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Competitive Advantage Based on Intangible Resources of East Java SMEs

Farika Nikmah[1]*, Erlangga Andi Sukma[2], Musthofa Hadi[3], Candra Wahyu Hidayat[4]
[1,2,3]Politeknik Negeri Malang, Indonesia
[4]Universitas PGRI Kanjuruhan Malang, Indonesia
Corresponding Author: Farika Nikmah farika.nikmah@polinema.ac.id

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A B S T R A C T
The primary objective of this study is to identify and analyze the impact of intangible resources on enhancing competitive advantage for SMEs in East Java. Data were obtained from a sample of 300 respondents, who were SME owners, using an online survey with a quantitative approach. This study employed a purposive sampling technique, selecting only individuals who met certain criteria. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to evaluate the collected data. The results indicate that the intangible resources mentioned in this study—innovation capital, human capital, and customer capital—influence the competitive advantage of SMEs in East Java. These findings provide valuable insights for SME owners in East Java regarding the importance of optimizing their intangible resources. Furthermore, this study expands theoretical understanding of the critical role of intangible resources in achieving competitive advantage amidst rapidly changing market dynamics and increasingly fierce competition.

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INTRODUCTION

Small and Medium Enterprises (SMEs) remain a compelling topic for study, particularly in developing countries like Indonesia. SMEs play a crucial role in supporting the national economy, particularly through their ability to absorb labor (Nikmah et al., 2020). This is because SMEs are generally informal and do not require a high level of education for their workforce. Furthermore, the majority of Indonesia's population works in the SME sector, making their presence highly strategic in supporting economic growth and equitable distribution of social welfare (Nikmah et al., 2024).

During the 1998 economic crisis, SMEs proved resilient due to their high level of flexibility in adapting to market conditions. However, the situation is different during the COVID-19 pandemic. Unlike previous economic crises, the COVID-19 pandemic has caused many SMEs to experience declines and even bankruptcy (Anfas & Hidayanti, 2022). This is due to restrictions on social activities and direct interactions, which are the primary methods of SME sales activities. Furthermore, most SMEs lack the ability to adopt digital or online sales systems, thus facing difficulties adapting to changing consumer consumption patterns during the pandemic.

In general, the challenges faced by most SMEs include limited human resource competency, limited capital and access to financing, and low technological proficiency (Nikmah et al., 2020). These conditions are increasingly evident during the COVID-19 pandemic, where technology is no longer merely an option but a necessity that businesses must adopt. Changes in consumer behavior, particularly shifting to digital platforms, require SMEs to adapt through the use of technology, particularly in online marketing and sales systems. Thus, SMEs are faced with the choice of transforming or risking declining performance or even business failure. This challenge persists not only during the pandemic but also for years to come, necessitating a sustainable adaptation strategy.

This study aims to examine the competitive advantages of SMEs stemming from intangible resources and their impact on competitive advantage. The intangible resources referred to in this study include innovation capital, human capital, and customer capital. These three aspects are considered to play a crucial role in enhancing SME competitiveness, particularly in the face of increasingly dynamic and competitive markets. Competitive advantage for SMEs does not always stem from substantial investment, but rather from the ability to emphasize their differentiation (Nikmah, Hasan, & Sidanti, 2025). However, in practice, SMEs often fail to recognize the potential intangible assets they possess to strengthen their competitive advantage strategies. Yet, these intangible resources offer significant potential to leverage their resources to achieve and maintain competitive advantage amidst increasingly intense competition.

Innovation capital is an effort undertaken by SMEs to respond to constantly changing market dynamics (Nikmah et al., 2025). Innovation is not always synonymous with high costs, but rather with the SME's ability to understand and meet consumer preferences, both in terms of products and services. Innovation capital reflects the organization's unique and explicit knowledge, which is

utilized to create competitive advantage through differentiation, efficiency, and the development of added value. In practice, innovation capital encompasses creativity, the use of technology, and the ability of human resources to innovate products, processes, and markets. For example, rising plastic prices due to global geopolitical dynamics can present an opportunity for SMEs to switch to environmentally friendly packaging. While previously plastic was the primary choice due to its practical nature, the current situation presents an opportunity for SMEs to adopt more sustainable solutions.

Human capital in SMEs reflects management characteristics that are generally based on familial principles. In many cases, the workforce involved comes from the immediate environment, such as family or the surrounding community, fostering a strong sense of belonging to the business. This is one of the strengths of SMEs, as it fosters strong internal support and minimizes the potential for conflict in business operations. Furthermore, the close relationship between owners and employees facilitates coordination and decision-making. Although some employees have limited formal knowledge, they generally possess strong practical skills and can develop optimally with proper guidance. Therefore, human capital is a crucial element in supporting operational effectiveness and strengthening SME competitiveness.

Customer capital in SMEs is an intangible resource focused on the quality of relationships, loyalty, networks, and the level of customer trust in the business. This capital is part of intellectual capital, which plays a crucial role in ensuring business sustainability, including through repeat purchases, word-of-mouth recommendations, and the development of a positive consumer reputation. In practice, SMEs generally interact more closely with customers, fostering sustainable relationships. This facilitates SMEs' retention of existing customers while simultaneously opening up opportunities to attract new ones. Therefore, customer capital is a strategic factor in strengthening competitive advantage and maintaining business sustainability.

LITERATURE REVIEW

The Relationship between Innovation Capital and Competitive Advantage of SMEs

In economic terms, innovation capital means introducing new goods or services that are not yet known to customers or unique qualities of a product, introducing new production methods, or opening new markets (Snyder et al., 2016). In other words, it is an effort that can increase the value and advantages of existing conditions. Innovation capital is the most important factor in SMEs to improve operational performance (Kuncoro & Suriani, 2018). Innovation capital provides a sustainable competitive advantage (Akman & Yilmaz, 2019). Innovation capital is crucial in competition (Casadesus-Masanell & Zhu, 2013). Innovation capital is a primary source of competitive advantage, especially today when businesses are increasingly knowledge-based (Suhaeni, 2018). If SMEs want to excel in competition, they must continuously innovate (Kuczmarski, 2003). Innovation capital empowers SMEs to face the challenges of market dynamics, providing uniqueness or differentiation that ultimately adds value to competitiveness. Several previous studies conducted by Nikmah et al. (2025);

Suhaeni, (2018), presented results that innovation capital has a significant influence on SME competitive advantage.

H1: Innovation capital has a positive and significant impact on the competitive advantage of SMEs.

The Relationship between Human Capital and the Competitive Advantage of SMEs

Human capital, encompassing knowledge, skills, and capabilities, is a key resource for creating sustainable competitive advantage. Therefore, the higher the level of human resource competency within an organization, the greater the potential for improved performance (Wael & Herawati, 2025). Conversely, low-quality human capital can be a barrier to achieving organizational goals. Several previous studies, such as those conducted by Alnachef & Alhajjar (2017); Zuliati & Mirah (2017), explain that human capital contributes significantly to increasing the competitive advantage of SMEs. Furthermore, their research findings demonstrate that human capital is a crucial aspect in determining SME success. Human capital is an intangible asset, where the abilities, creativity, innovation, and experience of all employees can support business sustainability. Therefore, human capital is considered a key asset in a business (Nuryani et al., 2018). Human capital is a subset of intellectual capital, where SMEs employ employees who prioritize mental abilities over physical abilities to address technological developments (Sima et al., 2020). As a form of intangible asset, human capital is expected to create economic value in the future by improving employee competency and organizational capabilities (Silva, Kovaleski, & Pagani, 2019).

H2: Human capital has a positive and significant impact on the competitive advantage of SMEs.

The Relationship between Customer Capital and the Competitive Advantage of SMEs

Customer capital grows based on trust, commitment, norms, and interactive relationships between businesses and communities (Fisher, 2019). Customer capital facilitates the exchange of knowledge, learning, and collaboration to find solutions to problems (Purnamawati et al., 2022). This capital enables SMEs to develop strong relationships with partners or customers, allowing organizations to learn from each other's experiences (Archer-Brown & Kietzmann, 2018). Customer capital reflects how SMEs implement continuous communication in serving external parties to add market value. Customer capital is characterized by market share, customer retention, and customer profitability (Kirmaci, 2012). Managed customer capital is expected to overcome the worst-case scenario because SMEs can better understand their customers. Customer capital can be defined as the ability to identify market needs and desires, thus fostering positive relationships with external parties such as the government, markets, suppliers, and customers (Mardiana & Hariyati, 2014). SMEs that utilize their customer capital effectively are characterized by a customer-centric approach, providing services and offering products that meet customer preferences. Previous research by Choudhury (2010) and Mardiana & Hariyati

(2014) found that customer capital provides significant advantages for SMEs in sustaining competitive advantage.

H3: Customer capital has a positive and significant impact on the competitive advantage of SMEs.

METHODOLOGY

This research uses a quantitative approach with an explanatory method. This aligns with the research objective of analyzing and explaining the causal relationships between variables: innovation capital, human capital, customer capital, and the competitive advantage of SMEs. A quantitative approach is considered capable of objectively testing hypotheses through statistical analysis of numerical data collected from respondents (Siroj et al., 2024).

Data were obtained using a structured questionnaire-based survey distributed online. A population is a group or collection of objects from which research results will be generalized (Ngatno, 2015). The population in this study was SMEs domiciled in East Java, as recorded in the database of the East Java Provincial Cooperatives and SMEs Office. As of October 2025, there were 1,346 SMEs registered with the East Java Provincial Cooperatives and SMEs Office. Therefore, this number was designated as the study population. The following is a breakdown of the study population based on the division of work areas known as Regional Coordinating Bodies (RCB).

The population size serves as the basis for determining the sample. A sample is a portion of the population and its characteristics (Ngatno, 2015). This study used a probability sampling technique, meaning everyone has a chance of being selected as a sample. Furthermore, using the calculator.net formula, the sample size was determined to be 300 respondents.

The data analysis in this study used several statistical tests. Inferential statistical analysis was used to test hypotheses and generate a fit model. The data analysis method used the Structural Equation Model (SEM) with a Variance-Based SEM approach, better known as Partial Least Squares (PLS). Model evaluation in PLS analysis is carried out in two ways: the measurement model (outer model) and the structural model (inner model).

RESEARCH RESULT

In this study, using several references, the results of previous studies for indicators and items of each variable of innovation capital (IC), human capital (HC), customer capital (CC) and competitive advantage of SMEs (CA). Testing begins with an outer model analysis. This test is conducted to verify that the indicators used accurately and consistently represent the latent variables. Evaluation of the measurement model in SEM-PLS includes testing for internal consistency reliability, convergent validity, and discriminant validity (Sofyani, 2025).

Table 1. Convergent Validity Testing

	MI	MM	MP	KB
IC1	0.839			
IC2	0.874			
IC3	0.846			
IC4	0.871			
HC1		0.855		
HC2		0.854		
HC3		0.872		
HC4		0.875		
CC1			0.89	
CC2			0.868	
CC3			0.861	
CC4			0.828	
CC5			0.861	
CC6			0.796	
CA1				0.905
CA2				0.865
CA3				0.875

Convergent validity reflects the degree of interrelationship between indicators within a construct to ensure that the instrument measures similar conceptual dimensions. In practice, this test is measured through the outer loading parameter and the Average Variance Extracted (AVE) value. The outer loading value indicates the strength of the relationship between each indicator and the latent construct being measured. An outer loading value ≥ 0.708 is considered ideal, while values between 0.40 and 0.70 can still be maintained as long as they do not reduce the composite reliability value (Sofyani, 2025). Validity testing can also be seen from the AVE value, and in this study all AVE values were above 0.50.

Table 2. Average Variance Extracted Testing

	Average Variance Extracted (AVE)
Innovation capital	0.736
Human capital	0.747
Customer capital	0.725
Competitive advantage	0.778

The test results showed that all indicators in the constructs of innovation capital, human capital, customer capital, and competitive advantage had outer loading values above 0.70 (range 0.796–0.905), thus meeting the convergent validity criteria by robustly representing the latent constructs. Furthermore, all AVE values were above 0.50 (IC = 0.736; HC = 0.747; CC = 0.725; CA = 0.778), indicating that each construct explained more than 50% of the variance in its indicators. Therefore, the measurement model in this study was deemed convergently valid and suitable for further testing of the structural model. To further strengthen the validity results, discriminant validity testing was

conducted. Discriminant validity refers to the extent to which constructs are empirically distinct from one another (Hamid, Sami, & Sidek, 2017). In this study, the discriminant validity test uses the Heterotrait-Monotrait Ratio (HTMT) criteria, that the ratio value between constructs must be below the limit of 0.90.

Table 3. Discriminant Validity Testing with HTMT Values

	IC	HC	CC	CA
Innovation capital				
Human capital	0.275			
Customer capital	0.242	0.187		
Competitive advantage	0.691	0.541	0.559	

Based on the results of the discriminant validity test using the HTMT value, all ratios between constructs were below the 0.90 threshold. The highest HTMT value was found in the relationship between innovation capital and competitive advantage at 0.691, followed by customer capital and competitive advantage at 0.559, human capital and competitive advantage at 0.541, innovation capital and human capital at 0.275, innovation capital and customer capital at 0.242, and human capital and customer capital at 0.187. Because all values were well below the 0.90 threshold, it can be concluded that each construct has clear distinctions and there is no overlap between latent variables. Therefore, the measurement model in this study meets the criteria for discriminant validity.

In the outer model analysis, after the validity test, a reliability test was conducted. Reliability testing is intended to demonstrate the extent to which indicators within a construct are able to consistently measure the latent variable. In this study, reliability was tested using Cronbach's Alpha and Composite Reliability (CR). Cronbach's Alpha assesses consistency based on the correlation between indicators, while Composite Reliability is considered more appropriate in SEM-PLS because it considers the contribution of each indicator through the outer loading value. A construct is declared reliable if the Cronbach's Alpha and Composite Reliability values are ≥ 0.70, while values of 0.60–0.70 are still acceptable in explanatory research.

Table 4. Reliability Testing

	Cronbach's Alpha	Composite Reliability
Innovation capital	0.88	0.918
Human capital	0.887	0.922
Customer capital	0.924	0.94
Competitive advantage	0.857	0.913

Based on the reliability test results, all constructs demonstrated Cronbach's Alpha and Composite Reliability values above 0.70. The Innovation Capital construct had values of 0.88 and 0.918; Human Capital 0.887 and 0.922; Customer Capital 0.924 and 0.94; and Competitive Advantage 0.857 and 0.913. These results indicate that each variable has an excellent level of internal consistency. Therefore, it can be concluded that all constructs in this study have met the reliability criteria and are suitable for proceeding to the next stage of analysis.

After the validity and reliability tests are completed, the outer model test, or measurement model criteria, can be declared fulfilled. The next step is to analyze the structural model (inner model). The main focus of this stage is to analyze the causal relationships between constructs and determine the significance of the previously formulated hypotheses. The structural model evaluation is conducted by assessing the model's feasibility, predictive ability, and the significance of the relationships between variables.

The first test of the inner model is the multicollinearity test. This test aims to verify the absence of excessive correlation between exogenous latent variables. Multicollinearity evaluation is performed using the Variance Inflation Factor (VIF) value. A VIF value exceeding 5 indicates potential multicollinearity issues that need to be addressed in the structural model (Shrestha, 2020). The following are the results of the multicollinearity test in this study:

Table 5. Multicollinearity Testing

	VIF
Innovation capital -> Competitive advantage	1.103
Human capital -> Competitive advantage	1.081
Customer capital -> Competitive advantage	1.066

Based on the results of the multicollinearity test, the VIF value for the Innovation Capital -> Competitive Advantage path was 1.103, Human Capital -> Competitive Advantage was 1.081, and Customer Capital -> Competitive Advantage was 1.066. All these values were below the threshold of 5, thus concluding that there was no multicollinearity problem among the independent variables in the structural model. Next, an effect size (f^2) test was conducted, where the relative influence of each exogenous latent variable on the endogenous variable was evaluated using the effect size (f^2) measure. The f^2 value is used to assess the contribution of an exogenous variable in increasing the R^2 value of the endogenous variable. F^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively (Shrestha, 2020). The following are the results of the effect size (f^2) test in this study:

Table 6. Effect Size Testing

	f-square
Innovation capital -> Competitive advantage	0.449
Human capital -> Competitive advantage	0.210
Customer capital -> Competitive advantage	0.279

Based on the effect size (f^2) test results, Innovation Capital's effect on Competitive Advantage was 0.449, indicating a large effect, making Innovation Capital the most dominant contributor to increasing the R^2 value for Competitive Advantage. Furthermore, Customer Capital's effect on Competitive Advantage was 0.279, categorized as a moderate effect, while Human Capital's effect on Competitive Advantage was 0.21, also categorized as a moderate effect. Therefore, it can be concluded that all exogenous variables contribute substantially to the endogenous variables, with the largest influence coming from Innovation Capital.

The next test, the coefficient of determination (R^2), indicates the proportion of variance in the endogenous latent variables that can be explained by the exogenous latent variables. R^2 values of 0.75, 0.50, and 0.25 indicate strong, moderate, and weak explanatory power of the model, respectively (Shrestha, 2020). The following are the results of the coefficient of determination test in this study:

Table 7. Testing the Coefficient of Determination

	R-square
Competitive advantage	0.59

Based on the results of the coefficient of determination test, the R^2 value for Competitive Advantage was 0.59. This indicates that 59% of the variance in Competitive Advantage can be explained by Innovation Capital, Human Capital, and Customer Capital in the analysis model, while the remaining 41% is influenced by other factors outside the study. Referring to the criteria proposed by Shrestha (2020), this value falls into the category of moderately strong model explanatory power. Therefore, the structural model in this study has fairly good explanatory power. The model's predictive relevance was assessed using the Q^2 value obtained through the blindfolding technique. The Q^2 value is used to represent the extent to which the model can accurately predict data. A model is considered to have good predictive relevance if the Q^2 value is greater than zero ($Q^2 > 0$). The following are the results of the Q-Square test in this study.

Table 8. Q2 Test (Predictive Relevance)

	SSO	SSE	Q^2 (=1-SSE/SSO)
Competitive advantage	495	272.326	0.45

Based on the results of the Q^2 test using the blindfolding technique, a Q^2 value of 0.45 was obtained for Competitive Advantage. Because this value is greater than zero, the model is considered to have good predictive relevance, meaning it is able to predict Competitive Advantage data fairly accurately. Furthermore, a value of 0.45 indicates a relatively strong level of predictive relevance, indicating that the structural model in this study not only has explanatory power (R^2) but also good predictive ability. After all tests were passed, the next step was hypothesis testing. Hypothesis testing in this study was conducted to determine whether there is a significant influence between variables in the structural model. Testing was conducted using the bootstrapping method in SEM-PLS to obtain path coefficients, t-statistics, and p-values. The decision-making criteria were based on a significance level (alpha) of 0.05 with a t-table value of 1.96. A hypothesis is accepted if the t-statistics value is >1.96 and the p-value is <0.05, indicating that the influence between the variables is statistically significant. The following are the results of hypothesis testing in this study.

Table 9. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Innovation capital -> Competitive advantage	0.45	0.451	0.052	8.640	0.000
Human capital -> Competitive advantage	0.305	0.306	0.053	5.742	0.000
Customer capital -> Competitive advantage	0.349	0.35	0.056	6.183	0.000

Based on the results of hypothesis testing with a significance level of 0.05 (t > 1.96), the following results were obtained: Innovation Capital → Competitive Advantage has a path coefficient of 0.45 with a t-statistic of 8.64 and a p-value of 0.000. Since t > 1.96 and p < 0.05, Innovation Capital has a positive and significant effect on Competitive Advantage. Human Capital → Competitive Advantage has a coefficient of 0.305 with a t-statistic of 5.742 and a p-value of 0.000. Since t > 1.96 and p < 0.05, Human Capital has a positive and significant effect on Competitive Advantage. Customer Capital → Competitive Advantage has a coefficient of 0.349 with a t-statistic of 6.183 and a p-value of 0.000. Since t > 1.96 and p < 0.05, Customer Capital has a positive and significant effect on Competitive Advantage.

DISCUSSION

Competitive advantage is proven to be supported by intangible resources, including innovation capital, human capital, and customer capital. Among the three intangible resources analyzed in this study, innovation capital exerts the strongest influence. These results support research by Nikmah et al. (2025); Suhaeni, (2018), which states that innovation capital is a crucial and mandatory factor for SME competitive advantage. Innovation is not sufficient just once; it must be carried out continuously to keep up with market dynamics (Kuczmarski, 2003). Innovation is crucial because good innovation is knowledge-based (Suhaeni, 2018), meaning it does not always require large financial capital.

The lack of knowledge, skills, and capabilities in human resources among SMEs makes human capital the least influential factor in competitive advantage. The results of this study provide evidence that currently, SMEs in East Java still lack competent human capital, presenting a challenge for the government and other relevant parties to improve SME quality. The results of this study support previous research conducted by Alnachef & Alhajjar (2017); Zuliati & Mirah (2017), which stated that human capital is crucial for SMEs to achieve competitive advantage. Meanwhile, customer capital contributes significantly to SME competitive advantage. Customers are key to SME development, and customers

should be a primary consideration for SMEs in achieving competitive advantage (Choudhury, 2010).

Amidst the dynamic ups and downs of SME development over time, the topic of SME resilience remains an interesting topic for continued research, particularly in the face of various internal and external challenges. The urgency of this research is that despite their limitations, SMEs also possess advantages that provide strategic value in sustaining their businesses. As previously explained, SMEs, which are generally informal businesses, possess a high degree of flexibility in their management. This flexibility allows them to be more adaptive to changing market conditions.

Competitive advantage in SMEs is a business's unique ability to produce products or services that have added value, both in terms of quality, efficiency, and benefits compared to competitors (Anfas & Hidayanti, 2022). This advantage can be achieved through various strategies, such as product differentiation, cost leadership, speed of market response, and focusing on specific market segments, such as niche markets (Nikmah et al., 2023). The strategies designed aim to create a sustainable competitive advantage in the long term. Thus, SMEs are not only able to survive amid market dynamics and competition but also have the opportunity to grow and expand market share (Rubio Andrés et al., 2024). The ability to formulate and implement competitive advantage strategies is a key factor for SMEs in maintaining business sustainability in an increasingly competitive business environment.

Intangible resources are often associated with the creation of competitive advantage (Navarro-Garcia et al., 2024). Ariwibowo & Indraprasta (2022) in their research, stated that intangible resources are increasingly seen as the main drivers of innovation and knowledge creation. In line with this, Sopandi (2017) found that almost all businesses emphasize that the power of innovation can be built through intangible resources. Therefore, investment in intangible resources is very important, especially for SMEs, in maintaining their competitive advantage. Furthermore, global trends show that investment in intangible resources continues to increase. Corrado, Hulten, & Sichel (2009) classify intangible resources into three main groups, namely: (1) computerized information, such as databases and software; (2) innovation properties, including research and development (R&D) both scientific and non-scientific; and (3) economic competence, which includes knowledge embedded in human capital and branding activities.

Furthermore, the government's strong focus on SME development is also a supporting factor, manifested through various assistance programs and policies designed to encourage the strengthening and capacity building of SMEs so they can "upgrade." With these characteristics, SMEs are able to quickly respond to dynamic and fluctuating market changes. SMEs also have the ability to adapt their strategies, products, and services more responsively to evolving consumer needs and preferences.

The novelty of this research is that SMEs have many intangible resources. If previous research conducted by Seo & Kim (2020) emphasized the intangible resources of SMEs, namely advertising and R&D, then research conducted by Le,

Nguyen, & Vo (2024) which stated that intangible resources are brand strength, networking capabilities and organizational knowledge, then in this study the intangible resources studied are innovation capital, human capital and customer capital, which are expected to complement the findings of previous research that discuss intangible resources in SMEs.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research findings, it can be concluded that innovation capital, human capital, and customer capital have a positive influence on the competitive advantage of SMEs. The coefficient of determination analysis yielded a 59% influence, while the remaining 41% is influenced by other factors not examined in this study, such as other intangible resources. This research indicates that intangible resources play a significant role in SMEs achieving competitive advantage. Therefore, the results of this study are expected to provide additional information and knowledge, thus benefiting SMEs in their efforts to achieve competitive advantage.

To enhance the competitive advantage of SMEs in East Java, SME owners need to focus more on identifying, utilizing, and evaluating their intangible resources. This will enable them to achieve uniqueness or, more importantly, serve as a differentiation strategy. For academics, the results of this study can serve as a source of knowledge or additional reference in studies on SME competitive advantage strategies, particularly for SMEs in East Java.

ADVANCED RESEARCH

Future advanced research should expand the model by integrating additional intangible resources—such as digital capability, organizational culture, and social capital—while also examining the moderating role of technological adoption and market dynamics. A longitudinal or mixed-method approach is recommended to capture the dynamic evolution of SME competitiveness over time and provide deeper insights into causal relationships. Furthermore, comparative studies across regions or countries could strengthen the generalizability of findings and identify context-specific strategies for enhancing sustainable competitive advantage among SMEs.

REFERENCES

A. Siroj, R., Afgani, W., Fatimah, Septaria, D., Zahira, G., & Salsabila. (2024). Metode Penelitian Kuantitatif Pendekatan Ilmiah untuk Analisis Data. *Jurnal Review Pendidikan dan Pengajaran, 7*(3), 11279-11288.

Adam, N., & Alarifi, G. (2021). Innovation practices for survival of small and medium enterprises (SMEs) in the COVID-19 times: the role of external support. *Journal of Innovation and Entrepreneurship*, 1-22.

Akman, G., & Yilmaz, C. (2019). *Innovative capability, innovation strategy and market orientation: An empirical analysis in Turkish software industry.* Singapura: Scientific Publishing .

Alnachef, T., & Alhajjar, A. (2017). Effect of Human Capital on Organizational Performance: A Literature Review. *Pressacademia, 4*(1), 34-38.

Anfas, & Hidayanti, I. (2022). Keunggulan Bersaing UMKM Berbasis Sumberdaya di Tengah Pandemi COVID-19. *Journal of Management and Bussines, 4*(1), 484-485.

Archer-Brown, C., & Kietzmann, J. (2018). Strategic knowledge management and enterprise social media. *Journal of Knowledge Management, 22*, 1288.

Ariwibowo, P., & Indraprasta. (2022). Korelasi Blueprint Sumber Daya Perusahaan dan Keunggulan Kompetitif terhadap Manifestasi UMKM dengan Intervensi Strategii Bisnis. *Jurnal Ekonomi Pendidikan dan Kewirausahaan, 10*(1), 31-48.

Casadesus-Masanell, R., & Zhu, F. (2013). Business model innovation and competitive imitation: The case of sponsor-based business models. *Strategic Management Journal, 3*, 464-482.

Choudhury, J. (2010). Performance Impact of Intellectual Capital: A Study of Indian IT Sector. *International Journal of Business and Management, 5*(9), 72-80.

Corrado, C., Hulten, C., & Sichel, D. (2009). Intangible Capital and U.S. Economic Growth. *Review of Income and Wealth, 55*(3), 661-685.

Fisher, G. (2019). Online communities and firm advantages. *Academy of Management Review, 44*, 279-298.

Hamid, M. R., Sami, W., & Sidek, M. H. (2017). Discriminant Validity Assessment: Use of Fornell & Larcker criterion versus HTMT Criterion. *IOP Conf. Series: Journal of Physics: Conf. Serie* (pp. 1-6). IOP Publishing.

Kirmaci, S. (2012). Customer relationship management and customer loyalty; a survey in the sector of banking. *International Journal of Business and Social Science, 3*, 1-10.

Kuczmarski, T. (2003). What is innovation? And why aren't companies doing more of it? *Journal of Consumer Marketing, 20*, 536-541.

Kuncoro, W., & Suriani, W. O. (2018). Achieving sustainable competitive advantage through product innovation and market driving. *Asia Pacific Management Review, 23*, 186-192.

Le, C., Nguyen, B., & Vo, V. (2024). Do intangible assets help SMEs in underdeveloped markets gain access to external finance?—the case of Vietnam. *Small Bus Econ, 62*, 833–855.

Mardiana, I. W., & Hariyati. (2014). Pengaruh Modal Manusia, Modal Struktural, dan Modal Pelanggan terhadap Kinerja Bisnis. *Jurnal Ilmu Manajemen, 2*(2), 623-635.

Navarro-Garcia, A., Ledesma-Chaves, P., Gil-Cardero, E., & De-Juan-Vigaray, M. D. (2024). Intangible resources, static and dynamic capabilities and perceived competitive advantage in exporting firms. *Technological Forecasting and Social Change, 198*, 1-18.

Ngatno. (2015). *Metodologi Penelitian Bisnis*. Semarang: Lembaga Pengembangan dan Penjaminan Mutu Pendidikan Universitas Diponegoro.

Nikmah, F., Hasan, H., & Sidanti, H. (2025). Keunggulan Bersaing melalui Orientasi Pasar, Kemampuan Jejaring, dan Inovasi pada Usaha Kecil dan Menengah (UKM) di Jawa Timur. *Jurnal Manajemen Bisnis dan Keuangan, 6*(2), 122-135.

Nikmah, F., Hasan, H., Rosdiana, W., & Marhaeni, N. P. (2024). Networking capability as a moderator of resourced based view, market orientation, information technology, and effectuation on SMEs internationalization. *Uncertain Supply Chain Management, 12*, 2337–2348.

Nikmah, F., Hasan, H., Sidanti, H., & Sukma, E. A. (2025). Innovation to Achieve the SDGs: Market Orientation, Supply Chain Management, Networking Capability in the Internationalization of Indonesian SMEs. *Journal of Life Style & SDG'S Review, 5*, 1-20.

Nikmah, F., Sudarmiatin, Wardoyo, C., Hermawan, A., & Soetjipto, B. E. (2020). The role of SMES' market orientation in developing countries: a general investigation in four countries. *Innovative Marketing, 16*(4), 1-12.

Nikmah, F., Sukma, E. A., Suwarni, E., & Hidayat, C. W. (2023). Effectuation Strategy and Niche Marketing For Competitive Advantage. *International Journal of Scientific Research and Management, 11*(5), 4903-4910.

Nuryani, Juli, N. N., Satrawan, D. P., Gorda, A. A., & Martini, L. K. (2018). Influence of Human Capital, Social Capital, Economic Capital towards Financial Performance & Corporate Social Responsibility. *International Journal of Social Sciences and Humanities, 27*, 67-76.

Purnamawati, I. G., Jie, F., Hong, P. C., & Yuniarta, G. A. (2022). Analysis of Maximization Strategy Intangible Assets through the Speed of Innovation on Knowledge-Driven Business Performance Improvement. *Economies, 10*(149), 1-20.

Rubio-Andrés, M., Linuesa-Langreo, J., Gutiérrez-Broncano, S., & Sastre-Castillo, M. Á. (2024). How to improve market performance through competitive strategy and innovation in entrepreneurial SMEs. *International Entrepreneurship and Management Journal, 20*, 1677–1706.

Seo, H. S., & Kim, Y. (2020). Intangible Assets Investment and Firms' Performance: Evidence from Small and Medium-Sized Enterproises in Korea. *Journal of Business Economics and Management, 21*(2), 421-445.

Shrestha, N. (2020). Detecting Multicollinearity in Regression Analysis. *American Journal of Applied Mathematics and Statistics, 8*(2), 39-42.

Silva, V. L., Kovaleski, J. L., & Pagani, R. N. (2019). echnology transfer and human capital in the industrial 4.0 scenario: A theoretical study. *Future Studies Research Journal: Trends and Strategies, 11*, 102-122.

Sima, V., Gheorghe, I. G., Subi´c, J., & Nancu, D. (2020). nfluences of the industry 4.0 revolution on the human capital development and consumer behavior: A systematic review. *Sustainability*, 4035.

Sira, E., Vavrek, R., Vozarova, I., & Kotulic, R. (2020). Knowledge Economy Indicators and Their Impact on the Sustainable Competitiveness of the EU Countries. *Sustainability, 12*, 1-22.

Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). dentifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research, 69*, 2401-2408.

Sofyani, H. (2025). Penggunaan Teknik Partial Least Square (PLS) dalam Riset Akuntansi Berbasis Survei. *Reviu Akuntansi dan Bisnis Indonesia, 9*(1), 80-94.

Sopandi, E. (2017). Analisis Keunikan Sumberdaya Dan Strategi Keunggulan Bersaing Produk Kreatif Bambu (Studi pada Saung Angklung Udjo Bandung Jawa Barat). *Journal of Management and Business Review, 14*(2), 176-205.

Suhaeni, T. (2018). Pengaruh Strategi Inovasi Terhadap Keunggulan Bersaing di Industri Kreatif (Studi Kasus UMKM Bidang Kerajinan Tangan di Kota Bandung). *Jurnal Riset Bisnis dan Investasi, 4*(1), 57-75.

Wael, Z. R., & Herawati. (2025). Pengaruh Human Capital, Keunggulan Bersaing,, dan Orientasi Kewirausahaan terhadap Kinerja Organisasi UMKM di Sumatra Barat. *Jurnal Eksplorasi Akuntansi, 7*(3), 1342-1357.

Zuliati, N., & Mirah, Z. (2017). Pengaruh Intellectual Capital terhadap kinerja UMKM. *Jurnal Akuntansi dan Keuangan, 6*(2), 181-200.