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Optimizing Company Resources for Sustainable Competitive Advantage: The Mediating Role of Digital Transformation in Indonesian MSMEs

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ABSTRACT

Micro, small, and medium (MSMEs) enterprises contribute crucially in this national economy, but there are always difficulties in transforming internal resources into sustainable competitive advantages in the digital era. This reseacrh aims to examine the “effect of company resources on competitive advantage, both directly and indirectly through digital transformation”. A quantitative approach was employed using data from 400 Indonesian MSMEs registered on the PaDi UMKM platform, analyzed from the SEM model or Structural Equation Modeling with LISREL 8.70. Resulting if company resources contributed significantly positively to competitive advantage (b = 0.15, t = 2.76) and on digital transformation (b = 0.71, t = 13.91). Digital transformation contribute strongly positively to competitive advantage (b = 0.66, t = 9.61), representing the most influential relationship in the model. Furthermore, the indirect effect of company resources on competitive advantage through digital transformation is significant (b = 0.469, t = 7.884), indicating partial mediation (VAF = 75.8%). The model explains 50% of digital transformation and 60% of competitive advantage, suggesting that digital transformation is the primary pathway through which resources translate into sustainable competitive advantage among MSMEs.

Keywords: Competitive Advantage; Company Resources; Digital Transformation; Mediation; MSMEs

JEL Classification: L26; L25; M15; O33; D22

INTRODUCTION

In Indonesia, MSMEs, or Micro, Small, and Medium Enterprises, are considered a key pillar of the economy, contributing 61% of the national gross domestic product and creating 97% of job opportunities. Currently, various Indonesian MSMEs consistently face serious obstacles in adapting to the digital economy. Data show that only 15.7% of Indonesian MSMEs have undergone digital transformation, indicating that most firms still have limited capacity to respond to digital market demands and to sustain their competitive advantage in the technology-supported sphere (Panhans et al., 2021).

This issue has become more urgent with the rapid development of digital business ecosystems. One example is *Pasar Digital UMKM* (PaDi UMKM), a platform supported by Indonesian state-owned enterprises, recorded a combined annual development scale of approximately 60.59% of Q1-2022 to Q3-2024 (PaDi UMKM, 2024). Although such platforms create broader market access and new opportunities for MSMEs, many firms still face internal constraints, including limited dynamic capabilities, inadequate digital skills, insufficient capital for digital investment, and low levels of business process digitalization. These constraints weaken the ability of MSMEs to convert available resources into sustainable competitive advantage (INDEF, 2024; World Bank, 2021).

From the perspective of the “Resource-Based View (RBV) theory, it presents the primary basis for companies to achieve competitive advantage through internal resources”. Barney (1991) argues that companies hold a competitive advantage when they control assets that are rare, non-substitutable, valuable, and inimitable. This perspective has been further extended through the VRINE framework, which adds exploitability as an important dimension, thereby emphasizing the organizational the ability to manage and organize resources as effectively as possible (Zvarimwa & Zimuto, 2022). However, in the context of MSMEs, possessing strategic resources alone may not be sufficient. In a rapidly changing digital environment, resources must also be transformed into adaptive and market-oriented capabilities in order to create sustainable competitive advantage.

Previous studies reported inconsistent results regarding the influence of company resources and competitive advantage. Several studies found that company resources significantly improve competitive advantage, whereas others reported weak or insignificant effects, suggesting that the relationship may not be purely direct (Firdaussiah et al., 2024; Yacob et al., 2021). This inconsistency demonstrates the theoretical gap in the literature. Existing studies have not sufficiently explained how company resources are translated into competitive advantage, particularly in MSMEs operating under digital and resource constraints. In this context, digital transformation is highly relevant because it can strengthen business processes, improve customer value creation, and support stronger competitive positioning in the digital era (Kraus et al., 2021; Rahmayanti & Pratiwi, 2023; Tiar et al., 2024).

Thus, this research wants to examine the mediation capability of digital transformation in terms of company resources and sustainable competitive advantage among Indonesian MSMEs registered on the PaDi UMKM platform. The research examines the theoretical gaps that exist in the RBV (Responsive-Based View) literature by clarifying that internal resources do not automatically lead to competitive advantage unless they are transformed through digital processes that enhance organizational adaptability and market responsiveness. The novelty of this study lies in explicitly testing digital transformation as a mediating mechanism, rather than treating it only as a separate antecedent of firm performance. Accordingly, this study contributes to the MSME literature by explaining how resource-constrained firms can strengthen sustainable competitive advantage through digital transformation, and This supports the RBV

literature by expanding the description of how internal resources are transformed to be competitive in the digital economy.

LITERATURE REVIEW

Theoretical Framework

Company Resources and the RBV as Grand Theory

The "RBV asserts that a firm achieves sustainable competitive advantage when it possesses resources that are non-substitutable, rare, valuable, or inimitable" (Barney, 1991). This perspective shifts attention from external market conditions to internal factors to achieve superior performance. From this perspective, competitive advantage does not stem from market contribution, but from owning and deploying resources that competitors cannot easily replicate or replace.

Subsequent developments of RBV have emphasized that resources are meaningful only when firms are able to organize and exploit them effectively. In this regard, the VRINE perspective extends the original logic of RBV by adding exploitability as an important dimension of strategic resources, thereby highlighting the organizational capacity required to transform resources into valuable outcomes (Zvarimwa & Zimuto, 2022). This extension is especially relevant for MSMEs, because these firms often operate with limited capital, infrastructure, and managerial capabilities. For MSMEs, the issue is therefore not only whether strategic resources exist, but also whether those resources can be mobilized and leveraged effectively in a changing environment.

Grant (1991) further argued that resources do not create firm advantage automatically; rather, advantage depends on how resources are combined into capabilities that support strategic action. This argument is important in the present study because Indonesian MSMEs face both resource constraints and digital pressures. Accordingly, company resources It is necessary to understand that it can also be used as a resource strategy foundation that may support further organizational transformation. This logic underpins the expectation that company resources remain important for explaining competitive advantage, but that their effect may be stronger when they are translated into higher-order capabilities.

Digital Transformation as a Strategic Capability

Digital transformation focuses on companies implementing digital technologies to significantly reshape value creation, organizational processes, and strategic positioning (Verhoef et al., 2021; Vial, 2021). In contrast to simple technology adoption, digital transformation implies broader organizational change, including adjustments to business processes, customer engagement, internal coordination, and strategic responsiveness. For MSMEs, this distinction is important because the value of digitalization lies not only in possessing digital tools but in embedding them into the way the firm operates and competes.

Kraus et al. (2021) argued that digital transformation has become the main supporter of competitiveness and long-term sustainability, particularly for smaller firms operating in uncertain and rapidly changing markets. In the MSME context, digital transformation can improve efficiency, increase market reach, support responsiveness to customer needs, and strengthen organizational adaptability. These effects are particularly relevant in emerging economies, where firms often lack scale advantages and therefore need alternative mechanisms to build competitive advantage. Thus, digital transformation can be positioned be used as a strategic reliability that supports firms reconfigure internal resources into market-relevant outcomes.

This argument is relevant from the perspective of dynamic skills which require the companys ability to design, implement and integrate external and internal in responding to environmental changes (Teece et al., 1997; Teece, 2007). From this perspective, digital transformation can be considered to be governance in which the company renew their resource base and adapt it to digital competition. For MSMEs, this capability is especially important because internal resources are often limited and must therefore be deployed selectively and strategically.

Sustainable Competitive Advantage

Competitive advantage refers to a companys ability to achieve superior performance relative to competitors through strategic advantages that are difficult to imitate, responsiveness, cost efficiency and differentiation (Barney, 1991; Insee & Suttipun, 2023). In the MSME context, sustainable competitive advantage is particularly important because small firms face greater vulnerability to market shocks, technological disruption, and resource scarcity. Unlike large firms, MSMEs cannot rely heavily on economies of scale; instead, they must build advantage through agility, focused value creation, and more effective use of limited resources.

So the competitive advantage model will be related to both resource quality and organizational capability. A firm may possess valuable resources, but if those resources are not aligned with changing customer expectations and market conditions, they may fail to generate a durable advantage. In digital environments, competitive advantage related to company's ability to combine resources with technology-enabled processes that improve customer value, operational performance, and strategic flexibility. This makes digital transformation theoretically relevant not only as an independent driver of performance, but also as a possible link between company resources and sustainable competitive advantage.

Hypotheses Development

Company Resources and Competitive Advantage

RBV emphasizes that specific resources are the foundation of sustainability competitive advantage because they allow firms to perform activities more effectively than competitors (Banrey, 1991). When you master resources that are non-substitutable, valuable, difficult to imitate and rare, you will create a strategic advantage This makes it difficult for competitors to follow suit. The VRINE extension further suggests that the exploitability of resources is essential because resources must be organized and deployed effectively to generate strategic value (Zvarimwa & Zimuto, 2022). For MSMEs, this argument implies that company resources remain a direct source of competitive advantage to the extent that they support differentiation, efficiency, and organizational strength. Thus, the following hypothesis is proposed:

H1: Company resources contribute significantly positively to competitive advantage.

Digital Transformation and Competitive Advantage

Digital transformation enhances firm competitiveness by enabling process improvement, faster decision-making, stronger customer engagement, and greater adaptability to market change (Kraus et al., 2021; Verhoef et al., 2021; Vial, 2021). For MSMEs, these effects are highly relevant because digital transformation can compensate for limitations in scale by improving speed, flexibility, and customer value creation. In this sense, digital transformation is not only a technological shift but also a strategic capability that can strengthen sustainable competitive advantage. Accordingly, firms that are more advanced in digital transformation should be better positioned to compete and sustain superior performance. Thus, the following hypothesis is proposed:

H2: Digital transformation contributes significantly positively to competitive advantage.

Company Resources and Digital Transformation

Digital transformation requires more than willingness to adopt technology; it also depends on the availability of supporting resources such as financial capacity, infrastructure, managerial readiness, and organizational knowledge. From an RBV perspective, firms with stronger resource bases are more likely to undertake and sustain transformation because they possess the means needed to invest in technology and organizational change (Barney, 1991; Grant, 1991). This argument is especially relevant for MSMEs, whose transformation efforts are often constrained by limited capital, skills, and internal capabilities. Therefore, company resources can be expected to provide the foundational conditions that enable digital transformation. Thus, the following hypothesis is proposed:

H3: Company resources contribute significantly to digital transformation.

The Mediating Role of Digital Transformation

Although company resources are important, prior arguments suggest that resources may not directly produce competitive advantage unless they are converted into adaptive and market-oriented capabilities. This is where the dynamic view of perception is crucial. Teece et al. (1997) and Teece (2007) assumes that a company maintains its competitive advantage by reconfiguring its resources to respond to a changing environment. In digital settings, digital transformation can perform this bridging role by translating internal resources into improved processes, stronger customer value, and greater strategic responsiveness.

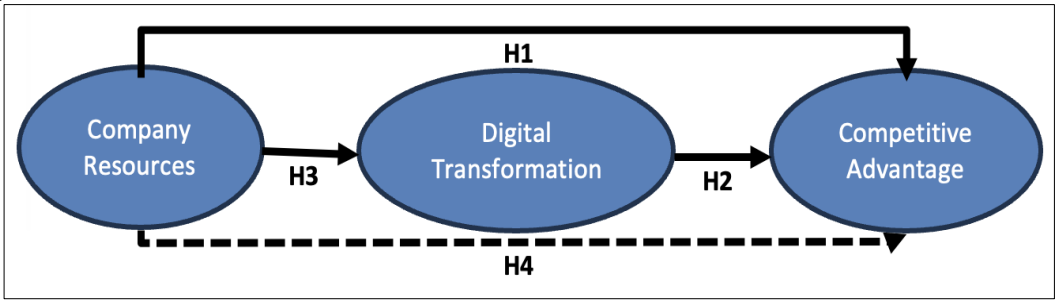
This mediation logic is especially relevant for MSMEs in the digital economy. Resource-constrained firms may possess strategic assets, but the competitive value of those assets depends on whether they are transformed into usable digital capabilities. In other words, digital transformation provides the theoretical bridge between the resource base from realization competitive advantage. This argument also strengthens the causal chain developed in this study, namely that company resources support digital transformation, and digital transformation in turn strengthens competitive advantage. Thus, the following hypothesis is proposed:

H4: Digital transformation mediates the relationship between company resources and competitive advantage.

Research Model Framework

This research examines the influence of “company resources on digital transformation and competitive advantage through digital transformation, based on empirical conditions clarified in the theoretical framework, introduction, and hypotheses”. Figure 1 describe the framework, illustrating the hypothesized relationships between each variable of the four hypothetical paths (H1–H4).

Figure 1. Research Model Framework



RESEARCH METHOD

Research Design and Sample

This research employed a "quantitative cross-sectional approach to examine the relationships among company resources, digital transformation, and competitive advantage among MSMEs in Indonesia" (Ferdinand, 2014). The population consisted of MSMEs registered on the PaDi UMKM (Padi.id) platform, an Indonesian digital ecosystem initiated by the Ministry of State-Owned Enterprises. As of September 2025, the platform recorded 95,178 active MSME members across various industry sectors (PaDi UMKM, 2024). The respondents were owners or managers of MSME vendors registered on PaDi UMKM who demonstrated a comprehensive understanding of the research variables. Each respondent represented one business unit.

The participating MSMEs were classified based on annual revenue into three categories: "micro enterprises (IDR 50 million–IDR 300 million), small enterprises (IDR 300 million–IDR 2,5 billion), and medium enterprises (IDR 2,5 billion–IDR 50 billion)". The sample scale is synchronized with the Slovin formula of 5% error tolerance. (Frankfort-Nachmias & Leon-Guerrero, 2020; Sekaran & Bougie, 2016), resulting in a minimum requirement of 400 respondents. This study applied stratified random sampling with proportional allocation, consisting of 262 micro enterprises, 95 small enterprises, and 43 medium enterprises. Data collection was conducted from October to December 2025 through online surveys distributed via email and WhatsApp to verified PaDi UMKM members. Following a pilot test involving 30 MSME owners, the final dataset comprised 400 valid responses.

Measurement Instruments

Each construct is measured on a Likert scale that includes partial scores such as 1 = Strongly Disagree to 5 = Strongly Agree, following a scale format that is relevant to the context of Indonesian MSMEs (Hair et al., 2019; Sekaran & Bougie, 2016).

Company Resources

Company resources were operationalized using the VRINE framework (Zvarimwa & Zimuto, 2022) across five dimensions: (1) Valuable consisted of five indicators assessing whether the firm's resources supported competitive advantage enhancement, operational efficiency, revenue increase, profitability, and alignment with market needs; (2) Rarity consisted of three indicators evaluating the uniqueness of digital technologies, the scarcity of skills and competencies, and access to exclusive digital platforms or marketing networks; (3) Inimitability consisted of four indicators measuring technology or system complexity, possession of intellectual property rights, organizational experience, and culture that competitors could not easily imitate, and advantages derived from digital-based production processes; (4) Non-substitutability consisted of four indicators examining customer dependence, irreplaceable added value, resource sustainability, and alignment with the PaDi UMKM platform; (5) Exploitability consisted of four indicators assessing team capability in maximizing digital strategies, flexibility in

optimizing resources to respond to ever-changing market conditions, and the ability to leverage opportunities within the PaDi UMKM ecosystem (Gusti & Yuliarto, 2022).

Digital Transformation

Digital transformation measured from the multidimensionality introduced Agustian et al. (2023) across six dimensions: (1) Digital technology adoption consisted of three indicators measuring The application of digital technology in analyzing or collecting reports, improving services and developing businesses; (2) Business process transformation consisted of three indicators evaluating efforts to create more efficient supply chains, automate routine tasks, and use data analysis for decision-making; (3) Customer experience consisted of two indicators assessing personalized and accessible service delivery and the use of customer data for service quality improvement; (4) Innovation and flexibility consisted of four indicators examining product or service innovation and adaptability to new technologies; (5) Security and privacy consisted of two indicators measuring data security and customer privacy; (6) Change management consisted of two indicators evaluating employee adaptation to new technologies.

Competitive Advantage

Competitive advantage was assessed using the framework proposed by Insee and Suttipun (2023) across four dimensions: (1) Differentiation consisted of two indicators assessing unique product or service features and distinctive service models; (2) Cost leadership consisted of two indicators evaluating price competitiveness and production cost efficiency; (3) Market dominance consisted of two indicators measuring niche market focus and the targeting of specific customer segments; (4) Customer satisfaction consisted of six indicators examining delivery speed, responsiveness to market demand, speed of technology adaptation, complaint response, business flexibility, and organizational agility.

Data Analysis Procedures

Each data was analyzed using SEM model with LISREL 8.70, according to Hair et al. (2017) guidelines. which includes several stages: (1) “assessing the measurement model (2) examining the structural model, Convergent validity is proxied by standardized factor loadings > 0,50, Average Variance Extracted (AVE) > 0,50, and Composite Reliability (CR) > 0,70, discriminant validity is proxied by Fornell-Larcker, which confirms discriminant validity when the square root of the AVE of each construct exceeds its correlation with other constructs” (Fornell & Larcker, 1981).

The model is matched against several criteria: “Root Mean Square Error of Approximation (RMSEA < 0,08), Adjusted Goodness-of-Fit Index (AGFI > 0,90), Goodness-of-Fit Index (GFI > 0,90), Normed Fit Index (NFI > 0,90), and Comparative Fit Index (CFI > 0,90), in accordance with the thresholds recommended by” Hair et al. (2017). Mediation analysis followed Zhao et al. (2010) “by examining the direct effect of company resources on competitive advantage, the indirect effect of company resources on competitive advantage through digital transformation, and the total effect of the relationship”. The mediating role of digital transformation is proxied by the “Variance Accounted For (VAF), where the VAF value between 20% and 80% indicated partial mediation and a value above 80% indicated full mediation”. Path significance was evaluated using t-values greater than 1.96 at the 5% significance level.

RESULTS

The results were based on 400 valid responses from MSMEs registered on the PaDi UMKM platform. The analysis was conducted using LISREL 8.70 and was organized into

respondent profile, measurement model assessment, discriminant validity and model fit, structural model evaluation, and mediation analysis.

Respondents Profile

Table 1. Profile of Respondents and MSMEs

Characteristics	Category	Frequency (n=400)	Percentage (%)
Gender	Male	220	55
	Female	180	45
Age	< 25 years old	60	15
	25–34 years old	150	37.5
	35–44 years old	120	30
	≥ 45 years old	70	17.5
Education	SHS	140	35
	Diploma	90	22.5
	Bachelor	150	37.5
	Postgraduate	20	5
Length of Business	< 3 years	110	27.5
	3–5 years	140	35
	> 5 years	150	37.5
Business Sector	Culinary	160	40
	Fashion	90	22.5
	Services	80	20
	Other	70	17.5

Table 1 The table displays the business characteristics and demographics of the participants. Gender-wise, the sample was equally divided, with 55% male participants and 45% female participants. Furthermore, the dominant age group of participants was 25–34 years old (37.5%), followed by those aged 35–44 years (30%). Younger respondents under 25 years and those aged 45 years and above represent smaller proportions, indicating that most MSME actors are in their prime working age.

Regarding educational background, Participants predominantly had undergraduate degrees (37.5%), followed by high school graduates (35%), demonstrating the moderate to high education levels of MSME entrepreneurs. In terms of business experience, participants predominantly had >5 years of experience (37.5%), followed by those with 3–5 years of experience (35%), indicating that most businesses are relatively established.

Finally, based on business sector, the culinary industry dominates (40%), followed by fashion (22.5%) and services (20%), while other sectors account for 17.5%. This distribution reflects the prominence of food-related businesses within the MSME landscape.

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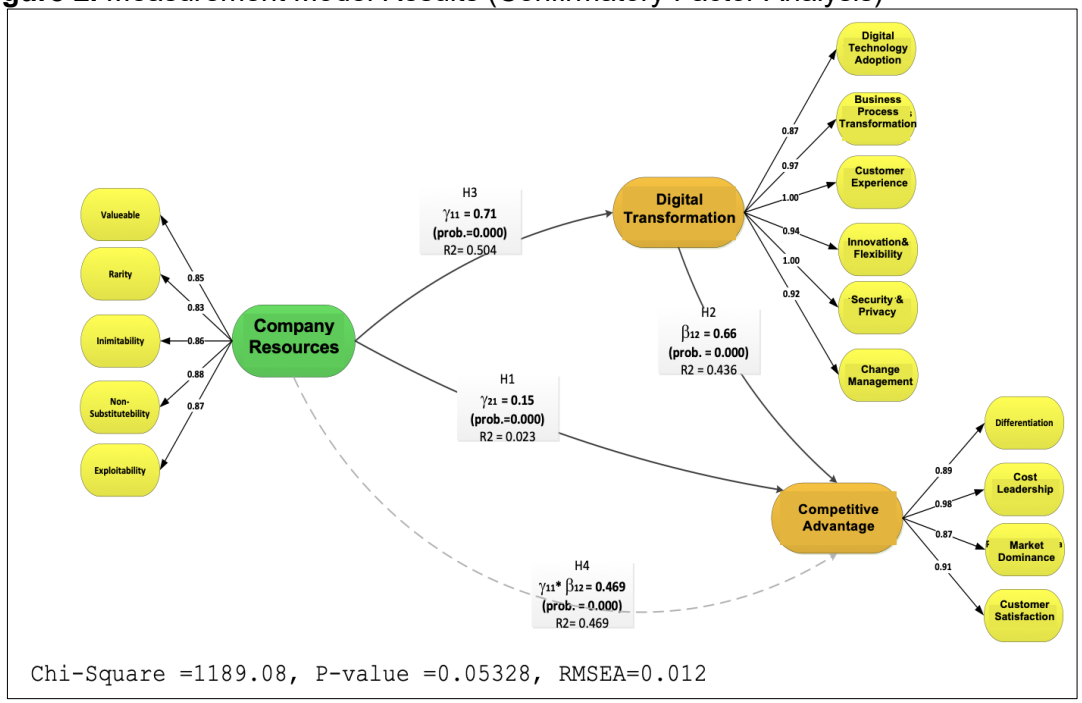
Measurement Model Assessment

Figure 2. Measurement Model Results (Confirmatory Factor Analysis)



Measurement model assessment is a stage in analysis (generally in SEM/PLS-SEM) used to evaluate whether the research instrument (indicator/questionnaire) is valid and reliable in measuring a construct or latent variable. As illustrated in Figure 2, one important component is convergent validity, which ensures that the indicators of the parameters applied to a construct are able to measure the same underlying concept.

Convergent Validity

Table 2. Convergent Validity Results

Construct	Dimension	Code	Loading	AVE	CR
Company Resources	Valuable	SDP1–SDP5	0.85***	0.663	0.908
	Rarity	SDP6–SDP8	0.83***	0.656	0.851
	Inimitability	SDP9–SDP12	0.86***	0.640	0.877
	Non-Substitutability	SDP13–SDP16	0.88***	0.640	0.877
	Exploitability	SDP17–SDP25	0.87***	0.681	0.895
Digital Transformation	Digital Technology Adoption	TD1–TD3	0.87***	0.734	0.892
	Business Process Transformation	TD4–TD6	0.97***	0.603	0.820
	Customer Experience	TD7–TD8	1.00***	0.555	0.714
	Innovation & Flexibility	TD9–TD12	0.94***	0.637	0.875
	Security & Privacy	TD13–TD14	1.00***	0.597	0.768
	Change Management	TD15–TD22	0.92***	0.632	0.775
Competitive Advantage	Differentiation	KB1–KB2	0.89***	0.723	0.839
	Cost Leadership	KB3–KB4	0.98***	0.649	0.787
	Market Dominance	KB5–KB6	0.87***	0.697	0.822
	Customer Satisfaction	KB7–KB16	0.91***	0.740	0.945

Note: ***p < 0.001.

Convergent validity observes that the instrument scale has a high proportion of variance. This study evaluated convergent validity using three criteria: “standardized factor loadings exceeding 0,70, AVE greater than 0,50, and CR exceeding 0,70” (Hair et al., 2019). Table 2 displays the construct results. All standardized factor loadings were >0.70, ranging from 0,83 to 1.00, indicating strong construct relationships. “AVE values ranged from 0,555 to 0,740, all exceeding the minimum threshold of 0,50, CR results were 0,714 to 0,945, or >0,70, as required and these results indicate sufficient convergent validity for all constructs”.

Company Resources demonstrated robust measurement across the five VRINE dimensions, with factor loadings of: Valuable (0.85), Rarity (0.83), Inimitability (0.86), Non-Substitutability (0.88, the highest), and Exploitability (0.87). The consistently high loadings indicate that Indonesian MSMEs recognize the multifaceted nature of strategic resources, with non-substitutability emerging as the most salient characteristic for building sustainable competitive positions, a finding consistent with the VRINE frameworks emphasis on irreplaceability in resource-constrained environments.

Digital Transformation demonstrated comprehensive measurement across six dimensions: “Technology Adoption (0,87), Business Process Transformation (0,97), Customer Experience (1,00), Innovation and Flexibility (0,94), Security and Privacy (1,00), and Change Management (0,92)”. The highest loadings for Customer Experience and Security and Privacy (both 1.00) suggest these are the most critical digital transformation dimensions for Indonesian MSMEs on the PaDi UMKM platform. Competitive Advantage was measured through: Differentiation (0.89), Cost Leadership (0.98), Market Dominance (0.87), and Customer Satisfaction (0.91). The dominance of the cost dimension (loading = 0.98) aligns with the competitive realities of Indonesian MSMEs operating in price-sensitive markets.

Discriminant Validity

Table 3. Discriminant Validity Assessment (Fornell-Larcker Criterion)

Construct	CR	DT	CA
Company Resources (CR)	0.810		
Digital Transformation (DT)	0.710	0.791	
Competitive Advantage (CA)	0.620	0.770	0.838

Table 3 The table proves that the square root of AVE exceeds other correlations, where Corporate Resources produces 0.810 > Digital Transformation (0.710) and Competitive Advantage (0.620). Similarly, Digital Transformation shows a value of 0.791, exceeding its correlation with Competitive Advantage (0.770). Competitive Advantage also meets this criterion, with a value of 0.838, exceeding the other constructs. Generated if each construct is very strong with its indicators, which demonstrates that discriminant validity is good in this research.

Overall Model Fit

Table 4. Measurement Model Fit Indices

Fit Index	Value	Threshold	Conclusion
Chi-Square	1189.08	p > 0.05	Close Fit
Chi-Square (p-value)	0.054	> 0.05	Close Fit
RMSEA	0.012	< 0.08	Close Fit
GFI	0.94	> 0.90	Good Fit
AGFI	0.93	> 0.90	Good Fit
PGFI	0.85	> 0.80	Fit
CFI	0.99	> 0.90	Excellent Fit
NFI	0.97	> 0.90	Excellent Fit

Note: "All fit indices meet or exceed recommended thresholds, GFI = Goodness of Fit Index, RMSEA = Root Mean Square Error of Approximation, PGFI = Parsimony Goodness of Fit Index, AGFI = Adjusted Goodness of Fit Index, NFI = Normed Fit Index, CFI = Comparative Fit Index" (Hair et al., 2017).

Table 4 The table shows that each index exceeds the specified standard. The Chi-square value is 1189.08 with p 0.054 (> 0.05), proving the model is well-aligned and acceptable. The RMSEA value is 0.012 < 0.08, proving the data and model are closely related. The incremental fit index demonstrates the strong performance of the model with GFI = 0.94 and AGFI = 0.93, all of which are > 0.90, or well-relevant. The PGFI value is 0.85 > 0.80, proving the model's adequate parsimony. Furthermore, NFI = 0.97 and CFI = 0.99 > 0.90 demonstrate the results are relevant. Therefore, the model is considered relevant to the data and provides a basis for analyzing the model.

Structural Model and Hypothesis Testing

Direct Effects

Table 5. Structural Model and Hypothesis Testing Results

Hypothesis		β	SE	t-value	Decision
H1	Company Resources → Competitive Advantage	0.15**	0.055	2.76	Supported
H2	Digital Transformation → Competitive Advantage	0.66***	0.069	9.61	Supported
H3	Company Resources → Digital Transformation	0.71***	0.051	13.91	Supported
H4	Company Resources → Digital Transformation → Competitive Advantage	0.469***	0.059	7.884	Supported

Note: * p < 0.01; *** p < 0.001.

Table 5 The table shows that each hypothesized relationship (H1–H4) is supported. Company resources contribute statistically significant positive impacts on competitive advantage (β = 0.15, t = 2.76), although the magnitude of this effect is relatively modest, indicating that the direct contribution of resources is present but not dominant. In contrast, digital transformation exhibits contributes significantly to competitive advantage (β = 0.66, t = 9.61), making it a contributing predictor to the model. Resources also contribute significantly to digital transformation (β = 0.71, t = 13.91), representing the largest coefficient observed, which indicates that resource strength is closely associated with the level of digital transformation. In addition, the indirect effect of company resources on competitive advantage through digital transformation is positive and significant (β = 0.469, t = 7.884), confirming the presence of mediation. The model shows substantial explanatory strength, with digital transformation emerging as a key predictor of competitive advantage.

Mediation Effects

Table 6. Mediation Analysis Results

Effect Type	Coefficient (β)	Interpretation
Direct Effect	0.15** (15%)	Company Resources → Competitive Advantage
Indirect Effect	0.469*** (46.9%)	Company Resources → Digital Transformation → Competitive Advantage
Total Effect	0.619*** (61.9%)	Combined
VAF Ratio	75.8%	Partial Mediation
Indirect/Direct Ratio	3.13:1	Indirect Dominates

Note: VAF = 75.8% indicates partial mediation, as it falls within the 20%–80% range (Hair et al., 2017); ** p < 0.01; *** p < 0.001.

Table 6 further clarifies this relationship by decomposing the effect of the amount is made into an indirect or direct aspect. The direct effect of company resources on competitive advantage is 0.15 (15.0%), while the indirect effect through digital transformation is substantially larger at 0.469 (46.9%), indicating that a greater portion of the relationship operates through the mediating mechanism. The total effect reaches 0.619 (61.9%), reflecting the combined influence of both pathways. The VAF value of 75.8% indicates partial mediation, meaning that although the direct effect remains significant, most of the influence of competitive advantage non company resources is transmitted through digital transformation. This is further supported by the indirect-to-direct ratio of 3.13:1, which shows that the mediated effect is more than three times stronger than the direct effect. Overall, these results indicate that while company resources contribute to competitive advantage, their impact is largely realized through digital transformation, which emerges as the dominant pathway in the model.

Model Explanatory Power

Table 7. Model Explanatory Power (R^2)

Endogenous Variable	R^2	Predictors	Interpretation
Digital Transformation	0.5 (50%)	Company Resources	Moderate
Competitive Advantage	0.6 (60%)	Company Resources + Digital Transformation	Moderate

Note: $R^2 \geq 0.75$ = substantial, $R^2 \geq 0.5$ = moderate, $R^2 \geq 0.25$ = weak (Hair et al., 2017).

Table 7 The table displays the R^2 results which prove that Resources explain 50% of the variance in digital transformation (R^2 = 0.50), proving the variation in digital transformation are moderately accounted for by the level of internal resources. In turn, company resources together with digital transformation explain 60% of the variance in competitive advantage (R^2 = 0.60), indicating a stronger level of explanation for this outcome variable. Based on the established thresholds, both R^2 values fall within the moderate category, demonstrating that the model has adequate explanatory power in capturing the relationships among the constructs.

DISCUSSION

This study examined whether digital transformation mediated the relationship between company resources and sustainable competitive advantage among Indonesian MSMEs registered on the PaDi UMKM platform. The results showed that all hypothesized relationships were supported. Company resources had a positive and significant effect on both digital transformation and competitive advantage, while digital transformation had the strongest direct effect on competitive advantage. In addition, the mediation analysis showed a partial mediating effect of digital transformation, with a VAF value of 75.8%. The results prove it company resources remained important for MSME competitiveness, but their contribution became substantially stronger when they were translated into digital transformation capabilities.

Key Findings Analysis

H1: Company Resources on Competitive Advantage

From a theoretical perspective, the finding that company resources significantly affected competitive advantage supports the RBV, which argues that firms can achieve superior performance when they possess and utilize strategic resources effectively (Barney, 1991; Grant, 1991). In the present study, this direct effect suggests that company resources continue to function as an important strategic base for MSMEs. This result is

also consistent with the VRINE logic, which emphasizes that resources create value when they are exploitable, difficult to imitate, non-substitutable, valuable, and rare (Zvarimwa & Zimuto, 2022). The finding also aligns with prior empirical studies showing that internal resources contribute positively to competitive positioning among MSMEs (Zein et al., 2025). However, the results also show that the direct effect of company resources on competitive advantage is not the dominant relationship in the model, suggesting that resource possession alone may not be sufficient to generate the strongest competitive outcomes in a digital business environment.

H3: Company Resources on Digital Transformation

The significant effect of company resources on digital transformation further reinforces this interpretation. The result indicates that stronger internal resources provide MSMEs with the foundation needed to undertake digital transformation, including investments in technology, organizational adjustment, and capability development. This finding remains consistent with RBV arguments that resources shape the firm's capacity to pursue strategic initiatives (Barney, 1991; Grant, 1991), and it also supports prior work suggesting that resource endowments are important preconditions for successful digital transformation (Praeditia & Sutjipto, 2025). For Indonesian MSMEs, this is particularly relevant because limited capital, skills, and infrastructure often constrain digital adoption. Accordingly, digital transformation should not be viewed as detached from the firm's internal resource base, but rather as a capability that is enabled by it.

H2: Digital Transformation on Competitive Advantage

The strongest direct relationship in the model was found between digital transformation and competitive advantage. This result indicates that, For Indonesian MSMEs, digital transformation plays a crucial role in strengthening competitive advantage. This perspective is relevant from studies that demonstrate that digital transformation is an effective tool for developing responsiveness, value creation, efficiency, and competitiveness (Kraus et al., 2021; Verhoef et al., 2021; Vial, 2021). The finding is also consistent with more recent empirical evidence showing that digital transformation contributes positively to the competitiveness of smaller firms and MSMEs (Agustian et al., 2023; Lu & Shaharudin, 2024; Shehadeh et al., 2023). In the present study, this result clarifies that digital transformation is not only an operational improvement tool but also a central mechanism through which MSMEs strengthen their competitive position.

H4: Mediation of Digital Transformation

The mediation result provides the main contribution of the study. The VAF value of 75.8% indicates partial mediation, meaning that a substantial proportion of the effect of company resources on competitive advantage is transmitted through digital transformation. This finding supports the argument that internal resources do not automatically become competitive outcomes unless they are reconfigured into adaptive and market-relevant capabilities. In this regard, the findings extend the RBV perspective by showing that digital transformation functions as a bridging mechanism between resource endowment and competitive advantage. This interpretation is also consistent from the perception of dynamic reliability which demands the company's ability to implement, use and integrate every resource to respond to a changing environment (Teece et al., 1997; Teece, 2007). For MSMEs operating in resource-constrained and digitally evolving markets, this mediating role is particularly important because competitive advantage will depend on how effectively those resources are transformed into digitally enabled capabilities.

Additional Insights from Measurement Results

The measurement results also help clarify the substantive meaning of the model. Within the company resources construct, non-substitutability shows the highest loading factor,

suggesting that irreplaceable and enduring resources are especially important for MSMEs seeking long-term advantage. This is consistent with the RBV and VRINE argument that resources create stronger strategic value when they cannot easily be replaced by competitors (Barney, 1991; Zvarimwa & Zimuto, 2022). Within digital transformation, customer experience and security and privacy show the highest loading factors, indicating that digital transformation in this research is closely associated with the ability of MSMEs to improve customer interaction while maintaining trust and data protection. This interpretation is compatible with the view that digital transformation needs to be interpreted as broader organizational capability involving value creation, customer engagement, and internal adjustment, rather than mere technology adoption (Verhoef et al., 2021; Vial, 2021). Within competitive advantage, cost leadership emerges as the most salient dimension, suggesting that efficiency and price competitiveness remain central to MSME competition, even when digital transformation is important. This pattern is also consistent with the competitive advantage framework emphasizing differentiation, cost efficiency, market focus, and customer responsiveness (Insee & Suttipun, 2023).

Theoretical Contributions

Taken together, these findings offer several theoretical contributions. First, the study strengthens the relevance of RBV in the context of digital competition by showing that internal resources still matter, but their strategic value is amplified when they are converted into digital transformation capabilities. Second, the study extends prior MSME research by explicitly positioning digital transformation as a mediating mechanism rather than only as a separate antecedent of performance. Third, this research provides empirical support for applying the RBV of dynamic skills perspective in explaining how MSMEs translate resource endowments into sustainable competitive advantage under conditions of technological change. In this way, the research contribute to the literature on an ongoing basis clarifying that competitive advantage in MSMEs is shaped not only by resource ownership and the company's ability to mobilize those resources through digital transformation.

Practical and Policy Implications

The study also offers practical implications, although these should be interpreted in proportion to the empirical scope of the research. The results can be used by MSME managers to find benefits from giving greater strategic attention to digital transformation when seeking to leverage internal resources for competitive outcomes. However, the findings should not be interpreted as supporting a fixed or universal formula for resource allocation. Rather than prescribing a rigid “75–80 Rule,” the VAF result of 75.8% is better understood as evidence that digital transformation represented the dominant pathway through which company resources influenced competitive advantage in this sample. Accordingly, MSME managers may consider prioritizing digital initiatives that strengthen customer experience, business process transformation, and security and privacy, because these dimensions appeared particularly salient in the model. Such prioritization would be more consistent with the empirical findings than a prescriptive allocation rule.

At the policy level, the findings imply that efforts to improve MSME competitiveness should not focus only on expanding access to resources in a general sense, but also on supporting the capability of MSMEs to transform those resources digitally. In practical terms, this may include strengthening digital infrastructure, expanding training in digital capability development, and improving MSME access to trusted digital platforms and systems. In Indonesia, such support is needed, where MSMEs play a major economic role but still face substantial digital transformation constraints.

CONCLUSION

This research examined "the mediating role of digital transformation in the relationship between company resources and competitive advantage among Indonesian MSMEs". The findings confirm that company resources contribute positively to both competitive advantage and digital transformation, while digital transformation emerged as a contributing aspect in strengthening competitive advantage. In addition, digital transformation plays a significant mediating role, indicating that the impact of company resources on competitive outcomes is largely realized through their transformation into digital capabilities.

These results reinforce the relevance of the RBV by demonstrating that internal resources remain a critical foundation for competitiveness, but their strategic value is substantially enhanced when they are effectively deployed through digital transformation. This suggests that resource possession alone is insufficient; rather, MSMEs need to actively convert their resources into adaptive and digitally enabled capabilities to achieve a stronger and more sustainable competitive advantage.

From a practical perspective, the results point to the priority for MSME managers to prioritize digital transformation initiatives as a means of leveraging internal resources more effectively. For policymakers, the results suggest that efforts to enhance MSME competitiveness should not only focus on improving access to resources but also on supporting the development of digital capabilities. Overall, this study underscores that competitive advantage in MSMEs is shaped not only by what resources firms possess, but also the effectiveness of resources is used value through digital transformation.

LIMITATION

This research found some limitations to provide directions for further research. The cross-sectional form of the study constrains the drawing of causal conclusions about dynamic processes over time; longitudinal studies should track how digital transformation investments translate into evolving competitive positions. The sample is limited to PaDi UMKM members, who represent more digitally engaged MSMEs than the general MSME population, potentially limiting generalizability to non-platform MSMEs. Future research should examine the moderating effects of industry sector and MSME scale on the mediation relationship, explore the role of entrepreneurial orientation as an additional mediator or moderator, and extend the model to other digital platforms and regional contexts across Indonesia and ASEAN emerging economies.

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DECLARATION OF CONFLICTING INTERESTS

The authors declare no conflict of interest.

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