

Original Research Article

Measurement Modelbusiness Environment, Entrepreneurial Orientation And Innovation Capability Confirmatory Factor Analysis Approach

Abstract: Micro, small, and medium companies (MSMEs) are crucial foundations in the Indonesian economy, and their presence is believed to aid in poverty reduction by generating employment opportunities. Malang City relies primarily on micro, small, and medium-scale economic activities, such as Batik MSMEs, which contribute to the growth of the tourism sector. The term commonly used to refer to Malang Batik is "Malangan" Batik. This study examines the confirmatory factor analysis approach to measure the company environment, entrepreneurial orientation, and innovation ability in the measurement model. 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 included confirmatory factor analysis (CFA) methodologies. According to the results of the confirmatory factor analysis, it was determined that the customers 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 powerful determinant of developing innovation capabilities. The Batik MSME operators in Malang City are actively engaging in collaborations with suppliers, displaying 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 primarily relies 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 throughout many sub-districts, such as Klojen Sub-district, Lowokwaru Sub-district, Belimbing, Kedung Kandang, and others. Despite not yet being a dominant regional product, the city of Malang is home to skilled artisans who specialise in producing traditional "Malang" batik. However, Batik MSMEs encounter various 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 due to the fact that Batik micro, small, and medium enterprises (MSMEs) are primarily

focused on generating money. These businesses are typically family-owned and rely on relatively basic technology. Additionally, they face challenges in accessing finance, making it difficult for them to secure loans from financial institutions. There is a lack of distinction between company capital and personal requirements.

In response to the aforementioned issues, researchers employed a measurement model to assess variables using indicators that constitute these variables. The variables examined in the measurement model were business environment, entrepreneurial orientation, and innovation ability.

The business environment significantly impacts management decision-making, processes, and organisational structures (Keats & Hitt, 1988), thus necessitating the monitoring and analysis of the business 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. Miller and Friesen (1983) demonstrate that the environment significantly influences company circumstances by determining the strategy to be executed. Hambrick (1983), Crinjs and Ooghi (2000), Zhang (2001), Wilkinson (2002), and Pelham (1999) demonstrate that the business environment is shaped by factors such as consumers, 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 climate. Organisations must possess the capability to adjust and respond to alterations in their surroundings. According to Hopkins & Hopkins (1997), companies need to have the ability to overcome and adjust to changes in volatile environmental situations. The volatile environmental dynamics in this scenario adversely affect production and pose a threat to the survival of organisations. This is because small and medium-sized enterprises (SMEs) have limited internal capacities, which hinders their ability to adapt and respond effectively to the challenges of the external business environment.

In addition to the corporate environment, entrepreneurial orientation contributes to the formulation of strategic planning. Lumpkin and Dess (1996) define entrepreneurial orientation as a company's strategic approach to acquiring styles, practices, and decision-making procedures. According to Gima and Anthony (2001), organizations that possess strong entrepreneurial orientation qualities generally outperform their competition. According to Frishammar and Horte (2007) and Mafasiya et al. (2010), entrepreneurial orientation is comprised of three indicators: innovativeness, risk-taking, and proactiveness. Lee and Tsang (2001) delineate indications within the construct of entrepreneurial orientation, namely, encompassing the demand for achievement, internal locus of control, self-reliance, and extroversion.

Effectively overseeing innovation capabilities is a fundamental aspect of a forward-thinking organization. In the present day, when organizations 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). Forsman and Rantanen (2011) define innovation capability as the ongoing enhancement of a company's talents and resources to actively investigate and capitalise on opportunities for developing innovations. Lin et al. (2010) employed five variables to assess innovation capability: product innovation, process innovation, administration

innovation, marketing innovation, and service innovation. Jimenez and Valle (2005) employ administrative innovation, technology innovation, product innovation, and process innovation. Baregheh et al. (2012) highlight the significance of innovation in terms of product, process, position, and paradigm. Toma et al. (2014) elucidated that innovation capability may be enhanced through product innovation, process innovation, management innovation, service innovation, and administration innovation.

Given the research background, our objective is to perform a measurement model study on the business environment, entrepreneurial orientation, and innovation ability. We will utilise a confirmatory factor analysis approach to identify the most crucial indicators that contribute to these three constructs.

2. THEORETICAL REVIEW

2.1. Business Environment

According to Nickels and McHugh (2009), the business environment refers to the external variables that surround a business. These elements can either facilitate or impede the growth of an established firm. Wheeler and Hunger (2000) distinguish between the exterior environment and the interior environment. Hartanto (2009) asserted that in order to thrive in an intricate business landscape, entrepreneurs must employ both knowledge and intuition to anticipate future events. This estimation must be conducted with clarity, ensuring the elimination of any subjective elements from the business individual. This is due to the very volatile nature of the corporate environment, which undergoes rapid and frequent changes. Furthermore, environmental forces will have an increasingly influential role in shaping business strategies. According to Nickels and McHugh (2009), the business environment encompasses the various aspects that surround a corporation. These elements can either facilitate or impede the growth of an established enterprise. Hambrick (1983), Crinjs and Ooghi (2000), Zhang (2001), Wilkinson (2002), and Pelham (1999) demonstrate that factors such as consumers, suppliers, and rivals contribute to the overall business environment.

Entrepreneurial Orientation

Entrepreneurial orientation refers to the actions and strategies employed by entrepreneurs in the management of their business. Entrepreneurship is the act of generating value by leveraging a distinct combination of resources to identify and capitalise on an opportunity (Morris & Lewis, 1995). According to Jambulingam et al. (2005), entrepreneurial orientation refers to the process, practice, and decision-making involved in developing and creating new and creative products. This helps an organisation stand out from others in the market. Frishammar and Horte (2007) and Mafasiya et al. (2010) asserted that entrepreneurial orientation comprises three indicators: innovativeness, risk taking, and proactiveness. Lee and Tsang (2001) delineate indicators of entrepreneurial orientation, including the demand for achievement, internal locus of control, self-reliance, and extroversion.

2.2. Innovation Capability

As described by Forsman & Rantanen (2011), innovation capability refers to the ongoing enhancement of a company's talents and resources to effectively identify and capitalise on possibilities for developing novel innovations. Saunila and Ukko (2014) demonstrated that innovation competency comprises factors that impact an organization's capacity to effectively handle innovation. Lin et al. (2010) mentioned the ability innovation refers to the introduction or development of novel technology within an organisation, which is then utilised in many aspects such as systems, policies, programmes, products, processes, tools, or services.

Lin et al. (2010) employed five variables to assess innovation capability: product innovation, process innovation, administration innovation, marketing innovation, and service innovation. Jimenez and Valle (2005) employ administrative, technology, product, and process innovation. Baregheh et al. (2012) highlight the significance of product, process, position, and paradigm innovations. Toma et al. (2014) elucidated the concepts of product innovation, process innovation, management innovation, service innovation, and administration innovation as means to enhance innovative capabilities.

3. RESEARCH METHODS

3.1. Population and Sample

The study focuses on the Batik micro, small, and medium-sized enterprise (MSME) participants located in the Klojen District, Lowokwaru District, Belimbing, Kedung Kandang, Malang City. The population under investigation is an unbounded population, specifically referring to a population whose exact number 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 population size cannot be precisely determined. According to these provisions, the sample size utilised is 100 respondents, calculated by multiplying 10 by 10. 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.

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 presented 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. Meanwhile, Confirmatory Factor Analysis (CFA) is employed in research when the researcher have prior knowledge about the structure of the latent variables being studied. The individual in question formulates hypotheses or conjectures based on either theoretical principles or empirical investigations

regarding the connection between the observed measures and the underlying factors that preceded them. CFA is referred to as a measurement model in the context of Structural Equation Modelling (SEM) due to its exclusive focus on the relationship between factors and the variables being measured.

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 presents a summary of the CFA test findings for the indicators that constitute the research variables.

Table 2 Factor Loadings(λ) Research Variable Measuring

Indicators and Variables			factor loading
Customers	-->	BusinessEnvironment	0.818
Suppliers	-->	BusinessEnvironment	0.700
Competitors	-->	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 demonstrates that the factors contributing to the business environment variable, specifically customers, suppliers, and rivals, possess factor loading (FL) values exceeding 0.5. Therefore, all the tested factors are crucial for establishing a business climate. Moreover, while examining the loading factor of each indicator, it becomes evident that customers have the highest or most significant impact on shaping the business environment variable.

The entrepreneurial orientation variable indicators, including risk-taking, proactiveness, confidence, and openness, have factor loading (FL) values exceeding 0.5. Therefore, all of the investigated factors are crucial for developing entrepreneurial attitudes. Moreover, while examining the loading factor of each indicator, it becomes evident that risk-taking is the indicator with the highest or most significant influence on the formation of the entrepreneurial orientation variable.

The indicators that comprise the innovation capability variable, specifically product innovation, technological innovation, and marketing innovation, have factor loading (FL) values greater than 0.5. Therefore, all the examined indicators are crucial components that contribute to Financial well-being. Moreover, while examining the loading factor of each indicator, it becomes evident that marketing innovation has the highest impact on the formation of the innovation capability variable.

6. DISCUSSION

The environment encompasses all external factors outside the organization, as defined by Robinson and Pearce in 1993. According to Nickels and McHugh (2009:12), the business environment refers to the external variables that surround a business. These factors have the potential to either facilitate or

impede the growth of an established firm. Monitoring and analyzing the corporate environment is crucial since it significantly impacts managerial decision-making, procedures, and organizational structures (Keats & Hitt, 1988). 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 organization to adjust to its surroundings. Miller and Friesen (1983) demonstrate that the environment exerts significant influence on company conditions, as it dictates the strategy to be implemented.

The results of Confirmatory Factor Analysis indicate that the consumers, suppliers, and rivals serve as significant indicators that influence the business environment. The findings of Crinjs and Ooghi (2000), Zhang (2001), Wilkinson (2002), and Pelham (1999) support the viewpoint presented in 1983 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 exert the most significant influence on moulding business environmental factors. Therefore, Batik MSMEs in Malang City attain business success by prioritising consumer requirements and ensuring customer pleasure and loyalty through their company environment.

According to Lumpkin and Dess (2001), entrepreneurial orientation refers to the process of entrepreneurship and addresses how business operations are conducted. On the other hand, the concept of entrepreneurship is concerned with the substance of entrepreneurial decisions and explores what actions are taken. According to Gima and Anthony (2001), organisations that possess strong entrepreneurial orientation qualities generally outperform their competition.

Confirmatory Factor Analysis indicates that risk-taking, proactiveness, self-confidence, and openness have factor loading (FL) values that are equal to or greater than 0.50. Therefore, all of these characteristics are crucial components that constitute entrepreneurial attitude. The findings validate the viewpoint put forth by Frishammar and Horte (2007), Mafasiya et al. (2010), and Lee and Tsang (2001). Of the indicators of risk-taking, proactiveness, self-confidence, and openness, risk-taking is regarded to have the most significant impact on the formation of the entrepreneurial orientation variable. The findings indicate that batik MSMEs in Malang might adopt an entrepreneurial attitude by demonstrating courage in taking business risks. The demonstration of courage in risk-taking is shown in the willingness to explore novel themes and embrace the possibility of failure when managing a business.

Effectively overseeing innovation capabilities is a fundamental component 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). Organisations possess innovation capabilities to expedite the advancement of innovation. Innovation capability, as described by Forsman & Rantanen (2011), refers to the ongoing enhancement of a company's talents and resources to effectively investigate and capitalize on chances for developing novel innovations.

Confirmatory Factor Analysis reveals that the factor loading (FL) value for product, technological, and marketing innovation is equal to or greater than 0.50. Therefore, all of these factors are crucial for establishing innovative skills. These findings validate the viewpoint put forth by Lin et al. (2010), Jimenez and Valle (2005), Baregheh et al. (2012), and Toma et al. (2014) that marketing innovation is the most influential factor in the development of innovation capabilities. These

findings indicate that batik MSMEs in Malang City prioritize their innovation capabilities in marketing by offering new product options that cater to consumer demands through online platforms like Facebook, WhatsApp, and Instagram in order to expand their marketing reach.

7. CONCLUSION

Based on the results of the confirmatory factor analysis, it was determined that the customers indicator had the most significant impact on shaping the variables related to the business environment. Risk-taking is widely regarded as the primary factor in shaping the entrepreneurial orientation characteristic. Marketing innovation is the most reliable sign of developing innovation capabilities. 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 prospects and promoting novel goods in untapped areas. Furthermore, there is a pressing need to enhance technological innovation.

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