

Strategic Resources and MSME Performance: The Role of Sustainable Competitive Advantage

Fajar Rakasiwi Syamsuddin^{1*}, Samsuardi Said², Futri Ayu Wulandari³, Dian Rahmayanti Rivai⁴, Anfas⁵

^{1,5} Department of Management, Faculty of Economics, Universitas Terbuka, Majene, Indonesia

^{2,3} Department of Accounting, Faculty of Economics, Universitas Sulawesi Barat, Majene, Indonesia

⁴ Department of Management, Faculty of Economics, Universitas Sulawesi Barat, Majene, Indonesia

ABSTRACT

Purpose – This study examines the relationships between Human Capital Interaction (IHC), Endorsement Strategy (SE), and Social Media Capability (KMS) with MSME Performance (KU), while investigating Sustainable Competitive Advantage (KKB) as a resource-specific mediating mechanism and Innovation Capability (KI) as a potential boundary condition and direct capability associated with MSME Performance.

Design/methodology/approach – This study employed a quantitative cross-sectional design involving MSME owners and managers in Majene Regency, Indonesia. Data were collected from 243 responses, of which 44 were excluded based on eligibility criteria, resulting in a final sample of 199 respondents. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) and PLSpredict.

Finding/Results – The results indicate that Endorsement Strategy (SE) and Social Media Capability (KMS) are positively associated with Sustainable Competitive Advantage (KKB). Furthermore, SE, KKB, and Innovation Capability (KI) have positive direct associations with MSME Performance (KU). The mediation analysis shows that SE and KMS have significant indirect associations with KU through KKB, whereas IHC does not demonstrate a significant indirect pathway. Innovation Capability is directly associated with KU, but its moderating effects on the relationships between IHC, SE, KMS, and KU are not supported.

Originality/Value – This study contributes by demonstrating that Sustainable Competitive Advantage is not a universal mediating mechanism for all strategic resources. Instead, its role differs according to specific antecedents. The findings also highlight that Innovation Capability primarily functions as an independent capability associated with MSME Performance rather than as a moderating boundary condition in non-metropolitan MSME contexts.

ARTICLE INFO

Keywords:

Competitive Advantage;
Endorsement Strategy;
Human Capital
Interaction;
Innovation Capability;
MSME Performance;
Sustainable

Article Information:

Received: 12/06/2026

Revise: 20/08/2026

Accepted: 16/09/2026

ISSN:

2985-3168 (Online)

2985-3222 (Print)

*Corresponding Author at: rakasiwifajar@ecampus.ut.ac.id

Department of Management, Faculty of Economics, Universitas Terbuka, Jalan Sultan Hasanuddin No. 2, Majene, 91412, Indonesia.

E-mail address: rakasiwifajar@ecampus.ut.ac.id*

The work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International \(CC BY-SA 4.0\)](https://creativecommons.org/licenses/by-sa/4.0/)



1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) operate in increasingly dynamic environments characterized by changing consumer preferences, intensified competition, and rapid digital transformation. These conditions require MSMEs not only to possess strategic resources but also to effectively utilize and integrate them. The availability of resources alone does not guarantee superior outcomes because their value depends on how they are managed and deployed within specific competitive contexts (Barney, 1991; Sirmon et al., 2011). The Resource-Based View (RBV) suggests that firms achieve competitive advantages through valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). However, resource ownership alone is insufficient to explain how firms create value from those resources. Resource Orchestration Theory extends this perspective by emphasizing the importance of managerial capabilities in structuring, combining, and leveraging resources effectively (Sirmon et al., 2011). This perspective is particularly relevant for MSMEs in non-metropolitan regions, where limited resources and market constraints require effective resource utilization and orchestration.

Within this context, strategic resources may contribute to MSME performance through different mechanisms. Human Capital Interaction (IHC) reflects knowledge exchange and collaboration that support organizational learning and capability development (Subramaniam & Youndt, 2005). Endorsement Strategy (SE) represents a marketing practice that utilizes external credibility to enhance product visibility and consumer trust (Ohanian, 1990; Belanche et al., 2021). Meanwhile, Social Media Capability (KMS) reflects the ability to utilize digital platforms for customer engagement, market intelligence, and relationship development (Marolt et al., 2022).

Although previous studies have linked human capital, digital capabilities, and social media utilization with MSME performance, existing evidence suggests that strategic resources may not follow identical pathways toward performance outcomes (Qalati et al., 2021). Empirical studies that simultaneously examine internal capabilities, endorsement practices, and social media capabilities while positioning Sustainable Competitive Advantage (KKB) as a mediating mechanism remain limited. Therefore, this study addresses a resource-specific mediation gap by examining whether different strategic resources demonstrate distinct indirect associations with MSME performance through KKB.

This study focuses on MSMEs in Majene Regency, Indonesia, representing a non-metropolitan context where firms face resource limitations while adapting to digitalization and competitive pressures. This setting provides an opportunity to examine how different strategic resources and capabilities are associated with MSME performance under distinct contextual conditions.

Accordingly, this study examines the relationships of Human Capital Interaction, Endorsement Strategy, and Social Media Capability with MSME Performance, while investigating Sustainable Competitive Advantage as a resource-specific mediating mechanism and Innovation Capability as a potential moderating capability. By examining these relationships simultaneously, this study contributes to MSME strategic management literature by demonstrating that strategic resources may follow differentiated pathways rather than uniform mechanisms in explaining perceived business performance.

2. Literature Review and Hypothesis Development

2.1 Theoretical Foundation: Resource-Based View and Resource Orchestration

This study is grounded in the Resource-Based View (RBV), which posits that firm performance is fundamentally driven by internal strategic resources. For MSMEs, human capital, marketing practices, and digital capabilities represent critical internal assets required to navigate market competition. This foundation is further enriched by Resource Orchestration Theory, which asserts that resource ownership alone is insufficient; resources must be actively structured, bundled, and leveraged through managerial action to create economic value (Sirmon et al., 2011; Rodrigues et al., 2021; Andersén, 2021).

Based on these theoretical foundations, this study positions Human Capital Interaction (IHC), Endorsement Strategy (SE), and Social Media Capability (KMS) as antecedents whose direct and indirect relationships with MSME Performance (KU) are evaluated through Sustainable Competitive Advantage (KKB). Additionally, Innovation Capability (KI) is examined to determine whether it acts as a moderating condition or an independent direct capability influencing MSME Performance.

2.2 Human Capital Interaction and Sustainable Competitive Advantage

Human capital is an important internal resource for MSMEs' ability to create value, encompassing knowledge, skills, experience, and collaboration capabilities that enable organizations to respond to environmental change. In this study, Human Capital Interaction (IHC) is understood not merely as individual competence but as a capability emerging from interaction, knowledge exchange, and communication among organizational members. Human capital interaction may contribute to competitive advantage through knowledge exchange and organizational learning. Previous studies found that human capital is associated with MSME performance and competitive advantage (Hanifah & Innayah, 2024; Rokhman et al., 2023).

H1: Human Capital Interaction is positively associated with Sustainable Competitive Advantage.

2.3 Human Capital Interaction and MSME Performance

In addition to potentially being associated with competitive advantage, human capital may also be directly related to MSME performance. The knowledge and skills of MSME owners and members can support decision quality, work efficiency, and service quality; therefore, the relationship between human capital and performance does not necessarily have to be fully explained by competitive advantage. Empirical findings also support this relationship. Hanifah and Innayah (2024) found that human capital has a positive effect on MSME performance, while Rokhman et al. (2023) reported an association among human capital, competitive advantage, and MSME performance in the context of batik MSMEs.

H2: Human Capital Interaction is positively associated with MSME Performance.

2.4 Endorsement Strategy and Sustainable Competitive Advantage

Endorsement strategy is a marketing activity that uses individuals with credibility or influence to communicate information about products. For MSMEs, this strategy may increase product

visibility, consumer attention, communication credibility, and market access. However, endorsement effectiveness is not determined solely by endorser popularity. [Belanche et al. \(2021\)](#) showed that congruence among influencers, products, and consumers plays a role in forming more positive attitudes toward products and increasing purchase and recommendation intentions. From a Resource-Based View (RBV) perspective, these benefits can be associated with the formation of competitive advantage when endorsement strategy generates marketing value relevant to MSMEs, such as increased brand recognition, customer relationships, reputation, and product differentiation. Thus, endorsement strategy is not viewed merely as a means of increasing exposure, but also as an activity that may be associated with Sustainable Competitive Advantage (KKB).

H3: Endorsement Strategy is positively associated with Sustainable Competitive Advantage.

2.5 Endorsement Strategy and MSME Performance

Endorsement strategy also has a theoretical basis for a direct relationship with MSME Performance because appropriate endorsement can broaden communication reach and encourage consumer responses to products. [Belanche et al. \(2021\)](#) showed that congruence among influencers, products, and consumers is associated with more positive consumer attitudes as well as increased purchase and recommendation intentions. These findings indicate that the quality of fit in endorsement activities can contribute to consumer responses relevant to MSME marketing activities.

Evidence from the influencer-marketing context also highlights the importance of endorser characteristics, such as authenticity, credibility, and trustworthiness, in shaping consumer responses to promoted content. Thus, the effectiveness of Endorsement Strategy depends not only on the use of influencers but also on the quality and fit of the endorser with the product and target audience ([Lou & Yuan, 2019](#)).

H4: Endorsement Strategy is positively associated with MSME Performance.

2.6 Social Media Capability and Sustainable Competitive Advantage

Social Media Capability (KMS) reflects the ability of MSMEs to strategically use social media for customer communication, market information, and promotion. Previous studies indicate that social media capability is associated with business outcomes through customer relationships and competitive advantage ([Chatterjee & Kar, 2020](#); [Marolt et al., 2022](#)).

H5: Social Media Capability is positively associated with Sustainable Competitive Advantage.

2.7 Social Media Capability and MSME Performance

Social Media Capability (KMS) may be directly associated with MSME Performance because it enables firms to expand customer reach, obtain feedback, and support marketing activities relatively efficiently. Recent evidence from Indonesian MSMEs also indicates that social media usage is associated with MSME performance, with innovation capability potentially influencing the strength of this relationship ([Apidana & Rusvinasari, 2024](#)). [Chatterjee and Kar \(2020\)](#) showed that social media marketing adoption is associated with performance, sales, and customer connections among SMEs. However, social media use does not automatically

produce better performance because its benefits may depend on the ability of MSMEs to utilize information and customer relationships effectively.

H6: Social Media Capability is positively associated with MSME Performance.

2.8 Sustainable Competitive Advantage and MSME Performance

Sustainable Competitive Advantage (KKB) reflects the ability of MSMEs to maintain superior value relative to competitors through resources, capabilities, differentiation, and customer relationships that are relatively difficult to imitate. For MSMEs, KKB is important because resource constraints require the effective utilization of resources and capabilities that are valuable to the market. [Hanifah and Innayah \(2024\)](#) found that competitive advantage is positively associated with MSME performance, while [Susanti et al. \(2023\)](#) showed that competitive advantage mediates the relationship between digital transformation and innovation and the performance of women-owned MSMEs in Indonesia.

H7: Sustainable Competitive Advantage is positively associated with MSME Performance.

2.9 Innovation Capability and MSME Performance

Innovation capability is the ability of MSMEs to develop and implement new ideas, products, processes, or methods in response to changing customer needs, technological developments, and market competition. From a dynamic capabilities perspective, innovation capability is an important internal capability for MSMEs to adapt and maintain performance in a dynamic business environment. Empirically, [Isa et al. \(2024\)](#) showed that innovation capability helps explain SME performance in Indonesia. Therefore, this study examines the direct relationship between innovation capability and MSME performance to determine whether different levels of innovation capability are associated with differences in the performance perceived by business owners or managers.

H8: Innovation Capability is positively associated with MSME Performance.

2.10 Sustainable Competitive Advantage as a Mediator

Grounded in the Resource-Based View (RBV), strategic resources influence organizational performance through mechanisms that transform internal capabilities into competitive advantage. Competitive advantage therefore serves as an important mediating mechanism linking resources to MSME performance. Previous studies support this role, as [Hanifah and Innayah \(2024\)](#) found that competitive advantage mediates the relationship between human capital and MSME performance, while [Otache \(2024\)](#) identified a similar indirect pathway between innovation capability and firm performance.

Building on these findings, this study examines Sustainable Competitive Advantage (KKB) as a resource-specific mediator linking Human Capital Interaction (IHC), Endorsement Strategy (SE), and Social Media Capability (KMS) with MSME Performance. However, because these strategic resources represent different organizational mechanisms, their indirect effects through KKB may vary. Therefore, this study evaluates each mediation pathway separately to determine whether Sustainable Competitive Advantage functions as a resource-specific intervening mechanism.

H9a: Sustainable Competitive Advantage mediates the relationship between Human Capital Interaction and MSME Performance.

H9b: Sustainable Competitive Advantage mediates the relationship between Endorsement Strategy and MSME Performance.

H9c: Sustainable Competitive Advantage mediates the relationship between Social Media Capability and MSME Performance.

2.11 Innovation Capability as a Moderating Variable

Innovation Capability refers to the ability of MSMEs to generate, adopt, and implement new ideas, products, processes, or organizational approaches in response to technological and market changes (Rajapathirana & Hui, 2018). From the dynamic capability perspective, innovation capability enables firms to renew existing competencies and adapt resources to changing environments (Teece, 2007). Therefore, innovation capability may represent an important organizational capability associated with MSME performance. Recent evidence also emphasizes innovation capability as an important driver of business adaptation and performance (Tajeddini et al., 2020).

Beyond its direct relationship with performance, innovation capability may also operate as a potential boundary condition that influences how strategic resources contribute to business outcomes. Firms with stronger innovation capability may have greater ability to utilize knowledge resources, transform marketing activities, and exploit digital opportunities. Thus, innovation capability may theoretically influence the strength of relationships between Human Capital Interaction, Endorsement Strategy, Social Media Capability, and MSME Performance.

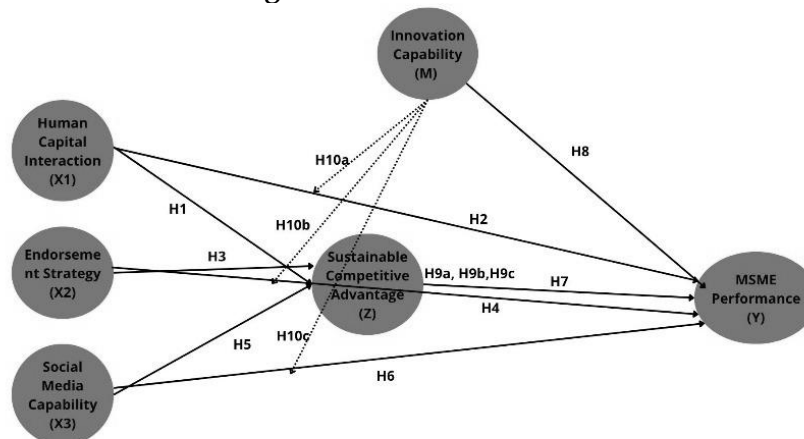
H10a: Innovation Capability moderates the relationship between Human Capital Interaction and MSME Performance.

H10b: Innovation Capability moderates the relationship between Endorsement Strategy and MSME Performance.

H10c: Innovation Capability moderates the relationship between Social Media Capability and MSME Performance.

Based on the hypothesis development, the research model is presented in Figure 1.

Figure 1. Research Model



3. Methodology

3.1 Research Design, Population, and Sample

This study employs a quantitative cross-sectional design. The target population comprises MSMEs operating in Majene Regency, with business owners or main managers serving as key informants due to their comprehensive knowledge of firm operations, marketing strategies, and performance. Purposive sampling was applied based on three explicit inclusion criteria: (1) active utilization of social media platforms for business purposes; (2) at least one year of experience utilizing endorsement strategies; and (3) employing a minimum of two staff members in addition to the business owner.

Data collection took place between from April to July 2026, yielding 243 completed questionnaires. Following rigorous data screening for eligibility and completeness, 44 responses were excluded, resulting in a final analytical sample of 199 respondents (N = 199). Sample size adequacy was evaluated using G*Power 3.1 for linear multiple regression ($f^2 = 0.15$, $\alpha = 0.05$, statistical power = 0.80, with 8 predictors), which indicated a minimum required sample size of 109. Thus, N = 199 provides adequate statistical power for PLS-SEM estimation.

3.2 Respondent Profile and Business Characteristics

To ensure full transparency and generalizability boundary definition, the demographic and operational characteristics of the sample (N = 199) are presented in Table 1.

Table 1. Profile of Respondents and Business Characteristics (N = 199)

Characteristic	Category	Frequency (n)	Percentage (%)
Business Sector	Culinary & Food Processing	82	41.2%
	Trade and Retail	68	34.2%
	Agribusiness & Agriculture	18	9.1%
	Handicraft & Fashion	16	8%
	Livestock & Animal Products	15	7.5%
Business Age	1 – 3 years	54	27.1%
	4 – 6 years	91	45.7%
	> 6 years	54	27.2%
Number of Employees	2 – 4 employees	132	66.3%
	5 – 10 employees	48	24.1%
	> 10 employees	19	9.6%

Source: Respondent characteristics data, 2026

3.3 Instruments and Measurement Operationalization

Data were collected using a structured questionnaire administered to MSME owners or principal managers as key informants. The study measured six reflective constructs: Human Capital Interaction (IHC), Endorsement Strategy (SE), Social Media Capability (KMS), Sustainable Competitive Advantage (KKB), MSME Performance (KU), and Innovation Capability (KI). Each construct was measured using five indicators adapted from established previous studies and contextualized to the MSME setting in Majene Regency, Indonesia. All

items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement instruments were adapted from prior validated scales. IHC indicators were adapted from [Subramaniam and Youndt \(2005\)](#), SE indicators from [Ohanian \(1990\)](#) and [Belanche et al. \(2021\)](#), KMS indicators from [Marolt et al. \(2022\)](#), KKB indicators from [Marolt et al. \(2022\)](#), KI indicators from [Rajapathirana and Hui \(2018\)](#) and [Isa et al. \(2024\)](#), and KU indicators from [Hanifah and Innayah \(2024\)](#) and [Otache \(2024\)](#). The complete measurement items, indicator codes, and sources are presented in Table 2.

Table 2. Measurement Instruments and Item Operationalization

Construct & Sources	Items	Operational Statement Focus	Measurement source
Human Capital Interaction (IHC)	IHC1	Employees regularly share business knowledge and experience with one another.	Adapted from Subramaniam & Youndt (2005)
	IHC2	Communication among business members flows openly to support daily operations.	
	IHC3	Employees collaborate actively to solve operational problems.	
	IHC4	Joint learning occurs when facing new business challenges.	
	IHC5	Knowledge exchange within the business enhances operational effectiveness.	
Endorsement Strategy (SE)	SE1	Selected endorsers/influencers possess strong credibility and reputation.	Adapted from Ohanian (1990) ; Belanche et al. (2021)
	SE2	The endorser's image is highly congruent with our product/brand.	
	SE3	Endorsers effectively reach our targeted consumer audience.	
	SE4	Promotional messages delivered by endorsers are clear and persuasive.	
	SE5	Endorsement activities are regularly evaluated to ensure marketing effectiveness.	
Social Media Capability (KMS)	KMS1	Our business actively interacts with customers through social media platforms.	Adapted from Marolt et al. (2022) ; Rodríguez Gutiérrez et al. (2023)
	KMS2	Customer inquiries and feedback on social media are addressed promptly.	
	KMS3	Social media content is managed and updated systematically.	
	KMS4	Information gathered from social media is utilized to improve customer service.	
	KMS5	Market trends and competitor actions are monitored continuously via social media.	
Innovation Capability (KI)	KI1	Our business regularly introduces new or improved products/services.	Adapted from Rajapathirana & Hui (2018) ; Isa et al. (2024)
	KI2	We continuously update work processes to enhance operational efficiency.	
	KI3	New ideas and methods are actively adopted in business operations.	
	KI4	Our business frequently experiments with novel marketing or operational approaches.	
	KI5	We quickly adapt our offerings to changes in market demand.	

Sustainable Competitive Advantage (KKB) Adapted from Marolt et al. (2022)	KKB1	Our products/services offer unique value distinct from local competitors.	Adapted from Marolt et al. (2022)
	KKB2	The business possesses distinct operational characteristics that set it apart.	
	KKB3	Our core business capabilities are difficult for competitors to copy easily.	
	KKB4	Customers consistently choose our business due to superior product/service quality.	
	KKB5	Our competitive position remains resilient despite market pressures.	
MSME Performance (KU) Adapted from Hanifah & Innayah (2024); Otache (2024)	KU1	Sales volume has shown consistent growth over the past year.	Adapted from Hanifah & Innayah (2024); Otache (2024)
	KU2	The number of active customers has increased steadily.	
	KU3	Business market reach and customer coverage have expanded.	
	KU4	Daily operational activities achieve high efficiency.	
	KU5	Overall business performance meets owner/manager targets.	

Source: Authors' data processing, 2026

The measurement items presented in Table 2 were used to operationalize the six constructs examined in this study. The measurement model was subsequently assessed to evaluate indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicators that did not meet the relevant measurement criteria were examined before the final structural model was evaluated. The results of the measurement model assessment are presented in the following section.

3.4 Data Collection and Research Ethics

Data were collected through a structured questionnaire distributed to MSME actors who met the study's sampling criteria. Respondents were asked to assess their business conditions based on their own experiences and perceptions. MSME Performance (KU) in this study represents perceived and self-reported performance rather than an objective performance measure obtained from financial statements or verified external sources. Accordingly, respondents' answers regarding MSME Performance reflect their perceptions of business performance based on the indicators used in the questionnaire.

At the beginning of the questionnaire, respondents received information about the research purpose, the voluntary nature of participation, their right to refuse or discontinue participation, and the confidentiality of the data provided. Respondents were then asked to provide consent before participating by selecting whether they agreed to become respondents. The questionnaire provided the options "Yes, I Agree" and "No, I Do Not Agree," accompanied by a statement that respondents had read and understood the research information and agreed to participate voluntarily without coercion.

3.5 Common Method Bias Control

To reduce potential common method bias (CMB) procedural controls were applied during data collection by ensuring confidentiality, clarifying research purpose, and separating

construct measurements. Statistical assessment was conducted using full-collinearity VIF (Podsakoff et al., 2012).

After data collection, potential common method bias was evaluated using full-collinearity assessment in the PLS-SEM analysis. This assessment was conducted because all research constructs were obtained through the same questionnaire and from the same respondents. Therefore, interpretation of relationships among constructs, including relationships with perceived/self-reported MSME Performance, considered the characteristics of the data source and the potential bias associated with using the same measurement method (Podsakoff et al., 2012). CMB was subsequently assessed statistically through full-collinearity assessment using VIF.

The results of the full-collinearity assessment for evaluating potential common method bias are presented in Table 3.

Table 3. Full-Collinearity Assessment for Common Method Bias

Construct	VIF
IHC	1.235
KI	1.035
KKB	1.080
KMS	1.228
KU	1.120
SE	1.024

Source: SmartPLS data processing results, 2026

The full-collinearity assessment produced VIF values of 1.235 for IHC, 1.035 for KI, 1.080 for KKB, 1.228 for KMS, 1.120 for KU, and 1.024 for SE. All values were below the threshold of 3.3 used in the full-collinearity assessment approach. These results do not indicate critical general collinearity as a concern for common method bias in the research data (Kock, 2015).

3.6 Data Analysis Technique

Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS. The measurement model was evaluated through convergent validity, reliability, and discriminant validity, while the structural model was assessed using path coefficients, R^2 , f^2 , bootstrapping, mediation, moderation, and predictive assessment. The structural model (inner model) was then evaluated by examining inner VIF, the coefficient of determination (R^2), and effect size (f^2). Direct relationships were tested based on path coefficients (β), standard error, t-statistic, p-value, and 95% bootstrap confidence intervals. The tests used a 5% significance level.

Indirect effects were tested through specific indirect effects to evaluate the pathways IHC → KKB → KU, SE → KKB → KU, and KMS → KKB → KU. Interpretation of indirect effects considered the path coefficient and bootstrap confidence interval, while mediation patterns were interpreted with reference to the framework of Zhao et al. (2010). Thus, the mediation analysis was directed at determining whether the relationship between each predictor and KU included an indirect pathway through KKB. Moderation effects were tested using the two-stage approach in SmartPLS 4. Innovation Capability (KI) was specified as a moderator of IHC

→ KU, SE → KU, and KMS → KU. Moderation significance was evaluated using the interaction coefficient (β), standard error (STDEV), t-statistic, p-value, and 95% bootstrap confidence interval. Thus, the moderation effects in this study represent direct interaction effects on KU and do not constitute moderated mediation.

The final stage involved predictive assessment using Predictive Relevance (Q^2) and PLSpredict. Q^2 was used to assess predictive relevance, while PLSpredict was used to evaluate out-of-sample predictive capability through Q^2 predict, RMSE, and MAE, following [Shmueli et al. \(2019\)](#). Conceptually, the structural model can be expressed as:

$$KKB = \beta_1 IHC + \beta_2 SE + \beta_3 KMS + \epsilon_1$$

$$KU = \beta_4 IHC + \beta_5 SE + \beta_6 KMS + \beta_7 KKB + \beta_8 KI + \beta_9 (IHC \times KI) + \beta_{10} (SE \times KI) + \beta_{11} (KMS \times KI) + \epsilon_2$$

$$IE_{IHC} = \beta_1 \beta_7$$

$$IE_{SE} = \beta_2 \beta_7$$

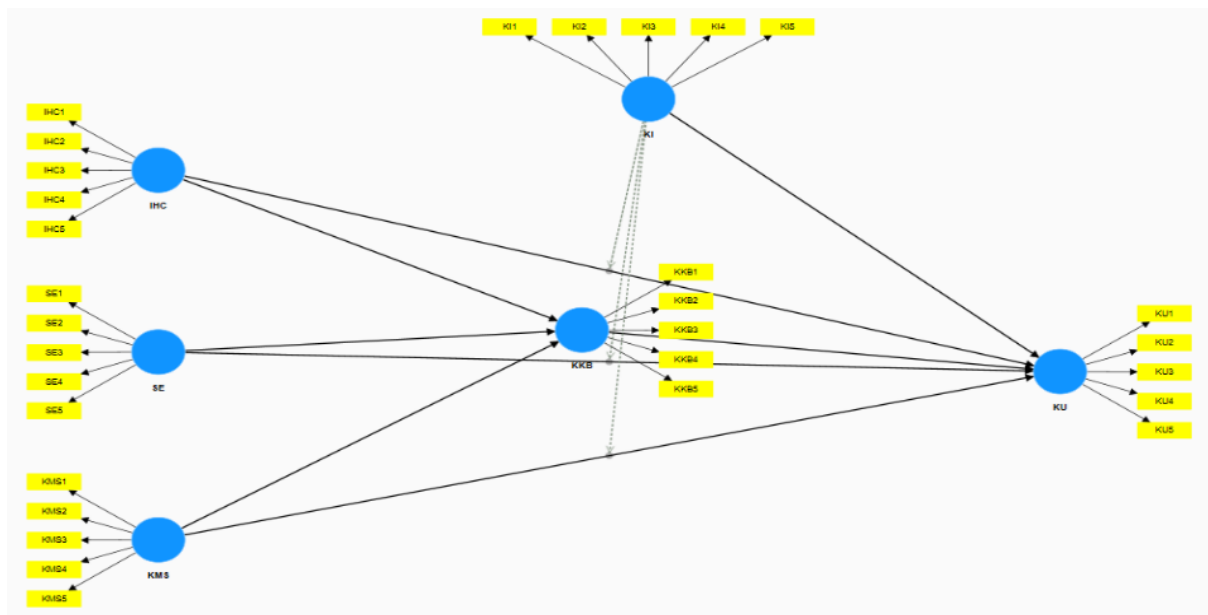
$$IE_{KMS} = \beta_3 \beta_7$$

4. Result and Discussion

4.1 Measurement Model Evaluation (Outer Model)

The measurement model and the relationships among latent constructs are visualized in Figure 2.

Figure 2. PLS-SEM Measurement Model



The measurement model in this study is reflective. Evaluation was conducted in three stages: first, convergent validity was assessed using outer loadings and average variance extracted (AVE); second, construct reliability was evaluated using Cronbach's Alpha and Composite Reliability; and third, discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT).

4.1.1 Convergent Validity

Table 4. Convergent Validity Test Results

Variable	Measurement item	Outer Loading	AVE
Human Capital Interaction	IHC1	0.796	0.652
	IHC2	0.798	
	IHC3	0.864	
	IHC4	0.802	
	IHC5	0.774	
Endorsement Strategy	SE1	0.820	0.654
	SE2	0.917	
	SE3	0.805	
	SE4	0.774	
	SE5	0.712	
Social Media Capability	KMS1	0.825	0.760
	KMS2	0.822	
	KMS3	0.891	
	KMS4	0.898	
	KMS5	0.920	
Innovation Capability	KI1	0.848	0.740
	KI2	0.864	
	KI3	0.848	
	KI4	0.846	
	KI5	0.894	
Sustainable Competitive Advantage	KKB1	0.640	0.701
	KKB2	0.823	
	KKB3	0.904	
	KKB4	0.939	
	KKB5	0.849	
MSME Performance	KU1	0.886	0.792
	KU2	0.894	
	KU3	0.897	
	KU4	0.881	
	KU5	0.893	

Source: SmartPLS data processing results, 2026

Based on Table 4, all constructs were measured as reflective latent variables with five indicators. Most indicators showed outer loadings above 0.70, except KKB1 (0.640). However, KKB1 was retained because the construct-level assessment remained adequate, with KKB achieving an AVE of 0.701, exceeding the 0.50 threshold. Therefore, convergent validity was supported, and KKB1 was maintained due to its theoretical relevance to the Sustainable Competitive Advantage construct.

4.1.2 Reliability Evaluation

The reliability assessment results for all constructs are presented in Table 5.

Table 5. Reliability Test Results

Variable	Cronbach's alpha	Composite reliability (rho_c)	Conclusion
IHC	0.866	0.903	Reliable
SE	0.866	0.904	Reliable
KMS	0.921	0.941	Reliable
KKB	0.891	0.920	Reliable
KU	0.934	0.950	Reliable
KI	0.912	0.934	Reliable

Source: SmartPLS data processing results, 2026

The reliability evaluation shows that all research constructs meet the reliability criteria. Cronbach's Alpha values range from 0.866 to 0.934, while Composite Reliability (rho_C) ranges from 0.903 to 0.950, all above the minimum threshold of 0.70. These results indicate that the indicators for IHC, KI, KKB, KMS, KU, and SE have good internal consistency, so the measurement model meets reliability criteria and can proceed to structural-model evaluation and hypothesis testing.

4.1.3 Discriminant Validity

Table 6. Cross-Loading Results

	IHC	KI	KKB	KMS	KU	SE
IHC1	0.796	0.215	0.499	0.562	0.412	0.462
IHC2	0.798	0.279	0.452	0.565	0.462	0.473
IHC3	0.864	0.353	0.610	0.709	0.476	0.512
IHC4	0.802	0.256	0.531	0.653	0.416	0.545
IHC5	0.774	0.313	0.543	0.550	0.440	0.619
KI1	0.340	0.848	0.428	0.383	0.475	0.340
KI2	0.315	0.864	0.443	0.370	0.468	0.407
KI3	0.240	0.848	0.401	0.360	0.420	0.300
KI4	0.284	0.846	0.459	0.405	0.545	0.407
KI5	0.335	0.894	0.516	0.460	0.524	0.432
KKB1	0.381	0.138	0.640	0.417	0.331	0.352
KKB2	0.540	0.410	0.823	0.626	0.505	0.535
KKB3	0.613	0.529	0.904	0.755	0.635	0.623
KKB4	0.638	0.493	0.939	0.793	0.617	0.716
KKB5	0.535	0.529	0.849	0.667	0.533	0.607
KMS1	0.636	0.350	0.631	0.825	0.481	0.675
KMS2	0.590	0.377	0.626	0.822	0.494	0.657
KMS3	0.662	0.402	0.717	0.891	0.535	0.629
KMS4	0.674	0.393	0.691	0.898	0.537	0.646
KMS5	0.725	0.483	0.790	0.920	0.579	0.734
KU1	0.488	0.477	0.575	0.539	0.886	0.533

KU2	0.453	0.512	0.596	0.531	0.894	0.492
KU3	0.458	0.591	0.530	0.494	0.897	0.513
KU4	0.548	0.452	0.563	0.579	0.881	0.612
KU5	0.488	0.502	0.589	0.544	0.893	0.520
SE1	0.604	0.370	0.609	0.626	0.519	0.820
SE2	0.612	0.415	0.678	0.708	0.592	0.917
SE3	0.537	0.350	0.559	0.693	0.488	0.805
SE4	0.400	0.360	0.471	0.511	0.392	0.774
SE5	0.421	0.279	0.440	0.530	0.398	0.712

Source: SmartPLS data processing results, 2026

Based on Table 6, each indicator has its highest loading on the construct it is intended to measure compared with its loadings on other constructs. Although one indicator has a loading below 0.70, namely KKB1 at 0.640, it still has the highest loading on its respective construct. Thus, the cross-loading pattern indicates that the indicators more strongly represent their intended constructs than other constructs, providing support for discriminant validity. These results are further confirmed by the Fornell–Larcker and HTMT assessments.

Table 7. Fornell–Larcker Results

	IHC	KI	KKB	KMS	KU	SE
IHC	0.807					
KI	0.354	0.860				
KKB	0.656	0.525	0.837			
KMS	0.756	0.463	0.796	0.872		
KU	0.547	0.569	0.641	0.604	0.890	
SE	0.648	0.442	0.693	0.766	0.600	0.808

Source: SmartPLS data processing results, 2026

Based on Table 7, the square roots of AVE on the diagonal for IHC (0.807), KI (0.860), KKB (0.837), KMS (0.872), KU (0.890), and SE (0.808) are higher than the correlations of each construct with the other constructs. The highest interconstruct correlations are between IHC and KMS at 0.756 and between KMS and SE at 0.766, but these remain lower than the corresponding square roots of AVE. Therefore, the Fornell–Larcker criterion is satisfied, supporting discriminant validity because each construct demonstrates adequate empirical distinctiveness from the others (Fornell & Larcker, 1981).

Table 8. HTMT Results

Path Relationship	Original sample (O)	Sample mean (M)	2.5%	97.5%
KI <-> IHC	0.393	0.397	0.202	0.589
KKB <-> IHC	0.735	0.735	0.589	0.848
KKB <-> KI	0.555	0.560	0.377	0.740
KMS <-> IHC	0.842	0.842	0.708	0.948
KMS <-> KI	0.499	0.502	0.321	0.669
KMS <-> KKB	0.859	0.858	0.766	0.929
KU <-> IHC	0.608	0.609	0.449	0.749

KU <-> KI	0.612	0.610	0.434	0.769
KU <-> KKB	0.689	0.691	0.541	0.823
KU <-> KMS	0.650	0.650	0.516	0.770
SE <-> IHC	0.736	0.737	0.615	0.842
SE <-> KI	0.490	0.491	0.325	0.648
SE <-> KKB	0.762	0.762	0.633	0.869
SE <-> KMS	0.853	0.853	0.764	0.923
SE <-> KU	0.658	0.657	0.528	0.769

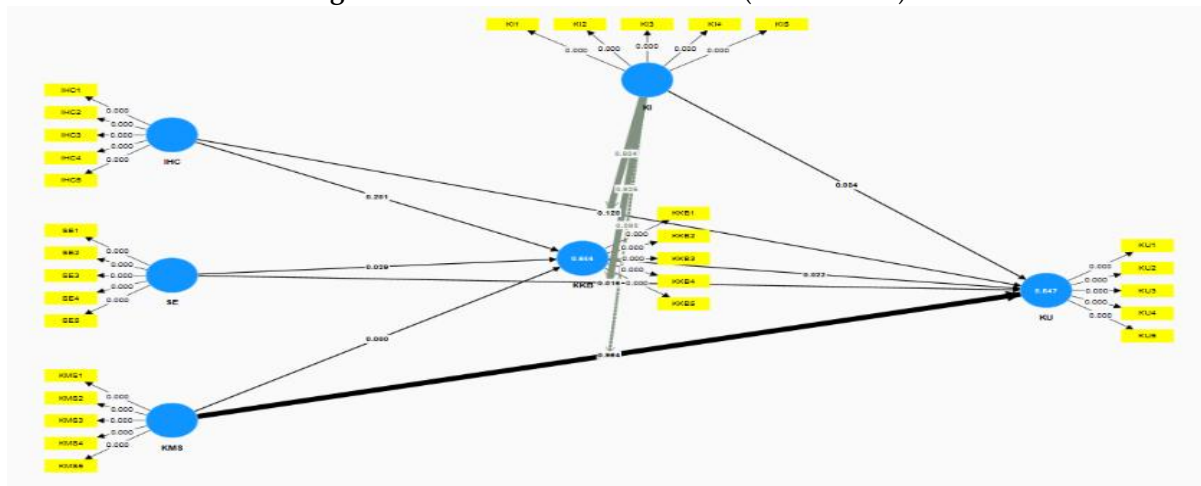
Source: SmartPLS data processing results, 2026

Based on Table 8, HTMT values among constructs range from 0.393 to 0.859. The highest value occurs for the KMS–KKB pair at 0.859, which remains below the 0.90 threshold. In addition, the upper bounds of the 95% bootstrap confidence intervals for all construct pairs are below 1.00, with the highest value of 0.948 for the KMS–IHC pair. Thus, the HTMT results and bootstrap confidence intervals support discriminant validity. These findings indicate that IHC, KI, KKB, KMS, KU, and SE have adequate empirical distinctiveness within the research model (Henseler et al., 2015).

4.2 Structural Model Evaluation (Inner Model)

The structural model illustrating the hypothesized relationships among constructs is presented in Figure 3.

Figure 3. PLS-SEM Structural Model (Inner Model)



4.2.1 Collinearity Test

The inner model collinearity assessment results based on VIF values are presented in Table 9.

Table 9. Collinearity Test (VIF)

Path Relationship	VIF
IHC -> KKB	2.395
IHC -> KU	3.021
SE -> KKB	2.489
SE -> KU	2.676
KMS -> KKB	3.367

KMS → KU	4.727
KKB → KU	3.187
KI → KU	1.827
IHC × KI → KU	2,871
SE × KI → KU	5,383
KMS × KI → KU	6,995

Source: SmartPLS data processing results, 2026

The inner VIF results show that the main predictor VIF values range from 1.827 to 4.727. The VIF values for the interaction construct IHC × KI, SE × KI, and KMS × KI are 2.871, 5.383, and 6.995, respectively. Thus, some main predictors are below the threshold of 5, whereas two interaction constructs show relatively higher VIF values. This finding should be considered when interpreting the moderation model; however, moderation effects remain evaluated based on the interaction coefficient, standard error, t-statistic, p-value, and bootstrap confidence interval.

4.2.2 Coefficient of Determination (R^2)

Table 10. R-Square Results

Endogenous Construct	R-square	Adjusted R-square
KKB	0.654	0.653
KU	0.547	0.542

Source: SmartPLS data processing results, 2026

Based on the R-square results in Table 10, the research model explains 65.4% of the variance in Sustainable Competitive Advantage (KKB), while the remaining 34.6% is explained by factors outside the model. For MSME Performance (KU), the model explains 54.7% of the variance, while the remaining 45.3% is attributable to factors not included in the study. The adjusted R^2 values of 0.653 for KKB and 0.542 for KU indicate that the explanatory power of the model remains relatively stable after accounting for the number of predictors. These R^2 values represent the model's in-sample explanatory power, not the percentage of causal influence of each variable.

4.2.3 Effect Size (f^2)

The effect size assessment of the structural model relationships is presented in Table 11.

Table 11. Effect Size (f^2)

Path	f^2	Description
IHC → KKB	0,012	Negligible
IHC → KU	0,017	Negligible
SE → KKB	0,040	Small
SE → KU	0,033	Small
KMS → KKB	0,289	Medium
KMS → KU	0	Negligible
KKB → KU	0,049	Small
KI → KU	0,057	Small

Source: SmartPLS data processing results, 2026

Based on the effect-size (f^2) results, the contribution of each predictor construct to the endogenous constructs differs. KMS $\rightarrow$ KKB has the largest effect size at 0.289, indicating a medium effect, whereas SE $\rightarrow$ KKB (0.040), SE $\rightarrow$ KU (0.033), KKB $\rightarrow$ KU (0.049), and KI $\rightarrow$ KU (0.057) indicate small effects. IHC $\rightarrow$ KKB (0.012) and IHC $\rightarrow$ KU (0.017) indicate very small effects, while KMS $\rightarrow$ KU has an f^2 value of 0.000. Thus, f^2 provides additional evidence regarding the substantive meaning of relationships in the model, while hypothesis decisions remain based on path coefficients, statistical significance, and bootstrap confidence intervals.

4.2.4 Direct Effect Testing

The results of the direct-effect hypothesis testing are presented in Table 12.

Table 12. Direct-Effect Hypothesis Test Results

Code	Direct Effect	β	Standard Error (STDEV)	T- statistics	p-value	Confidence Intervals		Result
						2,5%	97,5%	
H1	IHC $\rightarrow$ KKB	0,098	0,077	1,278	0,201	-0,026	0,274	Not supported
H2	IHC $\rightarrow$ KU	0,180	0,100	1,799	0,072	-0,012	0,379	Not supported
H3	SE $\rightarrow$ KKB	0,185	0,085	2,184	0,029	0,033	0,364	Supported
H4	SE $\rightarrow$ KU	0,248	0,081	3,074	0,002	0,067	0,388	Supported
H5	KMS $\rightarrow$ KKB	0,580	0,105	5,531	<0,001	0,342	0,748	Supported
H6	KMS $\rightarrow$ KU	0,150	0,101	1,477	0,140	-0,029	0,367	Not supported
H7	KKB $\rightarrow$ KU	0,267	0,117	2,290	0,022	0,055	0,506	Supported
H8	KI $\rightarrow$ KU	0,218	0,103	2,123	0,034	0,012	0,422	Supported

Source: SmartPLS data processing results, 2026

Direct-effect testing was conducted to evaluate structural relationships between exogenous and endogenous constructs in the research model. Interpretation was based on path coefficients (β), standard deviation (STDEV), t-statistic, p-value, and 95% bootstrap confidence intervals. At the 5% significance level, a relationship was considered supported when p-value < 0.05 and the confidence interval did not include zero.

Based on Table 12, H1 tests the relationship between Human Capital Interaction (IHC) and Sustainable Competitive Advantage (KKB). The path coefficient is 0.098, with a t-statistic of 1.278 and p-value of 0.201. The 95% confidence interval is (-0.026; 0.274) and includes zero. Because p-value > 0.05 and the confidence interval includes zero, H1 is not supported. The result indicates that the data do not provide sufficient statistical evidence of a direct relationship between IHC and KKB.

H2 tests the relationship between IHC and MSME Performance (KU). The estimate shows a path coefficient of 0.180, t-statistic of 1.799, and p-value of 0.072. The 95% confidence interval is (-0.012; 0.379) and still includes zero. Therefore, because p-value > 0.05 and the confidence interval includes zero, H2 is not supported. This result indicates insufficient statistical evidence of a direct relationship between IHC and KU in the research sample.

H3 tests the relationship between Endorsement Strategy (SE) and KKB. The path coefficient is 0.185, with a t-statistic of 2.184 and p-value of 0.029. The 95% confidence interval is (0.033; 0.364) and does not include zero. Because p-value < 0.05 and the confidence interval excludes zero, H3 is supported. The result indicates a positive and significant relationship between SE and KKB in the research data.

H4 tests the relationship between SE and KU. The results show a path coefficient of 0.248, t-statistic of 3.074, and p-value of 0.002. The 95% confidence interval is (0.067; 0.388) and does not include zero. Therefore, H4 is supported. The result indicates a positive and significant relationship between SE and KU in the research model.

For H5, the relationship between Social Media Capability (KMS) and KKB produces a path coefficient of 0.580, t-statistic of 5.531, and p-value < 0.001. The 95% confidence interval is (0.342; 0.748) and does not include zero. Therefore, H5 is supported. The result indicates a positive and significant relationship between KMS and KKB. Compared with other direct paths to KKB, the KMS → KKB path has the largest coefficient in the model.

H6 tests the relationship between KMS and KU. The path coefficient is 0.150, with a t-statistic of 1.477 and p-value of 0.140. The 95% confidence interval is (-0.029; 0.367) and includes zero. Therefore, H6 is not supported. The result indicates insufficient statistical evidence of a direct relationship between KMS and KU at the 5% significance level.

H7 tests the relationship between KKB and KU. The results show a path coefficient of 0.267, t-statistic of 2.290, and p-value of 0.022. The 95% confidence interval is (0.055; 0.506) and does not include zero. Therefore, H7 is supported. The result indicates a positive and significant relationship between KKB and KU.

Finally, H8 tests the relationship between Innovation Capability (KI) and KU. The path coefficient is 0.218, with a t-statistic of 2.123 and p-value of 0.034. The 95% confidence interval is (0.012; 0.422) and does not include zero. Therefore, H8 is supported. The result indicates a positive and significant relationship between KI and KU in the research model.

4.2.5 Indirect-Effect Testing (Mediation)

The results of the indirect-effect hypothesis testing and mediation analysis are presented in Table 13.

Table 13. Indirect-Effect Hypothesis Test Results

Code	Indirect-Effect Testing	β	Standard Error (STDEV)	T-statistics	p-value	Bias-Corrected Confidence Intervals		Result
						2,5%	97,5%	
H9a	IHC → KKB → KU	0,026	0,028	0,953	0,340	-0,007	0,098	Not supported
H9b	SE → KKB → KU	0,049	0,033	1,515	0,130	0,007	0,136	Supported
H9c	KMS → KKB → KU	0,155	0,074	2,108	0,035	0,032	0,318	Supported

Source: SmartPLS data processing results, 2026

In PLS-SEM literature, assessing indirect effects via the 95% bias-corrected (BC) bootstrap confidence interval is widely recognized as the primary inferential criterion because the product distribution of path coefficients ($\beta_a \times \beta_b$) is inherently non-normal (Hair et al., 2022;

Zhao et al., 2010). A 95% BC bootstrap confidence interval excluding zero indicates statistical significance at $\alpha = 0.05$.

The mediation analysis shows that the indirect effect of Human Capital Interaction on MSME Performance through Sustainable Competitive Advantage was not supported because the bootstrap confidence interval included zero ($\beta = 0.026$, STDEV = 0.028, $t = 0.953$, $p = 0.340$; 95% BC CI [-0.007, 0.098]). In contrast, the indirect effects of Endorsement Strategy and Social Media Capability through KKB were supported because their 95% bias-corrected bootstrap confidence intervals excluded zero. The SE $\rightarrow$ KKB $\rightarrow$ KU pathway was supported based on the bootstrap confidence interval criterion despite a non-significant p-value ($\beta = 0.049$, $p = 0.130$), following Hair et al. (2022) similarly, the KMS $\rightarrow$ KKB $\rightarrow$ KU pathway was supported ($\beta = 0.155$, STDEV = 0.074, $t = 2.108$, $p = 0.035$; 95% BC CI [0.032, 0.318]). These findings indicate that Sustainable Competitive Advantage functions as a resource-specific mediator, particularly for Endorsement Strategy and Social Media Capability.

4.2.6 Moderation Effect Testing

Table 14. Moderation Hypothesis Test Results

Code	Interaction Effect	β	Standard Error (STDEV)	T-statistics	p-value	Confidence Intervals		Result
						2,5%	97,5%	
H10a	IHC $\times$ KI $\rightarrow$ KU	-0,004	0,042	0,095	0,924	-0,101	0,064	Not supported
H10b	SE $\times$ KI $\rightarrow$ KU	0,005	0,049	0,094	0,925	-0,083	0,108	Not supported
H10c	KMS $\times$ KI $\rightarrow$ KU	-0,049	0,058	0,854	0,393	-0,177	0,056	Not supported

Source: SmartPLS data processing results, 2026

Moderation testing examined whether Innovation Capability (KI) changes the strength of the relationships between IHC, SE, and KMS with MSME Performance (KU) through three interaction constructs: IHC $\times$ KI, SE $\times$ KI, and KMS $\times$ KI. Based on Table 14, none of the interaction effects are statistically significant, and all bootstrap confidence intervals include zero. Together with the negligible effect sizes ($f^2 \leq 0.057$), these findings indicate that Innovation Capability does not moderate the resource–performance relationships in this sample.

The moderation analysis examined whether Innovation Capability strengthens the relationships between strategic resources and MSME Performance. The results show that the interaction effects of Innovation Capability with Human Capital Interaction, Endorsement Strategy, and Social Media Capability are not significant, with very small effect sizes. Therefore, Innovation Capability does not function as a moderating boundary condition in this model. However, Innovation Capability remains an important direct capability associated with MSME Performance.

4.2.7 Predictive Relevance (Q^2)

Table 15. Predictive Relevance (Q^2) Results

	SSO	SSE	$Q^2 (=1-SSE/SSO)$	Description
KKB	3.890.000	2.160.021	0.445	Adequate predictive relevance
KU	3.890.000	2.265.580	0.418	Adequate predictive relevance

Source: SmartPLS data processing results, 2026

Based on Table 15, Q^2 values are 0.445 for KKB and 0.418 for KU. Both values are positive, indicating that the model has predictive relevance for the two endogenous constructs, Sustainable Competitive Advantage and MSME Performance. The higher Q^2 value for KKB than for KU indicates relatively stronger predictive relevance for KKB.

4.2.8 PLSpredict

Table 16. PLSpredict Results

Indicator	$Q^2_{predict}$	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
KKB1	0.156	0.394	0.154	0.407	0.160
KKB2	0.388	0.446	0.177	0.466	0.186
KKB3	0.559	0.409	0.134	0.444	0.143
KKB4	0.637	0.349	0.130	0.377	0.130
KKB5	0.447	0.459	0.162	0.486	0.165
KU1	0.347	0.427	0.173	0.447	0.172
KU2	0.321	0.433	0.171	0.468	0.175
KU3	0.366	0.445	0.173	0.463	0.170
KU4	0.396	0.439	0.169	0.460	0.174
KU5	0.347	0.473	0.179	0.499	0.189

Source: SmartPLS data processing results, 2026

Based on Table 16, all KKB and KU indicators have positive $Q^2_{predict}$ values, ranging from 0.156 to 0.637, indicating model predictive relevance. The highest value is for KKB4 (0.637) and the lowest for KKB1 (0.156). In addition, PLS-SEM_RMSE is lower than LM_RMSE for all indicators, indicating lower prediction error than the linear model and supporting out-of-sample predictive capability ([Shmueli et al., 2019](#)). Based on MAE, PLS-SEM has lower prediction error for seven indicators, the same error for one indicator, and higher error for two indicators compared with LM. Thus, PLSpredict provides support for the model's out-of-sample predictive capability, particularly because PLS-SEM RMSE is lower than LM for all indicators ([Yamin, 2023](#)).

4.3 Discussion

4.3.1 Effect of Human Capital Interaction on MSME Performance and Sustainable Competitive Advantage (H1, H2, and H9a)

The nonsignificant relationships among Human Capital Interaction, Sustainable Competitive Advantage, and MSME Performance suggest that knowledge exchange and employee collaboration alone are insufficient to generate competitive advantage or performance outcomes in this context. Although human capital interaction is an important resource, its value depends on complementary capabilities and effective resource orchestration to transform knowledge into strategic value ([Subramaniam & Youndt, 2005](#); [Sirmon et al., 2011](#)). The unsupported mediation through KKB further indicates that Sustainable Competitive Advantage is not a universal mechanism linking all strategic resources to performance. Instead, human capital interaction requires integration with other organizational capabilities to create performance benefits ([Barney, 1991](#); [Sirmon et al., 2011](#)).

4.3.2 Effect of Endorsement Strategy on MSME Performance and Sustainable Competitive Advantage (H3, H4, and H9b)

The results show that Endorsement Strategy (SE) positively and significantly influences Sustainable Competitive Advantage (KKB) and MSME Performance. Endorsement activities may strengthen MSME market positions by increasing product visibility and consumer attention. This finding is consistent with [Belanche et al. \(2021\)](#), who highlighted the role of influencer–product–consumer congruence in improving consumer responses, and [Erwin et al. \(2022\)](#), who linked influencer-based marketing with MSME performance. Furthermore, the indirect effect of SE on MSME Performance through KKB indicates that endorsement activities may contribute to performance by strengthening competitive advantage, consistent with the Resource-Based View and resource orchestration perspective ([Sirmon et al., 2011](#)).

4.3.3 Effect of Social Media Capability on MSME Performance and Sustainable Competitive Advantage (H5, H6, and H9c)

The results show that Social Media Capability (KMS) is positively associated with Sustainable Competitive Advantage (KKB), but not directly with MSME Performance (KU). However, the KMS → KKB → KU pathway is supported. This finding is consistent with [Marolt et al. \(2022\)](#) and indicates that social media capability creates value when transformed into competitive advantage. It differs from studies reporting direct social media effects on SME performance ([Chatterjee & Kar, 2020](#); [Apidana & Rusvinasari, 2024](#)), suggesting that contextual factors influence how digital capability contributes to outcomes.

4.3.4 Effect of Sustainable Competitive Advantage on MSME Performance (H7)

Sustainable Competitive Advantage (KKB) is positively and significantly associated with MSME Performance (KU). This finding indicates that the ability of MSMEs to maintain differentiated and customer-relevant value and a relatively distinctive competitive position is associated with variation in perceived performance. The result is consistent with [Hanifah and Innayah \(2024\)](#) and [Otahe \(2024\)](#), which show an association between competitive advantage and MSME performance. From a Resource-Based View perspective, competitive advantage reflects an organization's ability to manage and utilize resources strategically ([Sirmon et al., 2011](#)). Therefore, KKB is a relevant construct for explaining variation in KU in the research model.

4.3.5 Role of Innovation Capability in MSME Performance (H8)

Innovation Capability (KI) is positively and significantly associated with MSME Performance (KU). This finding is consistent with [Isa et al. \(2024\)](#), who showed an association between innovation capability and MSME performance. From a Resource-Based View perspective, KI is an internal capability relevant to responding to market changes and supporting business performance. Thus, H8 provides empirical support that KI is associated with variation in KU in the research context. Recent evidence also emphasizes innovation capability as an important driver of business adaptation and performance ([Tajeddini et al., 2020](#)).

4.3.6 Role of Innovation Capability as a Moderator of the Relationships of IHC, SE, and KMS with MSME Performance (H10a, H10b, and H10c)

The findings show that Innovation Capability (KI) has a positive direct association with MSME Performance, but its moderating effects on the relationships between Human Capital Interaction, Endorsement Strategy, Social Media Capability, and performance are not supported. This indicates that KI functions primarily as an independent capability rather than a boundary condition that strengthens other strategic resources. In non-metropolitan MSMEs, innovation capability supports adaptation, process improvement, and value creation, but does not necessarily amplify the effects of other resources (Teece, 2007; Rajapathirana & Hui, 2018). These findings extend the Resource-Based View and Resource Orchestration Theory by showing that capabilities may generate value independently and do not always produce synergistic effects without appropriate conditions and complementary resources (Barney, 1991; Sirmon et al., 2011).

5. Conclusion and Suggestion

5.1 Conclusion

This study examined the relationships between Human Capital Interaction (IHC), Endorsement Strategy (SE), and Social Media Capability (KMS) with MSME Performance (KU), while assessing Sustainable Competitive Advantage (KKB) as a mediator and Innovation Capability (KI) as a potential moderator. The findings show that strategic resources influence MSME performance through different pathways rather than uniform mechanisms. Human Capital Interaction does not demonstrate significant direct or indirect effects through KKB, indicating that internal knowledge exchange requires complementary capabilities and effective resource orchestration to generate strategic value. In contrast, Endorsement Strategy and Social Media Capability show positive associations with KKB and significant indirect relationships with MSME Performance through KKB, confirming its role as a resource-specific mediator.

Furthermore, Innovation Capability demonstrates a direct association with MSME Performance; however, its moderating effects on the relationships between IHC, SE, KMS, and KU are not supported. Thus, KI is better understood as an independent organizational capability rather than a moderating boundary condition in non-metropolitan MSMEs. Overall, this study contributes to strategic management and MSME literature by demonstrating that different resources and capabilities generate differentiated pathways toward perceived performance. The findings extend RBV and Resource Orchestration Theory by emphasizing that competitive value depends not only on resource availability but also on how resources are deployed, integrated, and supported by complementary capabilities.

5.2 Suggestion

The findings suggest that MSMEs may benefit from strengthening Social Media Capability (KMS) and Endorsement Strategy (SE) as strategic practices associated with Sustainable Competitive Advantage (KKB) and perceived MSME Performance (KU). Social media activities should focus on customer engagement, market information acquisition, product value communication, and business differentiation, while endorsement strategies should

consider endorser credibility, product alignment, target customers, and business identity to support competitive positioning.

The findings also indicate that Human Capital Interaction (IHC) alone is insufficient to demonstrate significant associations with competitive advantage and MSME Performance. Therefore, MSMEs should integrate knowledge-sharing practices with complementary capabilities, such as digital capability, market orientation, and effective resource orchestration. Furthermore, Innovation Capability (KI) should be continuously developed because it demonstrates a direct association with MSME Performance. However, KI should be viewed as an independent organizational capability rather than a mechanism that strengthens the effects of other strategic resources.

For policymakers and MSME support institutions, the findings highlight the importance of integrated capability-development programs combining digital capabilities, strategic marketing, innovation practices, and managerial skills. Future studies should consider broader contexts, longitudinal designs, and objective performance measures to further examine the development of strategic resources and MSME performance.

6. Limitations and Future Research

This study has several limitations. First, the cross-sectional design limits causal and temporal interpretations; therefore, the findings should be understood as statistical associations rather than evidence of sequential relationships among resources, competitive advantage, and MSME Performance. Future studies may employ longitudinal designs to examine how these relationships evolve over time.

Second, MSME Performance was measured using perceived and self-reported indicators. Future research may incorporate objective performance measures, such as financial and operational indicators, to strengthen empirical validation. Third, this study focuses on MSMEs in a specific non-metropolitan context, which may limit generalizability. Future research is encouraged to test the model across broader sectors, regions, and organizational contexts while incorporating additional variables, such as market orientation, digital maturity, and managerial capabilities, to provide deeper insights into strategic resource utilization and MSME performance.

Future studies may also incorporate additional contextual variables, such as market orientation, digital maturity, and managerial capabilities, to provide a more comprehensive understanding of how strategic resources and organizational capabilities contribute to MSME Performance.

Acknowledgement

The author extends gratitude and appreciation to the Institute for Research and Community Service (LPPM) of Universitas Terbuka for funding support through the 2026 Fiscal Year Research Funding Program, as well as to MSME actors and all parties who contributed to the data collection process in Majene. This support was highly meaningful for the smooth conduct of the research and the advancement of knowledge.

Declaration of AI and AI-Assisted Technologies in the Writing Process

During the preparation of this manuscript, the authors utilized AI-assisted language tools (ChatGPT) solely for grammatical refinement, template formatting, and clarity enhancement. The authors thoroughly reviewed, edited, and validated all contents, taking full responsibility for the publication.

References

- Andersén, J. (2021). Resource orchestration of firm-specific human capital and firm performance—the role of collaborative human resource management and entrepreneurial orientation. *The International Journal of Human Resource Management*, 32(10), 2091–2123. <https://doi.org/10.1080/09585192.2019.1579250>
- Apidana, Y. H., & Rusvinasari, D. (2024). Social media usage on MSMEs' performance: The moderating role of innovation capability. *Jurnal Manajemen*, 28(1), 175–199. <https://doi.org/10.24912/jm.v28i1.1805>
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Belanche, D., Casaló, L. V., Flavián, M., & Ibáñez-Sánchez, S. (2021). Understanding influencer marketing: The role of congruence between influencers, products and consumers. *Journal of Business Research*, 132, 186–195. <https://doi.org/10.1016/j.jbusres.2021.03.067>
- Chatterjee, S., & Kar, A. K. (2020). Why do small and medium enterprises use social media marketing and what is the impact: Empirical insights from India. *International Journal of Information Management*, 53, 102103. <https://doi.org/10.1016/j.ijinfomgt.2020.102103>
- Erwin, E., Ardyan, E., & Putra, S. D. (2022). Social media marketing trends: Influencers' accounts for SMEs product marketing. *International Journal of Economics, Business and Accounting Research*, 6(3), 1949–1958. <https://doi.org/10.29040/ijebar.v6i3.6160>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Thousand Oaks, CA: SAGE Publications.
- Hanifah, G., & Innayah, M. N. (2024). Improving MSMEs performance through human capital, financial literacy and competitive advantage. *Asian Journal of Economics, Business and Accounting*, 24(7), 608–624. <https://doi.org/10.9734/ajeba/2024/v24i71434>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Isa, M., Nurohman, Y. A., & Qurniawati, R. S. (2024). Innovation capabilities and performance of small and medium-sized enterprises in Indonesia. *Acta Commercii*, 24(1), a1242. <https://doi.org/10.4102/ac.v24i1.1242>
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1–10. <https://doi.org/10.4018/IJeC.2015100101>

- Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising*, 19(1), 58–73. <https://doi.org/10.1080/15252019.2018.1533501>
- Marolt, M., Zimmermann, H.-D., & Pucihar, A. (2022). Social media use and business performance in SMEs: The mediating roles of relational social commerce capability and competitive advantage. *Sustainability*, 14(22), 15029. <https://doi.org/10.3390/su142215029>
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39–52. <https://doi.org/10.1080/00913367.1990.10673191>
- Otache, I. (2024). Innovation capability, strategic flexibility and SME performance: The roles of competitive advantage and competitive intensity. *African Journal of Economic and Management Studies*, 15(2), 248–262. <https://doi.org/10.1108/AJEMS-06-2023-0221>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Qalati, S. A., Yuan, L. W., Khan, M. A. S., & Anwar, F. (2021). A mediated model on the adoption of social media and SMEs' performance in developing countries. *Technology in Society*, 64, 101513. <https://doi.org/10.1016/j.techsoc.2020.101513>
- Rajapathirana, R. P. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge*, 3(1), 44–55. <https://doi.org/10.1016/j.jik.2017.06.002>
- Rodrigues, M., Franco, M., Silva, R., & Oliveira, C. (2021). Success factors of SMEs: Empirical study guided by dynamic capabilities and resources-based view. *Sustainability*, 13(21), 12301. <https://doi.org/10.3390/su132112301>
- Rodríguez Gutiérrez, P. I., Pastor Pérez, M. del P., & Collado Agudo, J. (2023). Social media: An essential capability for business effectiveness? *The Electronic Journal of Information Systems in Developing Countries*, 89(2), e12221. <https://doi.org/10.1002/isd2.12221>
- Rokhman, M. T. N., Ratnawati, R., & Rahayu, Y. N. (2023). Relationship between human capital and MSMEs performance with competitive advantage as a mediation. *Jurnal Aplikasi Manajemen*, 21(1), 191–204. <https://doi.org/10.21776/ub.jam.2023.021.1.14>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. (2011). Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects. *Journal of Management*, 37(5), 1390–1412. <https://doi.org/10.1177/0149206310385695>
- Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450–463. <https://doi.org/10.5465/amj.2005.17407911>

- Susanti, E., Mulyanti, R. Y., & Wati, L. N. (2023). MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business & Management*, 10(2), 2239423. <https://doi.org/10.1080/23311975.2023.2239423>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Tajeddini, K., Martin, E., & Ali, A. (2020). Enhancing hospitality business performance: The role of entrepreneurial orientation and networking ties in a dynamic environment. *International Journal of Hospitality Management*, 90, 102605. <https://doi.org/10.1016/j.ijhm.2020.102605>
- Yamin, S. (2023). *Olah data statistik: SmartPLS 3, SmartPLS 4, AMOS & STATA (Mudah & praktis)* (Edisi III). Bekasi, Indonesia: PT Dewangga Energi Internasional.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. <https://doi.org/10.1086/651257>