

Measurement of Model business environment, Entrepreneurial Orientation, and Innovation Capability: Confirmatory Factor Analysis Approach

Abstract: Micro, Small and Medium Enterprises (MSMEs) play a crucial role in the Indonesian economy and are regarded to have the potential to reduce poverty by creating employment opportunities. Malang City predominantly relies on micro, small, and medium-scale economic activities, particularly Batik MSMEs, which are crucial in supporting the tourism sector. The term commonly used to refer to Malang Batik is "Malangan" Batik. This research aims to conduct a confirmatory factor analysis to examine the measuring model of the business environment, entrepreneurial orientation, and innovation capacity. A total of 100 batik micro, small, and medium enterprises (MSMEs) in Malang City were selected as the sample for this research. The data analysis was conducted using confirmatory factor analysis (CFA) methodologies. According to the results of the confirmatory factor analysis, it was determined that the customer indicator had the most significant impact on shaping business environment variables. Risk-taking is regarded as the primary factor that significantly influences the formation of the entrepreneurial orientation characteristic. Marketing innovation is the most reliable sign of developing innovation capabilities. Malang City's Batik MSME companies are actively engaging in collaboration with suppliers, demonstrating a proactive approach in seeking market prospects and promoting new goods in untapped areas. Additionally, there is a need to enhance technological innovation.

Keywords: Business Environment, Entrepreneurial Orientation, Innovation Capabilities, MSMEs, Creative Industries

1. INTRODUCTION

Malang City relies primarily on micro, small, and medium-scale economic activities, such as Batik MSMEs, which play a crucial role in supporting the tourism sector. Malang Batik, also referred to as 'Malangan' Batik, is distributed in many sub-districts such as Klojen, Lowokwaru Sub-district, Belimbing, Kedung Kandang, and others. Despite not yet being a leading regional product, the city of Malang is home to skilled artisans who specialise in creating "Malang" batik. However, Batik MSMEs encounter numerous challenges, including insufficient capital, marketing, distribution, and procurement of raw materials, inadequate knowledge about market prospects, limited quality of workforce and technological capabilities, expensive transportation and energy expenses, restricted communication, costly processing of business permits, and uncertainty caused by ambiguous regulations and economic policies. This phenomenon occurs mostly because to the nature of Batik MSMEs, which are primarily focused on generating money. These businesses are typically family-owned and rely on very primitive technology. Additionally, they face challenges in accessing financing,

making it difficult for them to secure bank loans. There is a lack of distinction between company capital and personal requirements.

In order to address the aforementioned issues, researchers devised a measurement model to assess variables using indicators that constitute these variables. The variables examined in the measuring model were company environment, entrepreneurial orientation, and innovation capacity.

The business environment encompasses all factors that pertain to the company and extend beyond sectoral or organizational borders. The environment is marked by fierce rivalry, economic dynamism, technology advancements, information sharing, and ambiguity surrounding government regulations. These variables threaten the company's future (Daniel Nascimento-e-Silva et al., 2019). In their study, Haruna Muhammad Khalid et al. (2018) assert that researching organizations should begin by examining the business environment. This is because the characteristics, conditions, and situations of an organisation are influenced by its surrounding environment.

Environmental observation plays a crucial role in strategic management as it serves as the initial step in the sequence of activities and perceptions that allow an organisation to adjust to its surroundings. Amidst the escalating transformations in the business landscape, small and medium-sized enterprises (SMEs) are compelled to possess greater flexibility and promptness in their operations (Maulana, et al, 2021). The studies conducted by Vom Brocke et al. (2014), Trkman et al. (2015), Gošnik (2020), Lattuch et al. (2023), and Sahu et al. (2023) have demonstrated that the business environment is shaped by factors such as customers, suppliers, and rivals.

Nevertheless, it is acknowledged that the competitiveness of small and medium-sized enterprises (SMEs) in Indonesia remains significantly low and susceptible to the fluctuations of an increasingly unpredictable business landscape. The business environment significantly shapes company organisations, particularly in a globalised world where geographical boundaries are no longer limiting. The shift from traditional technology to intelligent technology and other fundamental changes have implications for the decision-making processes of company management (Rijal and Zuliarni, 2016).

In addition to the corporate environment, entrepreneurial orientation contributes to the formulation of strategic planning. Entrepreneurial orientation has become a highly researched concept in the field of entrepreneurship and management for the last thirty years (Covin et al., 2019). Entrepreneurial orientation is the primary factor that leads to improvements in important outcomes at the firm level, such as business performance, global competitiveness, and corporate entrepreneurship (Ferrerias-Méndez et al., 2021). Entrepreneurial orientation is a crucial determinant of successful new product development, as well as good financial and non-financial corporate performance, and social performance (Cho and Lee, 2018). Su, Zhang, and Ma (2020), Ngo (2023), and Darmanastra and Nursyamsiah (2023) assert that entrepreneurial orientation comprises indications of innovativeness, risk-taking, and proactiveness.

Effectively overseeing innovation capabilities is a fundamental aspect of a forward-thinking organisation. In the present day, it is crucial for organisations to cultivate innovation capabilities in order to thrive in an unpredictable environment (Saunila & Ukko, 2012). According to Su, Zhang, and Ma (2020), innovation is transforming and creating new value in order to outperform competition. The

successful performance of new product development in an innovative business model is influenced by the company's process of developing and delivering value to compete (Velu, 2015). Akande et al. (2019) employ five factors to assess innovation capability: product innovation, process innovation, administration innovation, marketing innovation, and service innovation. Canh et al. (2019) employed administrative, technical, product, and process innovation. Toma et al. (2014) elucidated that innovation capability may be enhanced through product, process, management, service, and administration.

Given the research background, our objective is to perform a measurement model study on the business environment, entrepreneurial orientation, and innovation ability using a confirmatory factor analysis approach. The aim is to identify the most crucial indicators that contribute to the formation of the business environment, entrepreneurial orientation, and innovation ability.

2. THEORETICAL REVIEW

2.1. Business Environment

In their study, Daniel Nascimento, Silva, et al. (2019) defined the business environment as encompassing all aspects related to a company that lies beyond its sectoral and organizational boundaries. Fierce competition, economic dynamism, technological advancements, information exchange, uncertainty regarding government policies, and other factors mark this environment. In this study, Haruna Muhammad Khalid et al. (2018) assert that researching organizations should begin with examining the business environment. An organization's characteristics, conditions, and situations are contingent upon its environment. The corporate environment and external influences influence strategic decision-making and organizational performance. Managers formulate strategic decisions by considering external elements that impact their choices (Hamzeh et al., 2019). The studies conducted by Vom Brocke et al. (2014), Trkman et al. (2015), Gošnik (2020), Lattuch et al. (2023), and Sahu et al. (2023) have demonstrated that the business environment is shaped by factors such as customer behavior, supplier dynamics, and competition.

2.2. Entrepreneurial Orientation

Entrepreneurial orientation has become a highly researched concept in the field of entrepreneurship and management for the last thirty years (Covin et al., 2019). The primary determinant for enhancing significant firm-level outcomes, such as business performance, global competitiveness, and corporate entrepreneurship, is entrepreneurial orientation (Ferrerias-Méndez et al., 2021). Entrepreneurial orientation is a crucial determinant of successful new product development, as well as good financial and non-financial corporate performance, and social performance (Cho & Lee, 2018). Su, Zhang, and Ma (2020), Ngo (2023), and Darmanastra and Nursyamsiah (2023) assert that entrepreneurial orientation comprises indications of innovativeness, risk-taking, and proactiveness.

2.3. Innovation Capability

Effectively overseeing innovation capabilities is a fundamental aspect of a forward-thinking organisation. In the present day, when organisations function in an unpredictable setting, it is crucial to cultivate the ability to innovate in order to achieve success in the future (Saunila & Ukko, 2012). According to Su, Zhang, and Ma (2020), innovation is transforming and creating new value in order to outperform competition. The innovative business model has a significant impact on the effective performance of new product development, as it influences the process of producing and providing value that a firm follows to compete (Velu, 2015). Akande et al. (2019) employ five variables to assess the extent of innovation capability, namely: product, process, administration, marketing, and service. Canh et al. (2019) employed administrative, technical, product, and process innovation. Toma et al. (2014) elucidated that innovation capability may be enhanced through product innovation, process innovation, management innovation, service innovation, and administration innovation.

3. METHODS

3.1. Population and Sample

The study focuses on Batik micro, little, and medium enterprises (MSMEs) located in the Klojen District, Lowokwaru District, Blimbing, Kedung Kandang, Malang City, Indonesia. The population in this study is considered to be infinite, meaning that it is of a size that cannot be determined with certainty (Ferdinand, 2014). The sample size is derived by multiplying the number of indicators for the 5 variables by a factor of 5-10, as the exact population size cannot be known with confidence. The sample size utilised is determined by multiplying 10 by 10, resulting in 100 respondents. Once the sample size of 100 respondents was established for this study, samples were obtained using a purposive sampling strategy. This technique involves picking samples from the community based on certain criteria set by the researcher.

3.2. Operational Definition and Variable Measurement

This study was conducted as an empirical investigation. The systematic testing of the proposed hypothesis and operational variables will be presented in Table 1 below:

Table 1. Variables and Indicators

No	Variable	Indicator	Items	Source
1	Business Environment	<i>Customers</i>	1. Creating customer satisfaction 2. Creating customer loyalty	Crinjs and Ooghi (2000),; Zhang (2001); Wilkinson (2002); Pelham (1999).
		<i>Suppliers</i>	3. Have more than one supplier 4. The quality of raw materials is in accordance with business needs	
		<i>Competitors</i>	5. Product quality is competitive 6. Competitive product prices	
2	Entrepreneurial Orientation	Risk taking	7. Business owners dare to experiment with new motifs 8. Business owners dare to accept the risk of failure.	Frishammar and Horte (2007) and Mafasiya et al. (2010) Lee and Tsang, (2001)
		Proactive	9. Always look for market opportunities for business progress 10. Marketing new products into new markets	
		Confidence	11. Can overcome difficulties according to your abilities 12. Able to solve problems by himself without waiting for help from others	
		Openness	13. Opening up to collaborate with MSMEs/other partners 14. Business owners are open to receiving criticism from customers	
4	Innovation Capability	Product innovation	15. Able to create products with different motifs 16. Able to create products with harmonious color combinations	Lin et al., (2010), Jimenez and Valle (2005), Baregheh et al., (2012) and Toma et al., (2014)
		Technological innovation	17. Utilizing technology in creating products with new motifs 18. Able to adapt ideas to create interesting new motifs through technology	
		Marketing innovation	19. Providing new product choices that suit consumer needs through online media 20. Expanding marketing reach through online media (Facebook, WhatsApp and Instagram)	

The research variables were assessed using a Likert scale paradigm, which involved gauging attitudes by indicating agreement or disagreement with the questions posed on a scale of 1 to 5. Specifically, a score of 5 denoted "Strongly Agree" (SS), 4 denoted "Agree" (S), 3 denoted "Neutral" (N), 2 denoted "Disagree" (TS), and 1 denoted "Strongly Disagree" (STS).

4. Analysis Method

The research employed confirmatory factor analysis (CFA) methodologies for data analysis. Conversely, CFA is employed in research scenarios when the researcher possesses prior knowledge about the arrangement of the underlying latent variables. Based on theoretical or empirical study, the individual in question formulates hypotheses, assumptions, and logical deductions on the correlation between the observed measurements and the underlying causes. CFA, also known as a measurement model in the context of Structural Equation Modelling (SEM), specifically examines the relationship between factors and the measured variables.

5. RESULTS

5.1. Confirmatory Factor Analysis Results

The factor loading is used to determine the indicators for research variables by measuring the dimensions or variable indicators that can construct latent variables with CFA. Table 2 summarizes the CFA test findings for the indicators that constitute the research variables.

Table 2 Factor Loadings(λ) Research Variable Measuring

Indicators and Variables			<i>factor loading</i>
<i>Customers</i>	-->	BusinessEnvironment	0.818
<i>Suppliers</i>	-->	BusinessEnvironment	0.700
<i>Competitors</i>	-->	BusinessEnvironment	0.720
Risk taking	-->	Entrepreneurial Orientation	0.834
Proactive	-->	Entrepreneurial Orientation	0.623
Confidence	-->	Entrepreneurial Orientation	0.686
Openness	-->	Entrepreneurial Orientation	0.731
Product innovation	-->	Innovation Capability	0.777
Technological innovation	-->	Innovation Capability	0.759
Marketing innovation	-->	Innovation Capability	0.806

Table 2 shows that the indicators for the business environment variable, including customers, suppliers, and rivals, have factor loading (FL) values that are more than 0.5. Hence, all the examined variables are pivotal in determining the corporate atmosphere. Furthermore, let us analyse the loading factor value of each indicator. Customers are the main determinant that has a substantial impact on the fluctuating nature of the business environment.

The indicators of the entrepreneurial orientation variable, specifically risk-taking, proactiveness, confidence, and openness, have factor loading (FL) values exceeding 0.5. Therefore, all of the tested variables are crucial for establishing entrepreneurial orientation. Moreover, let us examine the loading factor value of each indicator. Risk-taking is seen as the primary factor in shaping the entrepreneurial orientation characteristic.

The indicators comprising the innovation capability variable, including product innovation, technological innovation, and marketing innovation, have factor loading (FL) values exceeding 0.5. Therefore, all the examined indicators are crucial components that contribute to Financial Well Being. Additionally, let us examine the loading factor value of each indicator. Marketing innovation is seen as the primary factor in shaping the innovation capability variable.

6. DISCUSSION

The business environment encompasses the various conditions and external factors that impact a company's strategic decision-making and operational activities. These elements encompass external and internal settings (Buchori & Saladin, 2016). It is crucial to observe and analyze the business environment. Environmental observation plays a crucial role in strategic management as it is the initial step in the sequence of activities and perceptions that allow an organization to adjust to its surroundings.

The results of Confirmatory Factor Analysis indicate that the indicators of consumers, suppliers, and rivals play a crucial role in shaping the business environment. The findings of Brocke et al. (2014), Trkman et al. (2015), Gošnik

(2020), Lattuch et al. (2023), and Sahu et al. (2023) support the notion that the business environment is shaped by factors related to consumers, suppliers, and rivals. Of the indicators for customers, suppliers, and competitors, the customer indicator is deemed to have the most significant impact on moulding business environmental factors. Therefore, Batik MSMEs in Malang City attain business success by focusing on the business environment and catering to client demands, thereby ensuring customer happiness and loyalty.

Entrepreneurial orientation has become a highly researched concept in the field of entrepreneurship and management for the last thirty years (Covin et al., 2019). Entrepreneurial orientation is identified as the primary factor for enhancing important firm-level results, including company performance, global competitiveness, and corporate entrepreneurship (Ferrerias-Méndez et al., 2021).

Confirmatory Factor Analysis indicates that risk-taking, proactiveness, self-confidence, and openness exhibit factor loading (FL) values more than or equal to 0.50. Therefore, all of these characteristics are crucial components that constitute entrepreneurial attitude. These findings reinforce the viewpoints put out by Su, Zhang, and Ma (2020), Ngo (2023), and Darmanastra and Nursyamsiah (2023). Of the markers of risk-taking, proactiveness, self-confidence, and openness, risk-taking is regarded to have the most impact on the formation of the entrepreneurial orientation variable. The findings indicate that batik MSMEs in Malang might adopt an entrepreneurial approach by demonstrating the willingness to take calculated risks in their company operations. The display of courage in risk-taking is shown in the willingness to explore novel themes and embrace the possibility of failure while managing a business..

Effectively overseeing innovation skills is a fundamental aspect of an innovative organisation. In the present day, when organisations function in an unpredictable setting, it is crucial to cultivate the ability to innovate in order to achieve success in the future (Saunila & Ukko, 2012). According to Su, Zhang, and Ma (2020), innovation is transforming and creating new value in order to outperform competition. The successful performance of new product development in an innovative business model is influenced by the company's process of developing and delivering value to compete (Velu, 2015).

Confirmatory Factor Analysis indicates that the factor loading (FL) value for product, technological, and marketing innovation equals or exceeds 0.50. Therefore, all of these factors are crucial for establishing innovative skills. The findings of Akande et al. (2019), Canh et al. (2019), and Toma et al. (2014) further support the view that marketing innovation is the most significant factor in developing innovation capabilities. The findings indicate that batik MSMEs in Malang City prioritise their innovation capabilities towards marketing efforts, namely by offering new product options that cater to consumer demands through online platforms and extending their marketing presence on platforms such as Facebook.

7. CONCLUSION

Based on the results of the confirmatory factor analysis, it was determined that the customer indicator had the most significant impact on shaping business environment variables. Risk-taking is widely regarded as the primary factor that significantly influences the formation of the entrepreneurial orientation characteristic. The most powerful sign of developing innovation capabilities is marketing innovation. The Batik micro, little, and medium enterprises (MSMEs) in

Malang City are actively engaging in partnerships with suppliers, demonstrating a proactive approach in seeking market openings and promoting new goods in untapped areas. Furthermore, there is a pressing need to enhance technological innovation.

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