock market which in turn led to uncertainty, threats to the banking and financial sector, as well as the existence of MSMEs (Rahman & Velayutham, 2020).

In this pandemic situation, according to ministry of cooperatives and SMEs, there are around 37,000 SMEs who report that they are very seriously affected by this pandemic, which is marked by: around 56% reported a decline in sales, 22% reported problems in the financing aspect, 15% reported on goods distribution problems, and 4% reported difficulties in obtaining raw materials (Gil et al., 2020). Other studies also show relatively similar and worrying results. Most of the total income fell due to the COVID-19 pandemic. MSMEs found it difficult to obtain raw materials and also have been hit by an increase in raw material prices, almost 88% of the MSMEs experienced a decrease in demand, around 77% of the enterprises have had to cope with lower revenues, more than 34% of MSMEs faced a drop in their asset value by 20% to 40%, and almost 60% of the MSMEs report that there have been changes in the number of their workers (UI, 2020).

The current paper aims to provide a theoretical foundation on how innovation models can be integrated into the process of developing agribusiness-based MSME clusters in Indonesia. It is hoped that this paper will contribute knowledge about how innovation models can be integrated into clusters, especially in terms of considering key dimensions and determining the prospects for developing innovation clusters as well as forming policies, strategies and business cluster development coaching programs. In our view, the innovation model could be one of the best options for such initiatives. The findings are in the form of a model that describes how different strategic sustainability behaviors can explain the possibilities in the types of innovation practices in Agribusiness-Based MSME Cluster Businesses During the COVID-19 Pandemic.

However, empirical work on cluster-based development has largely ignored the role that innovation models can play in creating strong and sustainable business/industry clusters in developing countries. From this point, this paper focuses on contributing knowledge and bridging the gap by laying the foundation for how innovation models can be integrated with business cluster development initiatives during the COVID-19 pandemic in various countries including Indonesia.

METHODS

Research Approach

This research is a qualitative research that thinks inductively. Qualitative case studies are concerned with producing rich, in-depth and quality data (Sinkovics, Penz, & Ghauri, 2008). Qualitative studies have the capacity to capture new realities, new

ideas and theoretical insights into research. However, qualitative studies are widely considered to be less objective than quantitative approaches (Ibeh & Kasem, 2011).

The use of mixed methods in this study reflects an attempt to capitalize on the strengths of both quantitative and qualitative approaches, while also minimizing their weaknesses, such as radar scale and scoring analysis, the value-added matrix, and developing an integrated framework of the model. This is an increasing trend in research into the internationalization of MSMEs, to further enrich and clarify quantitative survey results (Vissak, Ibeh, & Paliwoda, 2008). The research location is a farming area based on geographical identification which is in the North Aceh Regency area.

RESULTS AND DISCUSSION

Scoring Analysis

In this study, zoning is divided into 3 areas, namely:

a. ZONATION I, are North Aceh Regency West Region which includes the following sub-districts: Sawang, Muara Batu, Dewantara, Nisam, Banda Baro, Kuta Makmur, Simpang Keuramat, dan Syamtalira Bayu.

b. ZONATION II, are North Aceh Regency, Central Region which includes the following sub-districts: Samudera, Meurah Mulia, Syamtalira Aron, Tanah Pasir, Tanah Luas, Geureudong Pase, Matang Kuli, Paya Bakong, dan Lhoksukon.

c. ZONATION III, are North Aceh Regency East Region which includes the

following sub-districts: Cot Girek, Lapang, Baktiya Barat, Baktiya, Seunuddon, Tanah Jambo Aye, Langkahan, Pirak Timu, dan Nibong.
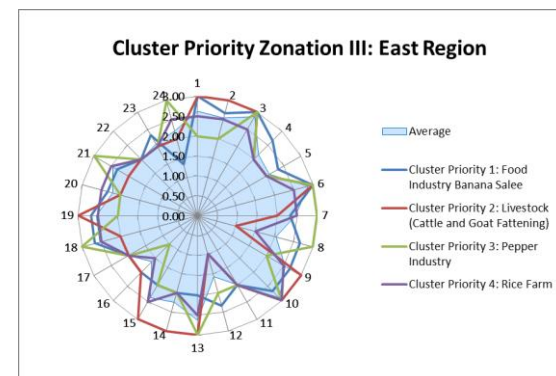
The scoring criteria in the scoring analysis have values (1): small/low, (2): medium/medium, and (3): large/high. The results of the analysis are as follows:
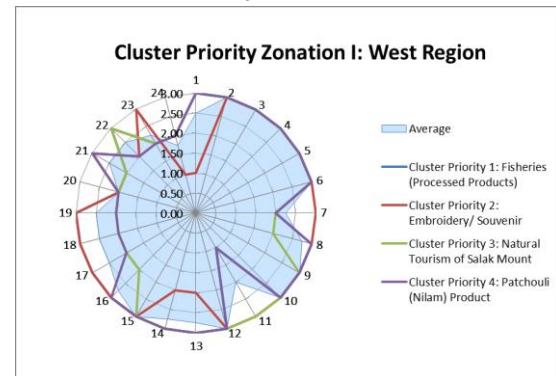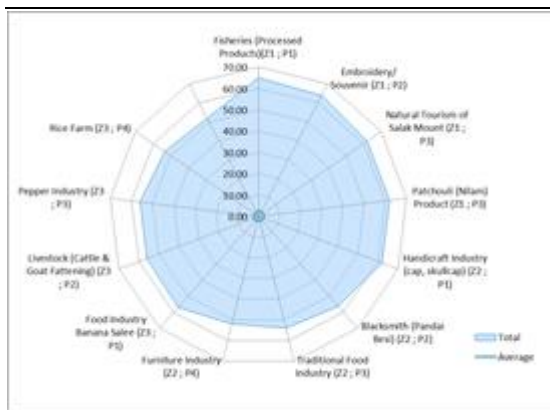

1a
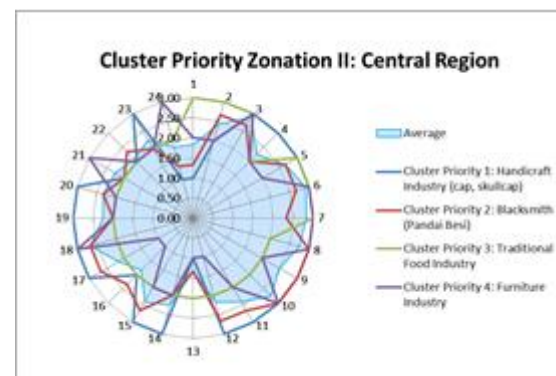
1b

1c

1d

Figure 1. Priority economic clusters in each Zone.

Note: Radar scales represent the percentage of clusters based on the potential and economic opportunities and aspirations that exist in each Zoning by using scoring analysis.

The results of the scoring analysis in Zoning I (Figure 1a) show that the proposed center/cluster that becomes priority I, namely the center/cluster of fisheries (processed products), the proposed cluster that becomes priority II is the embroidery/souvenir cluster, the proposed center/cluster that becomes priority III is the tourism cluster. Gunung Salak, while the priority IV is the patchouli product cluster. The data shows that the Gunung Salak natural tourism industry and patchouli products are the last priority with supporting conditions that are still less supportive of innovation.

The results of the scoring analysis in Zoning II (Figure 1b) show that the proposed centers/clusters that become priority I, namely centers/clusters: handicraft industry (caps, skullcaps), the proposed clusters that become priority II are centers/clusters: blacksmith, the proposed clusters that become priority III is cluster: traditional food industry, while the fourth priority is center/cluster: furniture industry. the data shows that the centers/clusters of traditional food and furniture industry are the last priority with supporting conditions that are still less supportive of innovation.

The results of the scoring analysis in Zoning III (Figure 1c) show that the proposed center/cluster that becomes priority I, namely the salee banana food industry center/cluster, the proposed center/cluster that becomes priority II is the livestock center/cluster (cattle and goat fattening), the proposed cluster which becomes the priority III is the center/cluster of pepper industry, while priority IV is the center/cluster of rice agriculture. the data shows that of the four existing priorities, centers/clusters: rice agriculture is the last priority with supporting conditions that are still less supportive of innovation.

**Distribution Map of Priority Business Centers/ Clusters/MSMEs**

Increasing the competitiveness of small and medium-sized businesses based on agribusiness in North Aceh Regency can be done by developing a cluster concept, the main goal of the cluster is to increase product competitiveness by emphasizing the value of efficiency in the use of time and distance in producing a product. This increase in efficiency value will drive down production costs and marketing costs of a product, in the end the product is more competitive in the market and has higher competitiveness compared to similar products produced by other regions.

Agribusiness development efforts have been carried out by the North Aceh Regency government, but there are still various obstacles, especially in maintaining product quality that meets market standards and product continuity in accordance with market demand and to support a downstream industry from agricultural production.

Distribution map of priority business centers/clusters/SME products in North Aceh Regency based on zoning as shown in the figure 2.
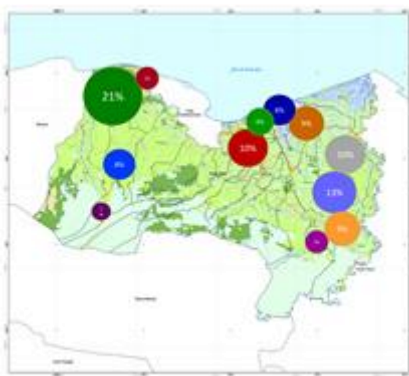
Figure 2. Distribution Map of Priority Centers/Business Clusters/MSMEs in North Aceh District Based on Zoning
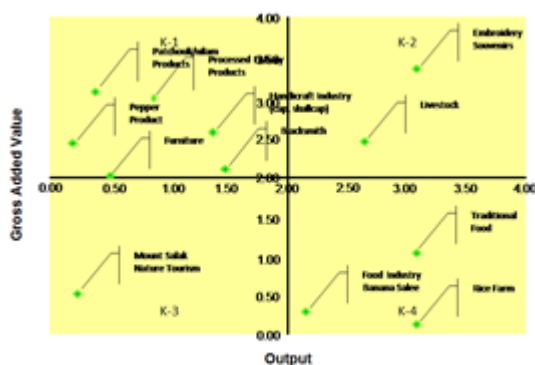
Figure 3. Matrix Of Value Added to the Output of Priority Centers/Business Clusters/MSME Products

The results of the study also show that the performance of these agricultural products in the economy of North Aceh Regency as a whole. For that we can use the value added matrix to the output as presented in Figure. The value added matrix to output maps the added value given from the production of a product and the amount of output it produces. Before being mapped, the added value and output of each product is compared with the average value added and output of the observed product. Thus, information will be obtained about products that provide added value above (or below) the group average value and which produce a total output above (or below) the group average output.

The figure 3 shows that the matrix plane is divided into 4 quadrants. Quadrant 1 is the product quadrant that has added value above the average but has a lower output than the average. Quadrant 2 is the product quadrant that has added value and the amount of output is above the group average. Quadrant 3 is a product quadrant that has added value and a smaller amount of output than the group average. And Quadrant 4 is a product quadrant that has added value below the average but has a higher number of outputs than the average.

Cluster Business Development Model of Agribusiness-Based MSMEs

Based on the discussion presented earlier, this study develops an integrated framework that incorporates the innovation and strategic sustainability behaviors into the cluster business development model of agribusiness-based MSMEs during the COVID-19 pandemic.
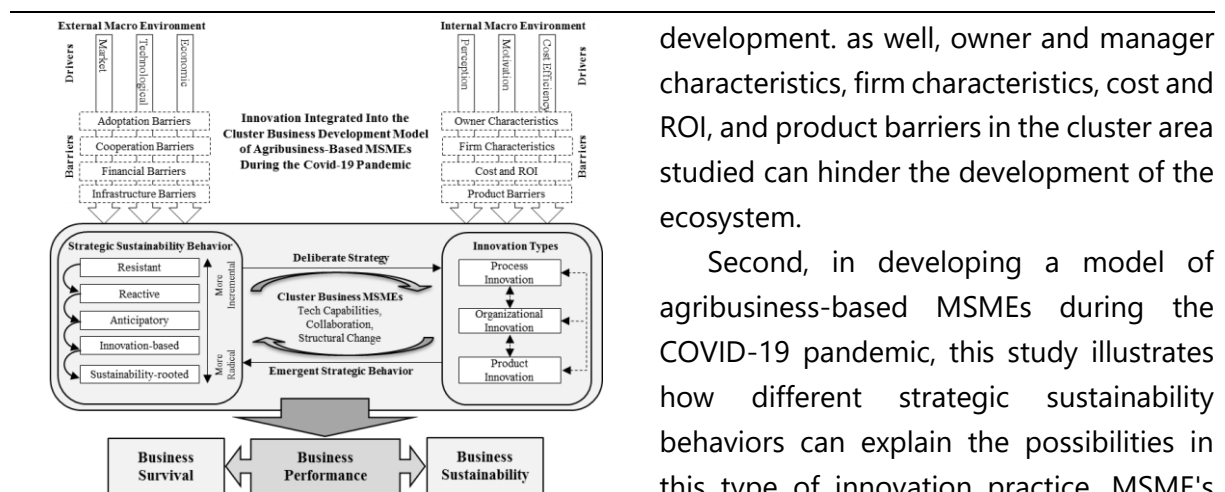
Figure 4. Innovation Integrated Into the Cluster Business Development Model of Agribusiness-Based MSMEs During the COVID-19 Pandemi

This model summarizes the elements that must be considered in the cluster business development model of agribusiness-based MSMEs during the COVID-19 pandemic. This model is a refinement of the adapted framework based on empirical evidence in the field.

First, this model considers the driving factors and obstacles faced by MSMEs, both externally and internally. The drivers or driving forces that drive ecosystem development and goal attainment are important components (Rong, Liu, Mei, Li, & Han, 2015), and can consist of factors such as the economy, technological improvements, and market demand. In addition, adoption barriers, cooperation barriers, financial barriers, and infrastructure barriers can hinder ecosystem development (Zhang et al., 2015). Regarding internal drivers and barriers, most of the interviewees stated that perception, motivation, and cost efficiency can encourage ecosystem

development. as well, owner and manager characteristics, firm characteristics, cost and ROI, and product barriers in the cluster area studied can hinder the development of the ecosystem.

Second, in developing a model of agribusiness-based MSMEs during the COVID-19 pandemic, this study illustrates how different strategic sustainability behaviors can explain the possibilities in this type of innovation practice. MSME's strategic sustainability behaviors consist of resistant, reactive, anticipatory, innovation-based and sustainability rooted (Klewitz & Hansen, 2014).

To contribute to sustainability, innovation is an important means (Schaltegger, Hansen, & Lüdeke-Freund, 2016). This study identifies innovation practices at the product, process, and organizational level (Klewitz & Hansen, 2014).

With regard to strategy formation, this study proposes that there are deliberate and emergent strategies. Deliberate strategy, MSMEs can consciously formulate a sustainability strategy that is implemented and subsequently reflected in the results of related innovations (ie process innovation, organizational innovation, and product innovation). Therefore, deliberate strategies are usually not explicitly articulated as they are entrepreneurial strategies (Knott et al., 2020). Of course, business practices often represent the interaction between deliberate and emergent strategy.

Innovation will occur at different levels and innovative capacities (skills, competencies, capabilities). To strengthen

innovative capacity, MSMEs must interact and collaborate with multi-stakeholders. Collaboration is a key element for the transition to sustainability. The principle of sustainability must also be in accordance with the business strategy and technology of SMEs which requires SMEs to build competence.

Finally, the model in the figure shows that innovation integrated into the cluster business development model followed by appropriate strategic sustainability behavior is expected to have an impact on business performance, business sustainability, and business survival (Adam & Alarifi, 2021).

The model shows that the relationship between innovation practices and strategic sustainability behavior is influenced by supports and barriers from the external environment and the external environment of MSME. Likewise, their integration into the model affects the business performance, business sustainability, and business survival of the cluster business of agribusiness-based MSMEs during the COVID-19 pandemic.

CONCLUSIONS

North Aceh Regency has relatively few natural resources, so that cluster development in the context of local economic development requires other regions to provide inputs. In addition, North Aceh Regency has a lot of potential for human resources, but on the other hand, unemployment and poverty rates are relatively high. The development of economic clusters will have a great opportunity to reduce unemployment and poverty rates in North Aceh Regency.

The results of the study show that most of the characteristics of business/SMEs have a value of "none" or "simple". This shows that cluster characteristics have not appeared much in the observed centers. In general, it appears that the center member entrepreneurs have not been able to encourage the interactions that occur into a more advanced form of formal cooperation towards industrial clusters. However, business actors/MSMEs in North Aceh Regency have high intentions, attitudes and desires to change through innovation.

Finally, innovation integrated into the cluster business development model followed by appropriate strategic sustainability behavior is expected to have an impact on business performance, business sustainability, and business survival of the cluster business of agribusiness-based MSMEs during the COVID-19 pandemic.

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