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The Influence of Dynamic Capabilities on Innovation and Competitive Advantage: A Study of Sago Processed MSMEs in Meranti Islands Regency

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A B S T R A C T

This study examines the influence of dynamic capabilities on innovation and competitive advantage in sago processed MSMEs in the Meranti Islands Regency. The sample consisted of 95 sago-processing MSMEs located in the Meranti Islands Regency. This study highlights the importance of dynamic capabilities in a VUCA (volatile, uncertain, complex, and ambiguous) business environments. The study argues that MSMEs must develop dynamic capabilities to adapt to a rapidly changing environment and survive intense competition. This study identifies three dimensions of dynamic capabilities: sensing, seizing, and transformation. Sensing capability enables companies to detect environmental changes and new market opportunities, while seizing capability helps them capture and exploit these opportunities. Transforming capabilities allow companies to change their existing activities and resources to produce competitive advantages. The study also emphasizes the role of innovation in increasing competitive advantage. Innovation helps companies meet consumer needs and desires, attract new customers, and retain existing customers. Overall, the study suggests that dynamic capabilities and innovation are critical factors for MSMEs to gain a competitive advantage in the Meranti Islands Regency sago industry

INTRODUCTION

In this modern world, companies are faced with a situation known as VUCA. This is meaningful acronymity, uncertainty, complexity, and ambiguity (Chauhan et al., 2020; Deepika and Chitranshi, 2021; Santoso et al., 2019). Volatility indicates that the business world is changing rapidly and is difficult to predict in the digital economic era. Uncertainty reflects the emerging challenges that are always uncertain. Complexity depicts interconnected problems and chaos surrounding an organization. Ambiguity reflects unclear conditions and a lack of information from consumers because of rapid changes in consumer behavior patterns (Karneliet al., 2022; Potsangbam, 2017). Changes in the uncertain, rapidly changing business environment, as well as opportunities and threats that are difficult to control, require companies to develop their capabilities to adapt to the pace of change and survive intense competition (Karneli et al., 2022).

Among MSMEs, competition will become tighter because of a greater number of competitors and limited resources, especially considering that the failure of MSMEs to adapt to the VUCA era will threaten competitiveness (Karneli et al., 2022). The development of MSMEs in the Meranti Islands Regency has been very rapid. Various types of businesses that have emerged, such as culinary businesses, fashion, crafts, creative industries, services, and agricultural businesses, are increasingly adding to the tight competition among similar businesses. The Meranti Islands Regency is the largest sago-producing district in Indonesia. This can be seen from the fact that the Meranti Islands Regency has a large area of sago plantations (40, 150 ha), which is approximately 2.98% of the national sago plantation area. Sago plantations in Meranti have become the main source of income for almost 20% of the people of the Meranti Islands, with a production of 247,010 tons and a productivity of 9,108 kg/ha, with a total of 8,225 families of farmers (Gartina and Sukriya, 2022).

Sago production in the Meranti Islands plays an important role in the local economy, because many farmers and small businesses depend on sago production as a source of income, so there are many MSMEs processing sago spread across the Meranti Islands. However, the problem is that the development of the downstream industry for sago products carried out by MSMEs is still very limited in terms of type, production process, and quality.

The current problem faced by sago MSMEs in the Meranti Islands Regency is that they only produce and trade without paying attention to aspects and factors of competition with similar businesses. The results of an initial survey of sago processed food entrepreneurs in the Meranti Islands Regency show that processed sago products have low competitive advantages, especially in terms of unattractive product packaging. Currently, product packaging uses several kilos of plastic without any associated trademarks.

Changes in the business environment are so fast and uncertain that MSMEs are tested and required to make changes quickly. This change is nothing more than an effort to maintain the continuity of its business in the midst of an uncertain and volatile environment (Michael and Widjojo, 2021). This is, of course, related to dynamic capabilities, where a person or business must have the

ability to make changes. With this ability, a person can realize various possible opportunities for action and take action to make these changes occur. The ability to cope with changes in a dynamic business environment is necessary for MSMEs. To gain a competitive advantage, MSMEs must be able to adapt quickly and change their resources (Farida et al., 2022). Teece (2007) explains that dynamic capabilities include three main dimensions: (1) sensing, namely, the company's ability to detect changes in the business environment; (2) seizing, namely, the company's ability to capture, and exploit emerging opportunities; and (3) transformation, namely, the company's ability to change existing activities and resources to produce competitive advantages

Sensing capability is a step toward increasing competitive advantage. Lee and Yoo (2019) explains that sensing capability has a positive influence on competitive advantage because of its ability to detect environmental changes and new market opportunities and can help companies develop new products or improve existing products, so that they can improve product innovation performance and ultimately increase the company's competitive advantage. Seizing capability is also one of the factors that increase competitive advantage. Yamet al., (2004) in Sullivan et al., (2023) and Lee and Yoo, (2019) explain that companies that have seizing capability. Good ones can choose and implement new ideas successfully, so that they can develop products or services that are better and more in line with market needs and ultimately achieve competitive advantage. Transforming capability is also a factor that increases competitive advantage. Teece (2014a) also mentioned that dynamic capabilities and transforming capabilities can help companies direct their routine activities towards more profitable businesses and achieve a competitive advantage in the long term.

In addition, innovation is one of the factors that increase competitive advantage. Triyana and Setiawardani (2017) stated that innovation not only drives profit growth, but also increases various capabilities, such as the ability to enter the market and attract customers. Businesses that innovate also experience market increases and better profits than businesses that do not adopt the innovation process (Lestari et al., 2019). Innovation is the heartbeat of any economic expansion and a key tool for companies to gain competitive advantage and increase market share and performance (Clark, 2010; Matinde, 2014; Chen, 2017; Liuet al., 2017; Eunice et al., 2018). Lestari et al., (2019) explain their research explaining that innovation can help companies to meet consumer needs and desires in a better way than competitors, by continuing to produce new products or developing existing products, companies can attract new customers and retain them. existing customers. In the context of innovation, dynamic capabilities provide a comprehensive and strategic framework for organizations to generate added value through the development of innovative products, processes, and business models.

LITERATURE REVIEW

Dynamic Capbilities (Sensing, Seizing and Transforming)

Teece (2007) explained that dynamic capabilities are a company's ability to integrate, build, and reconfigure internal and external competencies to face a rapidly changing environment. According to Teece (2007) dynamic capabilities include three main dimensions: (1) sensing, namely the company's ability to detect changes in the business environment; (2) seizing, namely the company's ability to capture and exploit emerging opportunities; and (3) Transforming, namely the company's ability to change existing activities and resources to produce competitive advantages. Dynamic capabilities refer to an organization's ability to identify, capture, and exploit opportunities in an ever-changing environment by integrating internal and external resources to create a sustainable competitive advantage (Leah et al., 2021; Lee and Yoo, 2019; Wagner et al., 2017; Zhou et al., 2019). An important goal of dynamic capabilities is to enable companies to adapt to changing business environments and to create and maintain competitive advantages (Teece, 2018).

Innovation

According to Robbins (2005), innovation is a new idea applied to start or improve products, processes, and services. Innovation is the process of applying or applying new ideas or methods, or updating them when solving problems. According to Makmur and Thahier (2015), innovation is a specific tool for a company that, with innovation, can explore or take advantage of changes that will occur as an opportunity to run a business that is different from before. According to Fitriati et al. (2020), innovation is an idea that is realized and accepted by a person or group to improve products, processes, marketing, and management. There are three key elements of innovation. Kahn (2018) and Mabenge et al. (2022) state that innovation covers three dimensions: product innovation, process innovation, and market innovation.

Competitive Advantage

According to Lee, (2007) in Lee and Porter, (2019) explains that competitive advantage refers to a company's ability obtained through characteristics and resources to achieve superior performance compared to other companies in the same industry and market. In addition, according to Pudyastuti and Saputra (2021), competitive advantage is a set of factors that differentiates a small company from its competitors and gives it a unique position in the market so that it is superior to its competitors. Companies create competitive advantages through competitive capabilities or priorities, which are defined as strategic preferences or dimensions in which they choose to compete in targeted markets (Abdelhakim, 2020; Audreyet al., 2022; Oliveira-Dias et al., 2022; Violinda, 2018). According to Setiawan (2012) and Jonson and Magdalena (2020), competitive advantage can be measured by product uniqueness, product quality, and competitive prices.

Based on this description, this research describes a research model for, focuses on, and simplifies the research process. The research model is illustrated in Fig. 1.

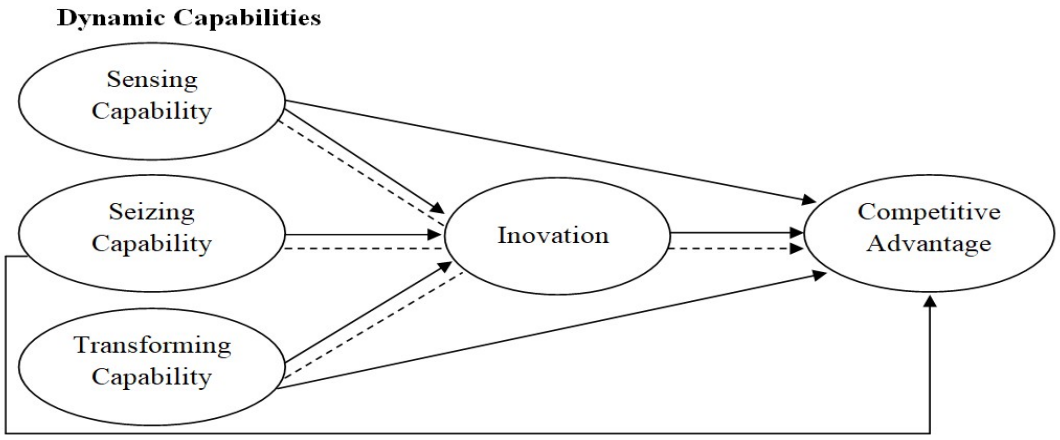

Figure 1. Research Framework

Information:
⟶ = Direct influence
- - - - -▸ = Indirect influence.

METHODOLOGY

This study uses quantitative research methods. The population used in this research comprises all sago processing businesses registered with the Department of Cooperatives, MSMEs, and Manpower of the Meranti Islands Regency, totaling 95 units. The sampling technique used in this research is a saturated sampling method, in which 95 business units are studied. This research data collection technique used interviews, questionnaires, and a literature review. The primary data collection technique used in this study was a questionnaire distributed to the respondents. All questionnaire items were measured using a five-point Likert scale, with responses ranging from "strongly disagree (=1)" to "strongly agree (=5)" to assess the variables being measured. The data analysis technique in this study uses Structural Equation Modeling (SEM) with the help of SmartPLS 3.2.9.

In this study, the research model estimation was carried out using a second-order factor with an embedded two-stage approach on a first-order construct (Sarstedt et al., 2019). In the embedded two-stage approach proposed by Sarstedt et al. (2019), research model estimation was carried out by dividing the factor model into two stages. The first stage involves estimation first-order constructs, whereas the second stage involves an estimation second-order factor.

RESULT AND DISCUSSION

Respondents' Characteristics

The characteristics of the respondents in this study were gender, age, education, and length of business establishment, with a total of 95 respondents as shown in Table 1.

Table 1. Characteristics of Respondents

Characteristics	Criteria	Frequency	Percentages
Gender	Man	4	4.21%
	Woman	91	95.79%
Age	≥17-26 Years	1	1.05%
	27-36 Years	6	6.32%
	37-46 Years	19	20.00%
	47-56 Years	34	35.79%
	≥57 Years	35	36.84%
Education	Not completed in primary school	16	16.84%
	Elementary school	33	34.74%
	Junior high school	15	15.79%
	Senior high school	28	29.47%
	Diploma	1	1.05%
	Masters	2	2.11%
Duration of business	≤ 1 Year	3	3.16%
	1-5 Years	4	4.21%
	6-10 Years	24	25.26%
	11-15 Years	35	36.84%
	≥16 Years	29	30.53%

Source: Processed Data (2024)

Evaluation of Measurement Models

Evaluation of the First-Order Measurement Model

The first step in assessing the reflective measurement model is to measure convergent validity, namely, evaluating the Average Variance Extracted (AVE) value and outer loading value. An acceptable outer loading value of ≥0.70 (Hair et al., 2021). The value of the average variation of each measurement item contained in the variable was an AVE value of ≥0.50. According to Hair et al. (2022), the minimum CR and CA values are 0.70.

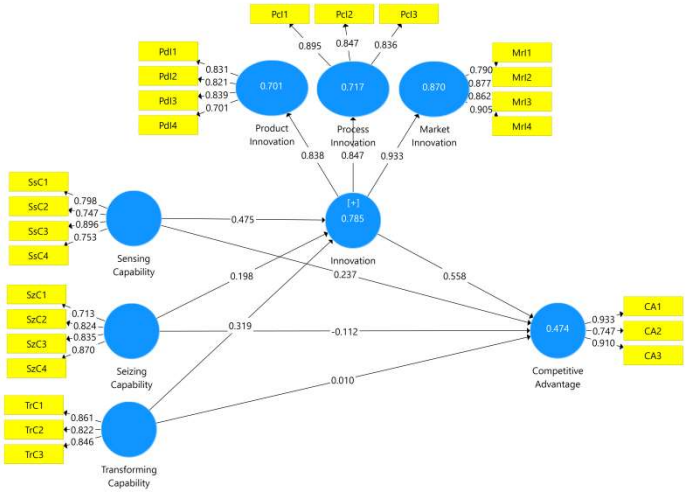

Figure 2. First-Order Component in the Embedded Two-Stage Approach

Table 2 shows that the reflective construct in the lower order component (LOC) construct shows a composite reliability value of more than 0.70 from 0.876 to 0.919, and a Cronbach's alpha of more than 0.70 from 0.799 to 0.832. These results indicate that all the variables in this study are reliable. The data in Table 2 also show the measurement of convergent validity by looking at the outer loading values from 0.701 to 0.933, or all of them having a value of more than 0.70, and the average variance extracted (AVE) from 0.640 to 0.753 for each research variable or with more value. from 0.50.

Table 2. First-Order Model Measurement Results

First Order Construct	First-order				
	IN	**OL**	**AVE**	**CR**	**THAT**
Product Inovation (PdI)	PdI1	0,831	0,640	0,876	0,810
	PdI2	0,821			
	PdI3	0,839			
	PdI4	0,701			
Market Inovation (MRI)	MrI1	0,790	0,739	0,919	0,821
	MrI2	0,877			
	MrI3	0,862			
	MrI4	0,905			
Process Inovation (PCI)	PcI1	0,895	0,739	0,895	0,823
	PcI2	0,847			
	PcI3	0,836			
Competitive Advantage (CA)	KB1	0,933	0,753	0,900	0,832
	KB2	0,747			
	KB3	0,910			
Sensing Capability (SSC)	SsC1	0,798	0,641	0,877	0,813
	SsC2	0,747			
	SsC3	0,896			
	SsC4	0,753			
Seizing Capability (SZC)	SzC1	0,713	0,660	0,886	0,827
	SzC2	0,824			
	SzC3	0,835			
	SzC4	0,870			

Transforming Capability (TRC)	TrC1	0,861	0,711	0,881	0,799
	TrC2	0,822			
	TrC3	0,846			

Source: Processed Data (2024)

Discriminant Validity

Furthermore, this study also evaluates discriminant validity by examining the values of the Fornell–Larcker criterion. The root value of AVE must be higher than the correlation between the construct and other constructs. The calculation results in Table 3 present these values. The Fornell–Larcker criterion on LOC or 1st order value is obtained, and the square root in each construct the AVE is greater than the correlation value with the other constructs. This value shows that the variables examined in this study have good discriminant validity.

Table 3. Fornell-Larcker Criterion

	MRI	PDI	PCI	THAT	SZC	SSC	TRC
MRI	**0,859**						
PDI	0,674	**0,800**					
PCI	0,717	0,544	**0,860**				
THAT	0,710	0,471	0,557	**0,868**			
SZC	0,671	0,615	0,718	0,492	**0,813**		
SSC	0,790	0,646	0,726	0,622	0,738	**0,801**	
TRC	0,663	0,621	0,714	0,511	0,657	0,647	**0,843**

Source: Processed Data (2024)

Evaluation of the Second-Order Model Measurement

After the evaluation of the measurement model in the first order is fulfilled, the innovation latent variable score is used in the second stage as an indicator measuring the variable connected to the innovation variable, as shown in Fig. 3 (Sarifiyono and Lesmana, 2023; Sarstedt et al., 2019). The assessment of the second-order model measurement was performed as in the first-order model.

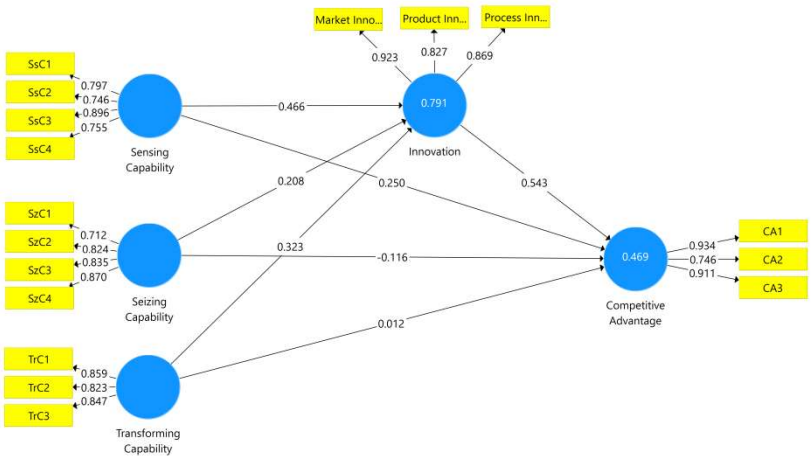

Figure 3. Higher-Order Internal Component Model

As shown in Table 4, the reflective construct in the higher-order component construct shows a composite reliability value of more than 0.70, which ranges from 0.877 to 0.906, and Cronbach's alpha is greater than 0.70, which ranges from 0.799 to 0.845. These results indicate that all the variables in this study are reliable. Table 4 also shows the measurement of convergent validity, as indicated by the outer loading value ranging from 0.712 to 0.934, and the average variance extracted (AVE) ranging from 0.641 to 0.764. Outer loading value of object. These results indicate that the research model had good convergent validity.

Table 4. Second-Order Model Measurement Results

Construct	2nd Order				
	IN	**OL**	**AVE**	**CR**	**THAT**
Innovation	MRI	0.923	0.764	0.906	0.845
	PDI	0.827			
	PCI	0.869			
Competitive advantage	KB1	0.934	0,753	0,900	0,832
	KB2	0.746			
	KB3	0.911			
Sensing capability	SsC1	0.797	0,641	0,877	0,813
	SsC2	0.746			
	SsC3	0.896			
	SsC4	0.755			
Seizing capability	SzC1	0.712	0,660	0,886	0,827
	SzC2	0.824			

	SzC3	0.835			
	SzC4	0.870			
Transforming capability	TrC1	0.859	0,711	0,881	0,799
	TrC2	0.823			
	TrC3	0.847			

Source: Processed data (2024)

Discriminant Validity

The calculation results in Table 5 show the values of the Fornell-Larcker criterion for higher-order components or second-order models obtained as square root values in each construct, which is greater than the correlation value with the other constructs. This value shows that the variables examined in this study have good discriminant validity.

Table 5. Fornell-Larcker Criterion

Variables	INOV	THAT	SZC	SSC	TRC
Innovation	**0,874**				
Competitive advantage	0,671	**0,868**			
Seizing capability	0,764	0,492	**0,813**		
Sensing capability	0,829	0,622	0,739	**0,801**	
Transforming capability	0,761	0,511	0,657	0,647	**0,843**

Source: Processed Data (2024)

Structural Model Evaluation

The value of the coefficient of determination (R-square) for each endogenous latent variable as the predictive power of the structural model can be used to evaluate the structural model, with significant, moderate, and weak R-squared values of 0.75, 0.50, and 0.25, respectively (Hair et al., 2021). Table 6 shows the large variation in innovation variables, which can be explained by sensing, seizing, and transforming capabilities (79.1 %) and includes significant predictive power. On the other hand, the large variation in competitive advantage variables which can be explained by sensing capability, seizing capability, transforming capability and innovation of 46.9% is also included in weak predictive power.

Table 6. R-Square Test Results

	R *Square*	R *Square Adjusted*
Innovation	0,791	0,784
Competitive advantage	0,469	0,445

Source: Processed Data (2024)

Hypothesis Testing

In this research, there are direct and indirect influences caused by independent, dependent, and mediating variables (intervening). To test this hypothesis, we used the original sample value of more than 0, meaning that the variable has a positive relationship. In addition, if the T-statistic value is >1.64 and p-values are less than 0.5, then the relationship can be said to be significant (Abdillah and Jogiyanto, 2015).

Table 7. Path Coefficient

Hip	Influence of variables	Original Sample (O)	T Statistics (|O/STDEV|)	P Values	Information
H1	SSC > INOV	0,466	6,368	0,000	Accepted
H2	SZC > INOV	0,208	2,604	0,005	Accepted
H3	TRC > INOV	0,323	4,072	0,000	Accepted
H4	INNOV > CA	0,543	2,685	0,004	Accepted
H5	SSC > CA	0,250	1,784	0,037	Accepted
H6	SZC > CA	-0,116	0,817	0,207	Rejected
H7	TRC > CA	0,012	0,088	0,465	Rejected
H8	SSC > INOV > CA	0,253	2,385	0,009	Accepted
H9	SZC > INOV > CA	0,113	1,702	0,044	Accepted
H10	TRC > INOV > CA	0,176	2,441	0,007	Accepted

Source: Processed Data (2024)

The Influence of Sensing Capability on Innovation

Based on the research results, sensing capability has a positive and significant effect on innovation. The results of this research are in line with previous research conducted previously by (Dong et al., 2016; Ezenwakwelu et al., 2021; Froehlich et al., 2017; Lee and Yoo, 2019; Mousavi et al., 2018; Pospichil et al., 2020; Priyono et al., 2018; Zhang and Bang, 2023), which states that sensing capability positively influences innovation. The better an organization detects environmental changes, understands their implications, and responds to them in creative and adaptive ways, the more likely it is to generate new ideas, innovative products, or processes. This can be seen in the sago processed MSMEs in the Meranti Islands Regency, which not only have the skills to observe changing

trends and current market needs but also to understand how this affects the local sago industry and its potential impact on their business.

The Influence of Seizing Capability on Innovation

Based on the research results, seizing capability has a positive and significant effect on innovation. The results of this study are in line with those of previous research conducted previously by (Day and Schoemaker, 2016; Ezenwakwelu et al., 2021; Fitriatiet al., 2020; Froehlich et al., 2017; Lee and Yoo, 2019; Mousavi et al., 2018; Oliveira-Dias et al., 2022; Pospichil et al., 2020; Priyono et al., 2018). The better an organization's ability to identify, exploit, and capture new opportunities, the easier it is for the organization to take opportunities that arise in the external environment and turn them into valuable innovations.

The Influence of Transforming Capability on Innovation

Based on the research results, transformation capability has a positive and significant effect on innovation. The results of this study are in line with previous research conducted previously by (Cruz-Sanchezet al., 2020; Froehlich et al., 2017; Oliveira-Dias et al., 2022; Pospichil et al., 2020; Shoemaker et al., 2018; Teece, 2014b, 2023). Sago-processed MSMEs show how transformational capabilities can positively impact innovation. In this context, their ability to turn ideas into innovative products is a key driver of their success. Through effective management of change and adaptation, they can adapt to changes in the market and consumer needs.

The Influence of Innovation on Competitive Advantage

Based on the research results, innovation has a positive and significant effect on competitive advantage. The results of this study are in line with those of previous research conducted previously by (Anning-Dorson, 2018; Aziz and Samad, 2016; Lestari et al., 2019; Nurachman, 2021; Sari, 2022; Solehaet al., 2022; Timothy, 2023; Tunde Nafiu et al., 2020; Udriah et al., 2019; Widyanti and Mahfudz, 2020). Competitive advantages can include various aspects, such as product differentiation, operational efficiency, superior customer service, and rapid adaptation to market changes. Innovation can be the key to achieving excellence in these things because it allows organizations to create added value for customers, improve internal processes, or even create new markets.

The Influence of Sensing Capability on Competitive Advantage

Based on the research results, sensing capability has a positive and significant effect on competitive advantage. The results of this study are in line with those of previous studies conducted by (Chemely Leah et al. (2021), Kiiru (2015), Kuo et al. (2017), Lee and Yoo (2019), Michael and Widjojo (2021), Mutsvanga (2021), and Prabow et al. (2021). By having strong sensing capabilities, organizations can respond to market changes faster and more effectively than their competitors. MSMEs processed sago are able to use information from the processsensing effectively will have an advantage in producing products that suit customer desires and be able to adjust their marketing strategy appropriately.

The Influence of Seizing Capability on Competitive Advantage

Based on the research results, seizing capability has a negative and insignificant effect on competitive advantage. The results of this study are in line with those of the previous research conducted by Fainshmidt et al. (2019). Seizing capability does not have a significant influence on competitive advantage because, in a business environment that continues to change rapidly, the ability to seize new opportunities is not always enough to create a sustainable competitive advantage. MSMEs processing sago in Pulau Meranti Regency are unable to maintain consistency between the strategies they use and their capabilities; therefore, their ability to seize opportunities does not make a significant contribution to competitive advantage.

The Influence of Transformation Capability on Competitive Advantage

Based on the research results, transforming capability has a positive but insignificant effect on competitive advantage. The results of this study are in line with those of previous research conducted by Lee and Yoo (2019). Although organizations can make changes, they do not directly or significantly increase their competitive advantage in the marketplace. Even though sago-processed MSMEs in Meranti Islands Regency have the ability to carry out transformation, there are several factors that cause this transformation to have no direct effect on their competitive advantage in the market. One factor that can influence this is the limited infrastructure in the area, which can limit the accessibility and distribution of processed sago MSME products, as well as obstacles in terms of product marketing and promotion, which can prevent MSMEs from reaching a wider market.

The Influence of Sensing Capability on Competitive Advantage Through Innovation

Based on the research results, sensing capability has a positive and significant effect on competitive advantage through innovation. The results of this research are in line with previous research conducted previously by Gao and Zhu, (2015) and Lee and Yoo, (2019). Sensing capability enables companies to identify innovation opportunities through collaboration with external partners and acquisition of new knowledge. The knowledge and information obtained through sensing capability can then be used to develop better product innovations, which, in turn, can increase a company's competitive advantage. Sago-processed MSMEs have developed the ability to quickly capture changes in market demand, industry trends, and latest consumer needs. Thus, they can effectively adapt their products and services according to evolving market demands, which, in turn, increases their competitiveness.

The Influence of Seizing Capability on Competitive Advantage Through Innovation

Based on the research results, seizing capability has a positive and significant effect on competitive advantage through innovation. The results of this research are in line with previous research conducted previously by Lee and Yoo, (2019) and by Zhang and Bang, (2023). Sago-processed MSMEs in the Meranti Islands Regency have been shown to improve production processes, increase product quality, and adapt to changing market demands. Through innovation, these MSMEs are not only able to survive competition, but also develop into

market leaders. They are constantly looking for new ways to increase production efficiency, leverage existing technology, and create new products that can meet evolving consumer needs. As a result, sago-processed MSMEs in the Meranti Islands Regency have succeeded in expanding their market share and increasing their competitiveness, not only at the local level but also in the wider market.

The Influence of Sensing Capability on Competitive Advantage Through Innovation

Based on the research results, transforming capability has a positive and significant effect on competitive advantage through innovation. The results of this study are in line with those of previous research conducted by Lee and Yoo (2019). Sago processed MSMEs can perform these transforming capabilities effectively, such as using modern technology in the production process, increasing employee skills, and improving management systems, which can increase their competitiveness in the market. With innovation as a mediator, MSMEs can develop new products or improve existing products to meet customer needs and desires, thus strengthening their position in market competition.

CONCLUSION AND RECOMMENDATION

Sensing, seizing, and transforming capabilities play an important role in the innovation capability of sago-processed MSMEs in Meranti Islands Regency. The ability to detect new opportunities quickly (sensing), take appropriate and effective action to exploit these opportunities (seizing), and change oneself to be more innovative and responsive to change (transforming) are all key factors for creating and implementing innovation successfully. Innovation has a positive effect on competitive advantage; innovation not only helps companies survive in a competitive business environment, but can also provide significant competitive advantage by creating added value; sensing capability can have a significant impact on competitive advantage; sensing capability quickly and effectively seizes opportunities that arise in the business environment, and then converts them into competitive advantages. Meanwhile, seizing and transforming capabilities have a negative and insignificant influence on competitive advantage because sago-processed MSMEs have the ability to identify opportunities but do not have the ability to execute them well; therefore, the ability to capture these opportunities will not provide a sustainable competitive advantage. Sensing, seizing, and transforming capabilities positively and significantly influence competitive advantage through innovation, and sago-processed MSMEs can create an environment that supports sustainable innovation. Successful innovation can then become a major source of competitive advantage, enabling companies to differentiate themselves from their competitors.

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