



The implementation of resource-based theory in the relationship between intellectual capital and entrepreneurship orientation and performance-mediated innovation ability in MSMEs

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ABSTRACT

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The development of batik in Indonesia is very rapid, and this can be seen from the growing number of batik producers. The management of batik MSMEs is still facing various interrelated problems, causing a decline in their performance. Through the resource-based theory (RBT) approach, this study aims to determine how internal resources at Batik UMKM in East Java can improve the performance of SMEs. The purpose of this study is to obtain empirical evidence of the influence of intellectual capital and entrepreneurial orientation on the performance of SMEs and to examine the innovation capability in mediating the influence of intellectual capital entrepreneurial orientation on the performance of batik SMEs in East Java. The population in this study comprises 140 owners of batik SMEs in East Java. Analysis of the data is done through structural equation modeling. The results showed that intellectual capital and entrepreneurial orientation had an influence on the performance of batik SMEs sampled. In addition, innovation capability was able to mediate the influence of intellectual capital and entrepreneurial orientation on the performance of the SMEs. The results of this study can enrich the repertoire of knowledge related to the resource-based theory and can improve the performance of batik MSMEs in East Java through the implementation of business strategies and the use of resources that include intellectual capital, entrepreneurial orientation and innovation capability.

Contribution/Originality: This research contributes to the resource-based theory that MSMEs who want to achieve good performance by utilizing intangible assets through intellectual capital with a human capital approach and entrepreneurial orientation are brave in taking risks and display an ability for marketing innovation.

1. INTRODUCTION

Competition is a result of the implementation of a free market economy that faces volatility, uncertainty, complexity, and ambiguity that are not only faced by large companies but also by micro, small, and medium enterprises (MSMEs). On October 2, 2009, batik in Indonesia received recognition from UNESCO as a world cultural heritage; however, this does not mean that batik SMEs in Indonesia are safe from the threat of global competition, such as batik printing from China, Malaysia, and Vietnam (Dristianto & Rodhiyah, 2016). The existence of global competition has caused batik buyers from France and Canada to start relocating batik orders from Indonesia to Vietnam because the price is 25% cheaper. This is because rival countries have developed more sophisticated batik printing machinery. In addition to France and Canada ordering from countries other than

Indonesia, buyers from the Middle East and Africa are also starting to look for cheaper batik elsewhere ([Jannah, Irawati, & Purnomo, 2019](#)).

Threats faced by batik SMEs affect their performance. Small and medium-sized enterprises' (MSME) performance, according to [Daft \(2010\)](#), is the degree to which the target has been achieved through organizational tasks and the effective and efficient use of resources. These resources comprise a company's controllable attributes, capabilities, and organizational procedures, as well as all assets, capabilities, and human resources. The resource-based theory (RBT) method can boost MSMEs' productivity.

The concept of RBT was originally a resource-based view (RBV) expressed by [Wernerfelt \(1984\)](#). [Barney \(1991\)](#) helped turn the RBV into a complete resource-based theory which defines capabilities and resources as tangible and intangible assets. This collection of assets can help select and define strategies to increase efficiency and effectiveness ([Barney, 1991; Barney, 2010](#)). Combining tangible and intangible assets is reportedly a promising technique that boosts business performance, according to [Belkaoui \(2003\)](#).

Intellectual capital is the accumulation of all intangible assets that are significant to small and medium-sized businesses and are utilized to generate goods and services that bring value to the firm ([Khaliq, Bontis, Shaari, Yaacob, & Ngah, 2018](#)). [Cohen and Kaimenakis \(2007\); Khaliq et al. \(2018\); Arshad and Arshad \(2018\); Anwar, Khan, and Khan \(2018\); Dewi, Alhabisy, Arifin3, and Abdillah \(2019\)](#) and [Hermawan, Nugraha, and Widiartanto \(2017\)](#) concluded that intellectual capital influences the performance of MSMEs. However, different results were achieved by empirical studies conducted by [Khaliq, Shaari, Isa, and Ageel \(2011\); Hashim, Osman, and Alhabshi \(2015\); Hashim et al. \(2015\)](#) and [Dristianto and Rodhiyah \(2016\)](#), who concluded that intellectual capital does not affect the performance of MSMEs

The success of performance cannot be separated from the role of an entrepreneur in carrying out business activities that need to be entrepreneurship-oriented. [Ahimbisibwe and Abaho \(2013\)](#) stated that companies with strong entrepreneurial orientation are more willing to take risks and not just stick to past strategies. [Keh, Chu, and Xu \(2006\); Zhang and Zhang \(2012\); Arief, Thoyib, Sudiro, and Rohman \(2013\); Hoque, Siddiqui, Awang, and Baharu \(2018\); Rofiaty \(2019\); Karami and Tang \(2019\)](#) and [Jannah et al. \(2019\)](#) concluded that entrepreneurial orientation influences the performance of MSMEs. Different results were shown by [Affendy, Asmat-Nizam, and Farid \(2015\); Solikahan and Mohammad \(2019\); Dewinta, Wahyudi, and Kusumawardhani \(2016\)](#) and [Mudjijah, Surachman, Wijayanti, and Andarwati \(2022\)](#), who concluded that entrepreneurial orientation does not affect MSME performance.

Based on the results of several previous studies regarding the influence of intellectual capital and entrepreneurial orientation on the performance of MSMEs, there are still differences in results (research gaps), which opens a gap for the re-examination of the influence of intellectual capital and entrepreneurial orientation on MSME performance, with the ability to innovate as a mediator. The basis of innovation ability as a mediating variable is that, through the RBT approach, it conceptually improves the performance of SMEs through the resources that they own.

Innovation capability contributes to increasing organizational success, performance, and survival. Innovation applies not only to large companies but also to the MSME sector ([Baregheh, Rowley, Sambrook, & Davies, 2012](#)). This sector becomes innovative if MSMEs can develop innovation capabilities, one of the basic elements of an innovative organization. One of the efforts made to encourage and improve the ability to innovate is through intellectual capital in the form of knowledge and skills. [Zerenler, Hasiloglu, and Sezgin \(2008\)](#) and [Subramaniam and Youndt \(2005\)](#) concluded that intellectual capital affects innovation ability.

Entrepreneurial orientation is considered to be a behavioral procedure that operates at the corporate level. If the entrepreneurial orientation tends to be carried out using innovation, the company will innovate more effectively. [Hafeez, Shariff, and Bin Mad Lazim \(2012\)](#) stated that companies that have a strong entrepreneurial orientation have the ability to innovate more strongly than other companies. Companies that have innovative

attitudes or patterns of thinking are very important for the continuity of a business, and business actors who have an entrepreneurial orientation will be bolder and more effective in managing innovative ideas. Andreu, Criado, and Villanueva (2015) and Parkman, Holloway, and Sebastiao (2012) concluded that entrepreneurial orientation affects innovation ability.

Developing innovation capacity to produce new goods and more inventive processes can help MSMEs perform better both financially and non-financially. Innovation capability can improve the performance of MSMEs (Rhodes, Hung, Lok, Ya-Hui, & Wu, 2008). Ndubisi and Iftikhar (2012); Al-Ansari, Pervan, and Xu (2013); Hilman and Kaliappan (2015) and Ratnawati, Soetjipto, Murwani, and Wahyono (2018) concluded that the ability to innovate influences the performance of MSMEs.

Based on the background, there are fundamental questions among observers of strategic management through RBT. The RBT approach focuses on internal factors to explain business strategy in an effort to improve the performance of batik SMEs in East Java through the role of intellectual capital as an intangible asset and entrepreneurial orientation, which is the behavior of entrepreneurs in managing businesses to develop ideas (new ideas become an innovation capability). Based on this explanation, the uniqueness of this study is its use of the role of innovation ability as a variable that mediates the influence of intellectual capital and entrepreneurial orientation on the performance of MSMEs developed in one model and described by resource-based theory.

2. LITERATURE REVIEW

2.1. Resources-Based View (RBV) and Resource-Based Theory (RBT)

Resource-based theory (RBT) is a theoretical approach to modern business strategy, while RBT explains business strategy through internal factors (Hunt & Lambe, 2000). In RBT, resources are significantly heterogeneous in firms with impaired mobility.

2.2. Performance

Lin, Peng, and Kao (2008) revealed that performance is the result achieved in meeting a company's internal and external goals. In the context of SMEs, performance indicators are determined by financial performance, marketing performance, and competitiveness, according to Lin et al. (2008) and Nybakk (2012). Camisón and Villar (2012) measured the performance of small and medium enterprises by referring to three aspects, namely profitability, productivity, and marketing. Chong (2008) revealed that the performance of SMEs can be measured in various ways, including financial performance, product performance, and marketing performance. Sanchez and Marin (2005) also evaluated the success of SMEs based on profitability, productivity, and marketing. Shahbaz, Javed, Dar, and Sattar (2014) measured the performance parameters of SMEs using business productivity, profitability, and sales growth.

2.3. Intellectual Capital

Employees, clients, consumers, processes, and technology are all examples of knowledge resources that a business can use to generate value (Bukh, Nielsen, Gormsen, & Mouritsen, 2005). An asset that a corporation owns that will be useful in the future is intellectual capital. Several researchers provide different measurements of intellectual capital. Human capital, structural capital, and relational capital are utilized in research by Bontis, Keow, and Richardson (2000). Human capital, organizational capital, and social capital are used by Choudhury (2010). Hashim et al. (2015) used the dimensions of human capital, customer capital, structural capital, social capital, technological capital, and spiritual capital. Khalique et al. (2018) made use of the dimensions of human capital, structural capital, social capital, technological capital, and spiritual capital. Nassir, Hasan, and Khalique (2018) used the dimensions of human capital, structural capital, social capital, technological capital, and spiritual capital. Supeno, Sudharma, Aisjah, and Laksmana (2015) employed relational capital, structural capital, and human capital as

measures of intellectual capital, which was a distinct approach. Lo, Wang, and Chen (2020) state that elements of intellectual capital use human capital, social capital and organizational capital.

2.4. Entrepreneurship Orientation

An entrepreneur's management style is characterized by their entrepreneurial orientation. Another definition of entrepreneurship is the creation of value by utilizing a combination of assets to take advantage of an opportunity (Morris & Lewis, 1995). Entrepreneurial orientation is a process, practice, and decision-making activity that results in the development and creation of new products that can set the organization apart from other businesses in the market (Jambulingam, Kathuria, & Doucette, 2005). According to Covin and Slevin (1991), among the existing management practices that are believed to facilitate entrepreneurial behavior are the tendency to innovate, the tendency to be proactive, and the tendency to take risks. Entrepreneurial orientation, according to Frishammar and Åke (2007) and Fairoz, Hirobumi, and Tanaka (2010), includes innovation, risk-taking, and proactiveness. The need for achievement, internal self-control, self-reliance/self-confidence, and extroversion are described by Lee and Tsang (2001) as indications of entrepreneurial orientation (openness).

2.5. Innovation Capability

Managing innovation capability is one of the basic elements of an innovative organization. Today, when organizations operate in an uncertain environment, developing innovation capabilities is critical to succeeding in the future (Saunila & Ukko, 2014). Lin, Chen, and Shun (2010) revealed that innovation ability is the implementation of new technology that is applied to systems, policies, programs, products, processes or tools, or services. Wu and Sivalogathasan (2013) looked at innovation capabilities in terms of product, management, and process innovations. Lin et al. (2010) and Toma, Larisa, and Lonescu (2014) developed an innovation capability construct that has a relationship with customers which comprises product innovation, process innovation, marketing innovation, service innovation, and administrative innovation. Administrative innovation, technological innovation, product innovation, and process innovation are the constructs that Jiménez-Jiménez and Valle (2005) developed to describe innovation capability. Innovation and innovative activities come in many forms, including product innovation, process innovation, and marketing innovation, according to Baregheh et al. (2012).

3. HYPOTHESIS DEVELOPMENT

Ireland, Hitt, and Sirmon (2003) suggested that if you can manage your resources and capabilities in a strategic and structured manner, you can achieve a competitive advantage and increase company performance. Cohen and Kaimenakis (2007); Anwar et al. (2018); Khalique et al. (2018); Arshad and Arshad (2018); Dewi et al. (2019) and Hermawan et al. (2017) concluded that intellectual capital contributes positively to the performance of MSMEs. Based on the flow of thought and variable relationships that have been described, the first hypothesis in this study can be formulated as follows:

H1: Intellectual capital has a significant effect on the performance of MSMEs.

Keh et al. (2006) showed that entrepreneurial orientation plays an influential role in the acquisition and utilization of marketing information and directly affects the performance of MSMEs. Zhang and Zhang (2012); Hoque et al. (2018); Rofiaty (2019); Karami and Tang (2019) and Jannah et al. (2019) concluded that entrepreneurial orientation has a positive influence on MSME business performance. Based on the flow of thought and variable relationships that have been described, the second hypothesis in this study can be formulated as follows:

H2: Entrepreneurial orientation has a significant effect on the performance of MSMEs.

Innovation applies not only to large companies but also to the MSME sector (Baregheh et al., 2012). As the MSME sector operates in an uncertain environment, developing innovation capabilities is critical to succeeding in the future (Saunila & Ukko, 2014). One of the efforts made to improve the ability to innovate is through intellectual

capital in the form of knowledge and skills to encourage the ability to innovate. Zerenler et al. (2008) and Subramaniam and Youndt (2005) found that the components of intellectual capital (human capital, organizational capital, social capital) have a significant impact on innovation capability. Lewrick, Maktoba, Raeside, and Sailer (2010) stated that entrepreneurs need innovation as a vital tool to improve company performance. Ndubisi and Iftikhar (2012); Al-Ansari et al. (2013); Hilman and Kaliappen (2015) and Ratnawati et al. (2018) concluded that innovation influences the performance of MSMEs. Based on the flow of thought and variable relationships that have been described, the hypothesis in this study can be formulated as follows:

H3: Innovation ability can mediate the influence of intellectual capital on SME performance.

Entrepreneurial orientation is a behavioral procedure that operates at the corporate level. If the entrepreneurial orientation tends to be carried out using innovation, the company will manage innovation more effectively. Hafeez et al. (2012) stated that companies that have a strong entrepreneurial orientation will have the ability to innovate better than other companies. Andreu et al. (2015) and Parkman et al. (2012) showed that entrepreneurial orientation has a positive effect on MSME innovation. Based on the flow of thought and variable relationships that have been described, the hypothesis in this study can be formulated as follows:

H4: Innovation ability can mediate the effect of entrepreneurial orientation on the performance of SMEs.

4. METHODOLOGY

4.1. Population and Sample

The subjects of this study are the proprietors of SMEs in East Java that make batik stamps and batiks. Slovin's formula is used to determine the number of samples (Ferdinand, 2014). The research sample size is 140 respondents with a 5% error rate. The number of samples is determined proportionally. Appendix 1 contains information on the demographics and sample sizes. Due to the fact that, at the time of data collection, each region had its own set of respondents, not all questionnaires were given by visiting the respondents and carried out online via the google form

4.2. Operational Definition of Research Variables

The operational definitions of the variables used in this study are presented in Appendix 2. The responses were recorded on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

4.3. Data Analysis Method

Analysis of the data was carried out using structural equation modeling (SEM). Several types of indices measure the degree of conformity between the hypothesized model and the data presented to test the feasibility of a model. After the model meets the requirements, it is necessary to test the hypothesis based on the critical ratio (CR), which is tested with a probability value (p). If $p < 0.05$, it indicates a significant effect, and if $p > 0.05$, it indicates that it is not significant. Meanwhile, to determine whether a variable can act as a mediating variable, a test is carried out using the Barron and Kenny (1986) approach. The mediation test determines whether the mediation variable has a complete or partial mediation.

5. RESULTS

5.1. Characteristics of Respondents

The characteristics of the respondents in this research show that most owners of batik businesses in East Java are men aged 41–50 years with a high school education level, have experience as entrepreneurs for at least 15 years, and have managed businesses for over 15 years. These results indicate that the respondents are experienced in the batik business and can represent them in answering questions related to intellectual capital, entrepreneurial orientation, innovation ability and MSME performance.

5.2. Instrument Testing

Before the instrument is used to carry out research, it must first be tested by several predetermined respondents. This testing was carried out using a small sample of 30 respondents. Based on the results of the validity and reliability tests (see [Appendix 3](#)), all items were declared valid and reliable because they had met the validity testing criteria used (the Pearson product-moment correlation coefficient (R) was 0.3, and the reliability test showed a Cronbach's alpha value greater than or equal to 0.6).

5.3. Inferential Statistical Analysis

5.3.1. Confirmatory Factor Analysis

The measurements of the dimensions or indicators of variables that can form latent variables with confirmatory factor analysis (CFA) and determining indicators of intellectual capital, entrepreneurial orientation, innovation capability, and SME performance are based on the factor loading value. The summary of the CFA test results on the indicators of intellectual capital, entrepreneurial orientation, innovation capability, and performance of SMEs is shown in [Table 1](#).

Table 1. Factor loading (λ) measuring variables' intellectual capital, entrepreneurship orientation, innovation capability, and MSME performance.

Variables and indicators	Factor loading	Critical ratio	p-value
Intellectual capital -> Human capital	0.801	7.172	0.000
Intellectual capital -> Customer capital	0.758	7.293	0.000
Intellectual capital -> Technology capital	0.707	6.741	0.000
Intellectual capital -> Social capital	0.660	-	-
Entrepreneurial orientation -> Risk taking	0.802	7.637	0.000
Entrepreneurial orientation -> Proactive	0.595	6.191	0.000
Entrepreneurial orientation -> Confidence	0.642	6.455	0.000
Entrepreneurial orientation -> Openness	0.740	-	-
Innovation ability -> Product innovation	0.766	7.755	0.000
Innovation ability -> Technological innovation	0.769	7.763	0.000
Innovation ability -> Marketing innovation	0.775	-	-
MSME performance -> Financial performance	0.761	-	-
MSME performance -> Product performance	0.666	6.393	0.000
MSME performance -> Marketing performance	0.764	6.541	0.000

Based on [Table 1](#), the indicators that make up intellectual capital, entrepreneurial orientation, innovation capability, and MSME performance have factor loading values with a significance level $p < 0.05$ and CR values that are greater than 2.0. This means that all these indicators are important for forming intellectual capital, entrepreneurial orientation, innovation capability, and MSME performance. Furthermore, based on the factor loading values, the indicator considered to have the largest or strongest contribution to forming the intellectual capital variable is human capital, the indicator that has the largest contribution to shaping the entrepreneurial orientation variable is risk taking, the indicator considered to have the largest contribution to forming the variable of innovation ability is marketing innovation, and the indicator considered to have the largest contribution to forming the variable of MSME performance is marketing performance.

5.3.2. SEM Analysis Results

The structural equation modeling (SEM) test results are presented in [Figure 1](#).

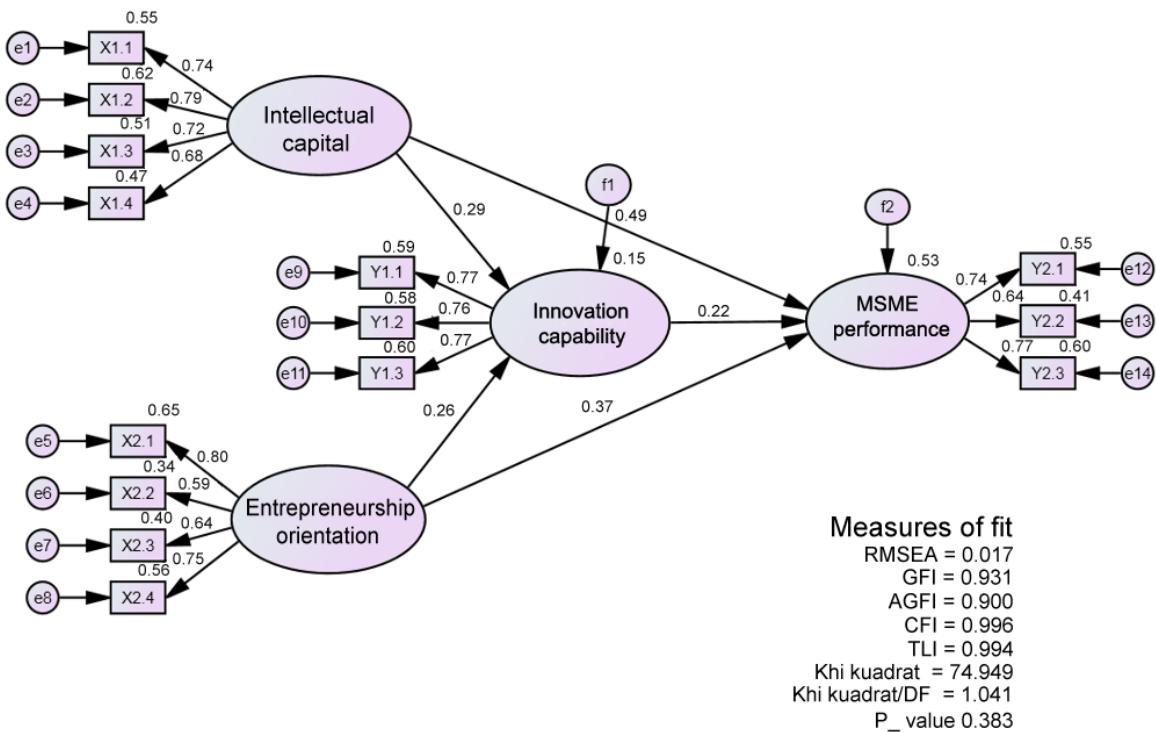


Figure 1. Research model.

The final model test results presented in [Figure 1](#) are evaluated based on the criteria for the goodness of fit indices. The proposed model shows that the evaluation of the overall constructs has resulted in a value above critical; therefore, the model can be categorized as suitable for use and interpretation can be carried out for further discussion.

5.3.3. Hypothesis Testing Results

The direct impact of intellectual capital and entrepreneurial orientation on the performance of SMEs is tested using the critical ratio (CR) derived from the output regression weight results. If the p-value is less than 5%, the study hypothesis is accepted.

[Table 2](#) shows the results of testing the direct and indirect influences of intellectual capital and entrepreneurship orientation on innovation ability and MSME performance.

The influence of intellectual capital on the performance of MSMEs resulted in a critical ratio (CR) value of 4.464 with a p-value of 0.000. In contrast, the influence of entrepreneurial orientation on MSME performance resulted in a CR value of 3.681 with a p-value of 0.000. So, the hypothesis which states that the intellectual capital of entrepreneurial orientation has a significant direct effect on the performance of MSMEs can be accepted.

The intellectual capital variable, which is controlled by innovation ability, has a coefficient value of 0.513 and significantly affects the performance of MSMEs, according to the path coefficient test results. The coefficient value is lower without the mediating factor of innovation capacity than the effect of intellectual capital on the performance of MSMEs. The coefficient is equal to 0.615. Although the path coefficient of the entrepreneurial orientation variable, which is mediated by innovation ability, has a coefficient value of 0.402, the coefficient value is lower (down) than the influence of entrepreneurial orientation on the performance of MSMEs without a mediating variable of innovation ability, which has a coefficient value of 0.510.

Table 2. Regression weight analysis results.

Connection	Path coefficient	CR	p-value	Information
Intellectual capital -> MSME performance	0.492	4.464	0.000	Significant
Entrepreneurship orientation -> MSME performance	0.370	3.681	0.000	Significant
Intellectual capital -> Innovation ability	0.331 (a)	3.110	0.002	Significant
Innovation ability ->MSME performance	0.302 (b)	3.003	0.003	Significant
Intellectual capital ->MSME performance	0.513 (c)	4.531	0.000	Significant
Intellectual capital ->MSME performance	0.615 (d)	5.387	0.000	Significant
Entrepreneurship orientation ->Innovation ability	0.306 (a)	2.858	0.004	Significant
Innovation ability ->MSME performance	0.354 (b)	3.392	0.000	Significant
Entrepreneurship orientation ->MSME performance	0.402 (c)	3.700	0.000	Significant
Entrepreneurship orientation ->MSME performance	0.510 (d)	4.581	0.000	Significant

Note: (a), (b) and (c) are the results of the path coefficients and the overall model, and (d) is the result of the path coefficient of the overall model without any mediating variables. CR = critical ratio.

6. DISCUSSION

6.1. The Influence of Intellectual Capital on the Performance of SMEs

Based on the findings of the hypothesis test, it can be deduced that East Java's batik MSMEs have high levels of human capital, and these MSMEs have high levels of originality when it comes to creating new motifs, both of which help improve performance. Sales growth and client count are two indicators of marketing. According to [Wang and Chang \(2005\)](#), intellectual capital is a crucial factor in determining a company's future value development as well as its current and future competitiveness. The findings of this research support those of previous studies by [Cohen and Kaimenakis \(2007\)](#); [Khalique et al. \(2018\)](#); [Arshad and Arshad \(2018\)](#); [Anwar et al. \(2018\)](#); [Dewi et al. \(2019\)](#) and [Hermawan et al. \(2017\)](#), who found that intellectual capital affects MSMEs' performance.

6.2. Influence Entrepreneurial Orientation toward MSME Performance

Based on the results of the hypothesis testing, it can be concluded that East Javan batik MSMEs who dare to take risks are those who experiment with new motifs and are willing to accept the risk of failure in running a business, helping to improve their performance through marketing, as evidenced by a rise in sales and an increase in the number of customers. The results of this study support those found by [Keh et al. \(2006\)](#); [Zhang and Zhang \(2012\)](#); [Arief et al. \(2013\)](#); [Hoque et al. \(2018\)](#); [Rofiaty \(2019\)](#); [Karami and Tang \(2019\)](#) and [Jannah et al. \(2019\)](#), who concluded that entrepreneurial orientation influences the performance of MSMEs.

6.3. The Ability of Innovation to Mediate the Influence of Intellectual Capital on the Performance of SMEs

Innovation has an important contribution to organizational success, performance, and survival. Innovation applies not only to large companies but also to the MSME sector ([Baregheh et al., 2012](#)). The results of the hypothesis testing prove that innovation can mediate the influence of intellectual capital on the performance of MSMEs. These findings suggest that East Java's batik SMEs are focused on human capital because their owners have a wealth of experience designing batik motifs and a have high level of creativity when creating new ones. This orientation to human capital enhances their capacity to innovate through marketing by offering new product options. Online media increase marketing reach in accordance with consumer needs (e.g., Facebook, WhatsApp, and Instagram). The contribution of intellectual capital to the ability to innovate has an impact on improving the performance of MSMEs through marketing performance, as indicated by an increase in sales growth and an increase in the number of customers. The results of this study strengthen the studies conducted by [Zerenler et al. \(2008\)](#) and [Subramaniam and Youndt \(2005\)](#), who found that human capital, organizational capital and social capital have a significant impact on innovation capability. Innovation has a role in improving the performance of MSMEs ([Rhodes et al., 2008](#)). [Lewrick et al. \(2010\)](#) stated that entrepreneurs need innovation as a vital tool in improving their company's performance ([Al-Ansari et al., 2013](#); [Ndubisi & Iftikhar, 2012](#)).

6.4. The Influence of Mediation Innovation Capability and Entrepreneurial Orientation on MSME Performance

The results of the hypothesis testing prove that innovation ability can mediate the influence of entrepreneurial orientation on the performance of MSMEs. According to these findings, batik SMEs in East Java who are willing to take chances exhibit their risk taking behavior by experimenting with novel motifs and accepting the possibility of business failure. As a result, they are better able to innovate through marketing by offering customers new product options that meet their needs. The contribution of entrepreneurial orientation to the ability to innovate has an impact on improving the performance of MSMEs through marketing performance, as indicated by an increase in sales growth and an increase in the number of customers.

7. RESEARCH IMPLICATIONS

The focus of this study is MSME performance, which can be improved through the role of human resource management strategies using the resource-based theory (RBT) approach, which is an applied theory of human resource management strategies that can be used to develop models and enable prediction and understanding of the influence of resource practices on organizational functioning. [Madhani \(2009\)](#) revealed that resources generally include organizational processes, information, and knowledge controlled by the company in the implementation of its business strategy.

[Ireland et al. \(2003\)](#) suggested that if you can manage your resources and capabilities in a strategic and structured manner, you can achieve a competitive advantage and increase company performance. The RBT approach defines capabilities and resources as tangible and intangible assets, and this collection of assets can be used to help select and define strategies to increase efficiency and effectiveness ([Barney, 2010](#)).

In order to have diverse and heterogeneous resources, companies must acquire and develop intangible resources and capabilities. The intellectual capital perspective helps in describing the added value generated by intangible resources. [Williams \(2001\)](#) revealed that intellectual capital is information and knowledge that is applied in work to create value. Intellectual capital is the accumulation of the sum of all intangible assets that are important for small and medium enterprises and are used to create products and services that add value to an organization ([Khalique et al., 2018](#)).

Referring to the resource-based theory opinions of [Barney \(1991\)](#); [Barney \(2010\)](#) and [Ireland et al. \(2003\)](#), batik SMEs in East Java can improve their business performance through the management of human resources and intellectual capital with a human capital approach that represents the combined result of the knowledge possessed by batik SME owners. Performance can also be enhanced through marketing as indicated by increased sales and an increase in the number of customers.

The relationship between the entrepreneurial orientation approach and the courage to take risks improves the performance of MSMEs. This means that the owners of batik SMEs who have an entrepreneurial orientation are brave in utilizing their resources to run their business, even though there is no certainty that it will be successful.

Innovation with marketing as a mediator of the relationship between intellectual capital and entrepreneurial orientation to improve the performance of batik SMEs in East Java in the view of RBT is a potential strategy to improve MSME performance by developing intangible assets which is carried out through human resource capabilities in carrying out marketing innovations which are implemented by providing new product choices that suit consumer needs through online media and expanding marketing reach through online media (facebook, whatsapp and Instagram). Disclosure of intangible assets through the ability of human resources to innovate. [Forsman and Rantanen \(2011\)](#) explained that innovation is a continuous improvement of a company's capabilities and resources to explore and exploit innovation opportunities.

The innovation ability of batik SME owners in East Java is an intangible asset because they can manage human resources through intellectual capital with a human capital approach, which ultimately improves MSME performance through marketing in the framework of resource-based theory.

8. CONCLUSION

Intellectual capital and entrepreneurial orientation influence the performance of MSMEs, and the innovation ability of batik MSME owners in East Java can mediate the relationship between intellectual capital and entrepreneurial orientation. The study's findings can improve the body of knowledge and references pertaining to the resource-based theory, which can then be applied by MSMEs that want to perform well by owning, mastering, and utilizing intangible assets.

For owners of batik SMEs in East Java, it is necessary to increase intellectual capital related to social capital by cooperating with other batik entrepreneurs and setting aside a small portion of the profits for the benefit of residents. The owners of batik SMEs in East Java are more proactive in seeking opportunities and marketing new products in new markets. In addition, these SME owners in East Java need to increase product innovation by creating products with different motifs and matching color combinations. In the current era of globalization, every business will face complexity, change, and increasingly fierce business competition, so MSMEs must be able to adapt to environmental changes so that future researchers can conduct business and environmental studies to improve the performance of MSMEs.

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APPENDICES

Appendix 1. Population and research sample.

No.	County/City	Total population	Number of samples
1	Banyuwangi Regency	17	11
2	Jember	10	7
3	Probolinggo City	15	10
4	Pasuruan City	12	8
5	Mojokerto City	13	8
6	Sidoarjo Regency	15	10
7	Regency Paketan	28	18
8	City of Surabaya	21	14
9	Malang City	22	14
10	Blitar City	18	11
11	Tulungagung Regency	17	11
12	Kediri City	14	9
13	Madiun City	14	9
Total		216	140

Appendix 2 contains a list of statements related to intellectual capital, entrepreneurial orientation, innovation ability and MSME performance.

Appendix 2. Questionnaire.

Variable	Indicator	Questions	Source
Intellectual capital	Human capital	Have knowledge and creativity in designing new batik motifs	Bontis et al. (2000); Boekestein (2006); Choudhury (2010); Hashim et al. (2015); Khalique et al. (2018) and Nassir et al. (2018)
	Customer capital	Realizing consumer desires through attractive batik motifs, and achieving customer satisfaction with batik products is one of the main goals	
	Technology capital	Leveraging technology to collaborate with business partners and communicate with customers	
	Technology capital	Collaborating with other batik entrepreneurs to set aside a small portion of the profits for the benefit of local residents	
Entrepreneurship orientation	Risk taking	Business owners are willing to experiment with new motifs and accept the risk of failure	Frishammar and Åke (2007); Lee and Tsang (2001) and Fairoz et al. (2010)
	Proactive	Always looking for market opportunities for business progress and marketing new products into new markets	
	Confidence	Can overcome difficulties through their ability to solve problems on their own without waiting for help from others	
	Openness	Open to working with MSMEs or other business owners and open to receiving criticism from customers	
Innovation ability	Product innovation	Able to create products with different motifs and matching color combinations	Jiménez-Jiménez and Valle (2005); Lin et al. (2010); Baregheh et al. (2012) and Toma et al. (2014)
	Technological innovation	Utilizing technology in creating products with new motifs and can adapt ideas to create interesting new motifs through technology	
	Marketing innovation	Provides a choice of new products that suit consumer needs and expands marketing reach through online media (Facebook, WhatsApp and Instagram)	
MSME performance	Financial performance	Profit and working capital increased in the last three years	Hafeez et al. (2012); Chong (2008) and Shahbaz et al. (2014)
	Product performance	The number of products produced has increased in the last three years and product demand has increased in the last three years	
	Marketing performance	Sales growth has increased in the last three years and the number of customers has increased in the last three years	

Appendix 3. The results of the instrument testing on intellectual capital, entrepreneurial orientation, innovation ability and MSME performance.

Appendix 3. Results of the validity and reliability tests.

Variable	Items	Correlation		Coefficient	
		Count	Status	Alpha	Status
Intellectual capital	X1.1	0.848	Valid	0.863	Reliable
	X1.2	0.701			
	X1.3	0.727			
	X1.4	0.780			
	X1.5	0.410			
	X1.6	0.827			
	X1.7	0.702			
	X1.8	0.737			
Entrepreneurship orientation	X2.1	0.773	Valid	0.905	Reliable
	X2.2	0.768			
	X2.3	0.871			
	X2.4	0.766			
	X2.5	0.713			
	X2.6	0.816			
	X2.7	0.784			
	X2.8	0.793			
Innovation capability	Y1.1	0.785	Valid	0.917	Reliable
	Y1.2	0.882			
	Y1.3	0.854			
	Y1.4	0.902			
	Y1.5	0.833			
	Y1.6	0.825			
MSME performance	Y2.1	0.746	Valid	0.830	Reliable
	Y2.2	0.837			
	Y2.3	0.769			
	Y2.4	0.802			
	Y2.5	0.688			
	Y2.6	0.642			

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