

The Role of Entrepreneurial Orientation in Improving Small Medium Enterprise (SME) Performance

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The purpose of this study is to examine and analyse the effect of entrepreneurial orientation on market orientation, technological capability and performance of SMEs. The study was conducted on 120 SMEs in the field of leather craft in the Special Province of Yogyakarta, Indonesia. The sample selection uses area proportionate random sampling from 4 districts and 1 city in Yogyakarta. Data was analysed using SEM with the WarpPLS approach. The results of the study show that entrepreneurial orientation significantly influences market orientation, technological capability and SME's performance. Market orientation has a significant effect on technological capability and SMEs' performance. The technological capability has a significant effect on SMEs' performance. Based on the results of this study, SMEs' performance can be improved through strategic orientation, entrepreneurial orientation, market orientation and firm capability, as well as technological capabilities.

Key words: *Entrepreneurial Orientation, Market Orientation, Technological Capability, SME's Performance.*

Introduction

Small and medium enterprises (SMEs) play an important role in the development of the Indonesian economy. SMEs contribute to employment, increase the Gross Domestic Product (GDP), increase exports, and become a source of income for most people. Therefore, the development of SMEs is a priority of the Indonesian government in efforts to improve welfare and create jobs for the community. During the economic crisis in Indonesia, SMEs were able to pass the crisis and survive. This is because SMEs have dynamic, innovative and efficient

characteristics in dealing with a dynamic business environment so that they can survive in difficult situations (Miller, 1983). However, SMEs tend to be characterised by the use of traditional technology, limited technical skills, and a lack of information about markets and new technologies (Fairoz, Hirobumi, & Tanaka, 2010). Thus, SMEs are a sector that is vulnerable to competition, despite having strong resilience to crises.

The performance of Indonesian SMEs is still below that of Singapore, Malaysia and Thailand (OECD/ERIA, 2018). The implementation of the ASEAN Economic Community (AEC) cooperation at the end of 2016 and trade agreements between other countries, such as AFTA and CAFTA, demanded that SMEs improve their competitiveness and performance. Performance is a measure of a firm's success and is influenced by various factors. Munizu's (2010) research found that the performance of SMEs was influenced by external factors consisting of markets, government policies, socio-cultural and economic aspects, the role of related institutions, and internal factors such as human resources, finance, technology and marketing. The performance of UKM is inseparable from the aspects of entrepreneurship, mastery of technology and innovation, market orientation, and excellence.

Entrepreneurship at the organisational level is shown through an entrepreneurial orientation where companies base their behaviour and culture built on the principles of innovation, daring to take risks, being proactive in creating opportunities and responding to change (Hausmann & Rodrik, 2003). Developing entrepreneurial skills, technological capabilities and innovation can drive SME's performance to a higher level. This finding is supported by Sarwido & Sulistyawati's (2014) research which concluded that improving the performance of SMEs can be achieved through internal factors, innovation capabilities, external factors and partnership obstacles. Entrepreneurial orientation has a major influence on developing an increase in the innovation and the company performance in SMEs in Indonesia (Fitriati, Purwana, & Buchdadi, 2020). Entrepreneurial orientation increases a firm's ability to adjust better to their environment, positively impacts market orientation behaviour (Slater & Narver, 1995; Matsuno, Mentzer, & Özsomer, 2002; Zahra & Hayton, 2008) and will drive performance improvements (Hult et al., 2004).

Entrepreneurial orientation is also related to technological capabilities (Acosta, Nabi, & Dornberger, 2014). Gellynck et al. (2015) found that entrepreneurial orientation significantly affected the ability of technology in small and medium-size technology-based companies. The results of this study are supported by the research of Sciascia et al. (2014) and Patel et al. (2015). However, this finding is not consistent with Omar et al. (2016) who found that entrepreneurial orientation did not fully affect technological capabilities. Entrepreneurial orientation also influences market orientation (Matsuno, 2002), where market orientation culture helps create benefits by actively scanning customer desires in the context of a competitive environment and then analysing, distributing, and using the resulting information

to create value for customers and provide feedback to all interested parties (Hendar, Mutamimah, & Kartika, 2019).

This study aims to examine and analyse the effect of entrepreneurial orientation on market orientation, technological capability and SMEs' performance. One of the novelties of this research is the influence of market orientation on technological capabilities. It is expected to close the research gap in previous studies. The study was conducted on craft SMEs that dominate in Indonesia (DIY, 2017) (Central Statistics Agency, 2016) and come in contact with technological and innovation capabilities so that they are relevant to the objectives of this study.

Literature Review and Conceptual Model

This research refers to the grand theory of strategic management. Strategic management is a set of commitments, decisions and actions that are designed and implemented to produce competitive advantages and above-average profits (Hitt, Ireland, Camp, & Sexton, 2001). Strategic management focuses on how to create and maintain a competitive advantage and prosperity achieved by the firm (Venkataraman & Sarasvathy, 2001).

Strategic management tries to understand how companies can improve performance in competitive interactions with other companies (Sanchez & Heene, 1997). Wealth creation is at the core of strategic management and entrepreneurship. Strategic entrepreneurship is entrepreneurial behaviour from a strategic perspective. Strategic entrepreneurship is the integration of entrepreneurship and strategy in developing and taking actions designed to create wealth (Venkataraman & Sarasvathy, 2001).

The resource-based view is the area of strategy that deals with the source and nature of strategic capabilities. The resource-based view has an intra-organisational focus and argues that performance is the result of firm-specific resources and capabilities (Wernerfelt, 1984; Barney, 1991). The basis of a resource-based view is that successful companies will find their competitiveness in the future by developing unique abilities, which are implicit or intangible (Teece, Pisano, & Shuen, 1997). Thus, the essence of strategy is defined by the firm's unique resources and capabilities (Rumelt, 1987). Besides, the ability of a firm to build and maintain a favourable market position depends on the ability to create profits from the resources and capabilities that underlie it (Conner & Prahalad, 1996).

Matsuno et al. (2002) found that entrepreneurial orientation will drive market orientation, so the greater the level of entrepreneurial orientation the greater the level of market orientation. Previous research supports the idea that there is a close relationship between entrepreneurial orientation and market orientation (Atuahene-Gima & Ko, 2001; Blesa & Ripolles, 2003). The relationship between entrepreneurial orientation and market orientation is based on the idea

that markets are the focus of attention from an entrepreneurial orientation, where the dimensions of entrepreneurial orientation (innovation, risk-taking and proactiveness) seek to link market changes and at the same time affect the market itself. Market orientation is described as an adaptive ability where companies react or respond to market environmental conditions. Instead, entrepreneurial orientation is the ability to manage an environment where companies start proactive initiatives to change the competitive landscape (Atuahene-Gima & Ko, 2001; Zortea-Johnston, Darroch, & Matear, 2012). Market orientation shows a strong element of a firm's ability to recognise markets, respond to market knowledge and information, focus on existing assumptions and processes, have a strong emphasis on adaptability, and have the potential to balance the risks and uncertainties of entrepreneurial orientation (Boso, Cadogan, & Story, 2012). Thus, there is a logical link between entrepreneurial orientation with market orientation.

Based on the description above, the hypothesis can be formulated as follows:

H1: Entrepreneurial orientation has a significant effect on market orientation.

Acosta et al. (2014) assume that entrepreneurial orientation components such as innovation and proactivity influence the improvement of technological capabilities in companies. Companies must have an entrepreneurial orientation because of the need for growth, innovation, and in order to capture new market opportunities. Entrepreneurial orientation is a broad and coherent framework with innovation as a central aspect of technological capability (Pérez-Luño, Wiklund, & Cabrera, 2011). Some other researchers also emphasise the relationship between entrepreneurial orientation towards innovation activities and technological development in organisations (Avlonitis & Salavou, 2007; Wang, 2008; Li, Huang, & Tsai, 2009; Chen, 2012). The entrepreneurial orientation is responsible for directing all parts of the organisation while technological capability is a key element in the use of the knowledge and technology needed to achieve innovation in the firm. Technology capability is a set of functional abilities that are reflected in organisational performance through various technological activities where the ultimate goal is value management at the organisational level (Panda & Ramanathan, 1996). Entrepreneurial oriented companies produce, disseminate and respond to technical knowledge to improve their technological capabilities.

Based on the description above, the hypothesis can be formulated as follows:

H2: Entrepreneurial orientation has a significant effect on technological capabilities.

Wiklund & Shepherd (2005) underline the effect of entrepreneurial orientation on performance on small businesses. Small businesses are more willing to innovate to renew market offerings, take risks in trying to try new markets, products, services and uncertain markets. Small

businesses are also more proactive than competitors to try new market opportunities and get better performance than those who are less entrepreneurial oriented. Several previous studies have shown that entrepreneurial orientation is directly related to firm performance (Kirca, Jayachandran, & Bearden, 2005; Rauch, Wiklund, Lumpkin, & Frese, 2009).

Based on the description above, the hypothesis can be formulated as follows:

H3: Entrepreneurial orientation has a significant effect on firm performance

Market orientation is considered to have a solid relationship with the firm's innovative efforts (Boso, Story, & Cadogan, 2013; Guchait, Lee, Wang, & Abbott, 2016). The reason for this relationship is because of the role of market orientation in forming a deeper understanding of customer needs and minimising innovation failures (Atuahene-gima, 2005). Companies that have a strong market orientation are very careful in realising the desires of their customers and reacting by developing products and processes to meet customer desires (Baker & Sinkula, 2009). Beck, Janssens, Debruyne, & Lommelen (2011) argue that market orientation is related to innovation because it determines new customer segments and results in the development of new products to meet their needs. Therefore, market-oriented companies mostly have high innovation and new product development. New product development requires the ability of technology to make it happen according to customer desires (Grinstein, 2008).

Based on the description above, the hypothesis can be formulated as follows:

H4: Market orientation has a significant effect on technological capabilities

Market orientation is defined as the implementation of marketing concepts in the firm's target market and reflects the firm's orientation towards customers, competitors and other exogenous factors. Market orientation is seen in the tendency of companies to produce, disseminate, and respond to market knowledge (Kohli, Jaworski, & Kumar, 1993). Market-oriented companies are distinguished by their ability to perceive events and trends in the market before competitors. They can anticipate more accurate responses to actions designed to retain and attract customers, and improve distribution relationships or defeat competitors (Day, 1994).

Several studies are dedicated to studying how market orientation produces superior organisational performance and verifies the positive relationship between the two (Narver & Slater, 1990; Kohli et al., 1993; Matsuno et al., 2002). Market orientation reflects the strategic direction adopted by the firm to create innovations and superior performance. Market-oriented companies that become customer-oriented gain market knowledge and feedback that is coordinated across all organisational functions (Narver & Slater, 1990). Thus, the market orientation improves firm performance.

Based on the description above, the hypothesis can be formulated as follows:

H5: Market orientation has a significant effect on firm performance

Technological capabilities are the ability to perform related technical functions or activities within a firm including the ability to develop new products and processes and operate facilities effectively (Teece et al., 1997). The technological capability has a significant positive relationship with firm performance (Wu & Sivalogathan, 2013). According to McEvily, Eisenhardt, & Prescott (2004), companies with superior technological competencies tend to be more innovative so they can achieve high performance. Companies with superior technological capabilities can achieve greater profit efficiency with process innovation and can achieve higher differentiation with product innovation in response to changing market environments (Teece & Pisano, 1994; Teece et al., 1997).

Based on the description above, the hypothesis can be formulated as follows:

H6: Technological capability has a significant effect on firm performance.

Research Methodology

Sample and Data Collection

The survey method was used in this study by distributing questionnaires to leathercraft SMEs in Yogyakarta. The population in this study are leather craft SMEs in Yogyakarta which have been operating for at least the last 3 years. Based on data obtained from the Department of Industry of the Provincial Government of Yogyakarta, it is known that the total population is 173 UKM. The determination of the number of samples is determined by the Slovin formula so that the number of samples of this study is 120 SMEs. The sampling technique of this study used area proportionate random sampling. The sampling technique considers proportional amounts from each area to represent the population.

Variable Operationalisation and Analysis

The entrepreneurial orientation variable is measured according to Miller (1983) and Lumpkin & Dess (1996) which consists of Innovativeness, risk-taking, proactiveness, aggressive competitiveness, and autonomous indicators. Market orientation is measured using indicators of customer orientation, competitor orientation and inter-functional coordination (Narver & Slater, 1990). Technological capability based on Su, Peng, Shen, & Xiao (2011) includes the ability to develop new products, the ability to apply appropriate process technology, the ability to develop technology, and the ability to keep up with technological changes. The performance

of SMEs is measured using sales growth, asset growth, and revenue growth (Pelham & Wilson, 1995). Data was collected using a questionnaire and each item was measured on a Likert scale with a grading ranging from strongly disagree (1) to strongly agree (5). The questionnaire was tested for validity and reliability of 30 respondents before being used for all respondents. Data was analysed using WarpPLS 6.0 (Kock, 2015) to determine the effect between variables in the structural model.

Results and Discussion

Validity and Reliability of the Instrument

A validity test is carried out to determine the validity of the instrument (questionnaire) designed which is used to collect data. Validity and reliability tests are carried out before using the instrument for overall data collection. Instrument testing results indicate that the correlation coefficient value of each item with a total item ≥ 0.3 so that it can be stated that the instrument produces valid data (Sekaran, 2013). The test results also show that the Cronbach's Alpha coefficient ≥ 0.6 can be stated that the instrument is reliable (Malhotra, 2010) and can be used to measure variables with larger respondents.

Table 1: Result of instrument validity test

Variable	Indicator	Correlation Coefficient	Cronbach's α
Entrepreneurial orientation	Innovativeness	0.655	0,887
	Risk-taking	0,541	
	Proactiveness	0,652	
	Aggressive competitiveness	0.534	
	Autonomous	0.553	
Market orientation	Customer orientation	0.553	0.778
	Competitor orientation	0.678	
	Inter-functional coordination	0.656	
Technological capability	Technological capability for new product development	0.767	0.881
	Ability to apply appropriate process technology	0,754	
	Ability to develop technology	0,777	
	Ability to keep up with technological changes in the industry	0,676	
Firm performance	Sales growth	0,676	0.779
	Asset growth	0,456	
	Revenue growth	0,564	

Table 2: Demographic Information

Characteristics	Frequency (N = 120)	Percentage (%)
Gender		
Male	82	80.4
Female	20	19.6
Education		
Elementary School	24	23.5
Secondary School	24	23.5
High School	22	21.6
Diploma	8	7.8
Bsc	19	18.6
Msc	5	4.9
Age		
< 33	19	18.6
33-42	17	16.7
43-52	30	29.4
53-62	29	28.4
> 62	7	6.9
Professional Experience		
< 5 years	46	45.1
5 - 10 years	41	40.2
11 - 15 years	8	7.8
> 15 years	7	6.9

Table 3: Mean and standard deviation (SD)

Constructs	Mean	Standard Deviation
Entrepreneurial Orientation	3.90	0.69
Market Orientation	3.77	0.69
Technological Capability	3.23	0.96
Performance of SMEs	3.36	0.95

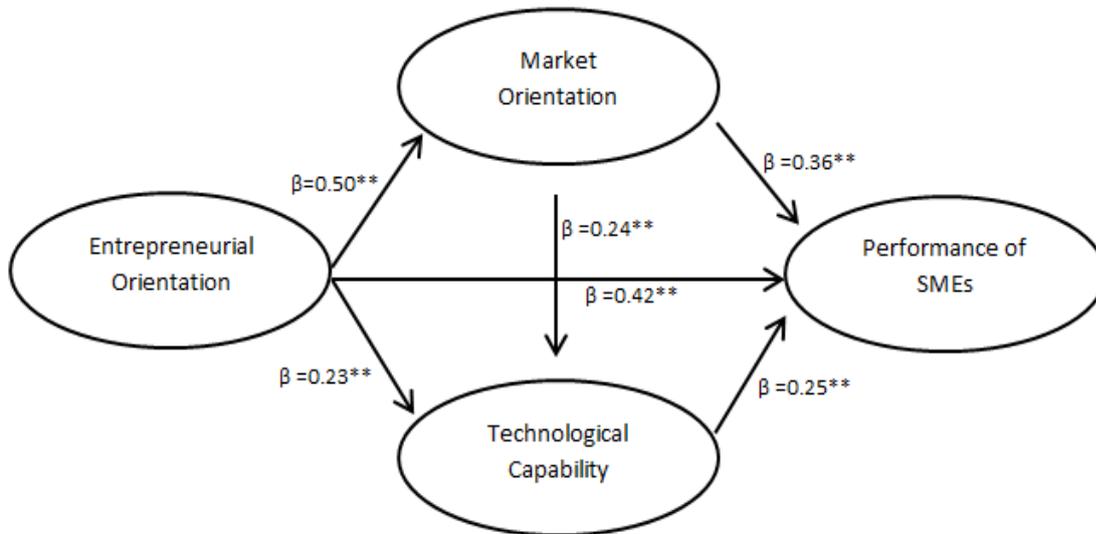
Measurement Model

Measurement of fit and quality indices models refers to the WarpPLS analysis tool (Kock, N., 2015). The measurement results show: Average Path Coefficient (APC) = 0.268, $p < 0.001$; Average R-squared (ARS) = 1,133, $p < 0.001$; Average Adjusted R-squared (AARS) = 1,176, $p < 0.001$; Average block VIF (AVIF) = 4,660, acceptable if ≤ 5 ; Average full collinearity VIF (AFVIF) = 4,334, acceptable if ≤ 5 ; Tenenhaus GoF (GoF) = 0.884, acceptable if ≥ 0.36 ; Simpson's Paradox Ratio (SPR) = 1,000, acceptable if > 0.7 ; Statistical Suppression Ratio

(SSR) = 1,000, acceptable if ≥ 0.7 ; Nonlinear Bivariate Causality Direction Ratio (NLBCDR) = 0.886, acceptable if ≥ 0.7 . These results indicate that the model is supported by good data and has quality indicators that meet the requirements in WarpPLS.

Structural Model

Figure 1. Final Structural Model



β =Standardised coefficient, ** $p < 0.01$

Test of Hypotheses

This research formulates 6 hypotheses and hypothesis testing is done by comparing the p-value with an alpha of 5%. If the p-value is ≤ 0.05 , the hypothesis is accepted and if p value > 0.05 , the hypothesis is rejected.

- 1) Hypothesis 1 states that Entrepreneurial Orientation affects Market Orientation. The results show that p-value < 0.05 so that hypothesis 1 is accepted. The coefficient marked positive indicates that Entrepreneurial Orientation has a positive effect on Market Orientation.
- 2) Hypothesis 2 states that Entrepreneurial Orientation affects Technological Capability. The results show that p-value < 0.05 so that hypothesis 2 is accepted. The coefficient marked positive indicates that Entrepreneurial Orientation has a positive effect on Technological Capability.
- 3) Hypothesis 3 states that Entrepreneurial Orientation influences the Performance of SMEs. The results show that p-value < 0.05 so that hypothesis 3 is accepted. The coefficient marked positive indicates that Entrepreneurial Orientation has a positive effect on the performance of SMEs.

4) Hypothesis 4 states that Market Orientation influences Technological Capability. The results show that p-value <0.05 so that hypothesis 4 is accepted. The coefficient marked positive indicates that Market Orientation has a positive effect on Technological Capability.

5) Hypothesis 5 states that Market Orientation influences the Performance of SMEs. The results show that p-value <0.05 so that hypothesis 5 is accepted. The coefficient marked positive indicates that Market Orientation has a positive effect on the performance of SMEs.

6) Hypothesis 6 states that Technological Capability influences the Performance of SMEs. The results show that p-value <0.05 so that hypothesis 6 is accepted. The coefficient marked positive indicates that Market Orientation has a positive effect on the performance of SMEs.

Table 4: Hypothesis Test

No	Relations between variables		Coefficient	p-value	Description	Hypothesis decision
	Independent variable	Dependent variable				
1.	Entrepreneurial Orientation	Market Orientation	0.50	<0.001	Significant	Accepted
2.	Entrepreneurial Orientation	Technological Capability	0.23	<0.001	Significant	Accepted
3.	Entrepreneurial Orientation	Performance of SMEs	0.42	<0.001	Significant	Accepted
4.	Market Orientation	Technological Capability	0.24	<0.001	Significant	Accepted
5.	Market Orientation	Performance of SMEs	0.36	<0.001	Significant	Accepted
6.	Technological Capability	Performance of SMEs	0.25	<0.001	Significant	Accepted

Conclusion and Suggestion

Entrepreneurial Orientation and Market Orientation

The results of this study indicate that entrepreneurial orientation has a significant effect on market orientation. These results support Matsuno et al. (2002) who found that entrepreneurial orientation will drive market orientation, so the greater the level of entrepreneurial orientation the greater the level of market orientation. Miller (1983) and Lumpkin & Dess (1996) mark entrepreneurial orientation with innovative, risk-taking, proactive, competitive aggressiveness, and autonomy. The entrepreneurial orientation encourages SMEs to have a stronger market orientation. The market is the focus of attention from an entrepreneurial orientation, where the dimensions of entrepreneurial orientation (innovation, risk-taking, and proactiveness) seek to link market changes and at the same time affect the market. The results of this study support

the results of previous studies conducted by Atuahene-Gima & Ko (2001) and Blesa & Ripolles (2003). Entrepreneurial orientation increases a firm's ability to recognise markets, respond to market knowledge and information, focus on existing assumptions and processes, have a strong emphasis on adaptability, and have the potential to balance the risks and uncertainties of entrepreneurial orientation (Boso et al., 2012). The firm's ability to manage the environment through initiative and proactivity will increase the firm's ability to understand the market and adapt quickly to a changing environment.

Entrepreneurial Orientation and Technological Capability

The results of this study indicate that Entrepreneurship orientation significantly influences the ability of technology. The entrepreneurial orientation directs all elements of the organisation, including technology. Companies that have high innovation and proactivity certainly require mastery of technology, both information technology, and production technology. This result is consistent with Acosta et al. (2014) which assumes that entrepreneurial orientation components such as innovativeness and proactiveness influence the improvement of technological capabilities in companies. The results of this study support Pérez-Luño, Wiklund, & Cabrera (2011), arguing that entrepreneurial orientation fosters innovation in capturing new market opportunities that require technological development. Avlonitis & Salavou (2007), Li et al. (2008), Wang (2008), and Chen (2012) also view that technological development in organisations is needed by companies that have a high orientation in entrepreneurship and innovation.

Entrepreneurial Orientation and SME Performance

The results of this study prove that entrepreneurial orientation significantly influences the performance of SMEs. Entrepreneurial characteristics such as innovativeness, risk-taking, proactiveness, competitive aggressive, and autonomy drive high SME performance. This result is consistent with Wiklund & Shepherd (2005) which states that entrepreneurial orientation affects the performance of small businesses. The results of this study also support previous research conducted by Kirca et al. (2005) and Rauch et al. (2009). SMEs are more proactive in seeking and exploiting market opportunities and dare to take risks. Innovations made by SMEs can open new markets and anticipate changes in consumer tastes to maintain the performance of SMEs.

Market Orientation and Technological Capability

The results of this study indicate that market orientation has a significant effect on technological capabilities. SMEs that are market-oriented certainly try to serve consumers with products according to consumer needs to reduce failure. SMEs innovate to accommodate the

ever-changing market needs. Product development is also needed to serve different market segments so that SMEs have more specific markets. Technology mastery is needed in the process of forming innovative products and developing new products. Thus, the more market-oriented the firm is, the more it is trying to improve technological capabilities. This is in line with the opinion of Grinstein (2008) that the development of new products requires technological capabilities to realise customer desires. Boso et al. (2013) and Guchait et al. (2016) also argue that market orientation is considered to have a solid relationship with the firm's innovative efforts. Market orientation forms a deeper understanding of customer needs and minimises the failure of innovation (Atuahene-Gima et al., 2005) so that technological capabilities are needed.

SMEs Market Orientation and Performance

The results of this study prove that Market Orientation has a significant effect on SME performance. Market Orientation provides the strategic direction adopted by companies to create innovations and superior performance (Narver & Slater, 1990). SMEs use market information as feedback from customers who must be addressed by the firm. Market-oriented SMEs absorb the wants and needs of customers and strive to make it happen. Besides, SMEs also seize opportunities and threats that arise from changing market tastes. SMEs are more adaptive and always innovate to produce products according to customer tastes. Thus, SMEs with market orientation will be higher compared to SMEs that are not market-oriented. The results of this study support previous research conducted (Narver & Slater, 1990; Jaworski & Kohli, 1993; Matsuno et al., 2002). Research findings consistently show that market orientation drives higher SME performance.

Technological Capabilities and Performance of SMEs

The results of this study prove that the ability of technology controlled by SMEs has a significant effect on performance. Technology is needed in developing new products, more effective and efficient processes, and adaptation to market demands. SMEs can find product innovations through mastery of technology (McEvily et al., 2004) so that products are more accepted by the market. SMEs can respond to changes in market demand with innovation and product differentiation (Teece & Pisano, 1994; Teece et al., 1997). Finally, SMEs with superior technology will have high performance marked by sales growth, asset growth, and high revenue growth.

Implications

The results of this study provide theoretical and practical implications. The results of this study not only prove the theory in strategic management but also discover the relationship of new

concepts between market orientation and Technological capabilities that have not been found in previous studies. This finding provides new evidence that market orientation has a significant effect on technological mastery. Based on these findings, technology mastery is not only influenced by entrepreneurial orientation but also influenced by market orientation. Consumer-oriented SMEs will try to improve their technological capabilities to meet the changing needs and wants of the market. Technology is needed by SMEs to anticipate changes in market tastes with product innovation. Technology is also needed in an effective and efficient production process so that it can compete with other companies on quality and price aspects.

UKM is very important to develop entrepreneurial orientation and market orientation and to improve technology skills. SMEs must develop the ability of innovation, dare to take risks, be proactive, aggressive, competitive, and autonomous. These characteristics are needed in improving the competitiveness and performance of SMEs. Mastery of technology helps SMEs in realising innovative product ideas, having price competitiveness, and by the changing needs and desires of consumers. Entrepreneurship orientation can be enhanced through training, mentoring, internships, and other activities that are relevant to spur SMEs' independence.

Limitations and Future Research

The results of this study have several limitations. First, this research was conducted in a limited scope, namely in the handicraft industry in the Special Region of Yogyakarta. Secondly, this study was conducted in a stable economic condition so that it does not represent abnormal conditions. The results of the study can be different if carried out in crisis conditions. Therefore, further research is recommended to conduct more extensive research on other types of industries. Longitudinal research is also recommended to be carried out to obtain more comprehensive results.

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