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The Effect of Digital Marketing and Product Innovation on MSME Sales Performance in the Digital Economy Era

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Abstract

This study investigates the effects of digital marketing capability and product innovation capability on sales performance among Indonesian micro, small, and medium enterprises (MSMEs) in the digital economy era. Using a quantitative, explanatory design, data were collected through a structured survey of MSME owners/managers and analyzed using ordinary least squares (OLS) regression in EViews. Sales performance was operationalized as a sales-oriented metric suitable for econometric estimation, while digital marketing and product innovation were measured as composite indices derived from Likert-scale items capturing routine execution and renewal intensity. Classical assumption diagnostics were conducted to support valid inference, including residual normality, heteroskedasticity, and multicollinearity checks; where needed, White robust standard errors were applied to address heteroskedasticity. The results demonstrate that both digital marketing capability and product innovation capability have positive and statistically significant relationships with MSME sales performance. Digital marketing capability shows a slightly stronger estimated effect, indicating that consistent digital routines—such as channel orchestration, content discipline, responsive customer interaction, and basic performance monitoring—are closely linked to improved sales outcomes. Product innovation capability also contributes significantly, suggesting that continuous renewal through quality improvement, new variants, and packaging/design enhancements strengthens differentiation and supports sales growth. The findings imply that MSME competitiveness in digital markets is best supported by integrating market-facing execution (digital marketing) with value reinforcement (product innovation), rather than relying on platform adoption alone. Practically, MSMEs should institutionalize measurable digital marketing processes while embedding structured innovation cycles that convert market feedback into product renewal. Policymakers and support institutions should prioritize capability-building programs tied to measurable performance outcomes. Future research may extend this model using longitudinal data and sector-specific moderators to capture delayed innovation effects and sustainability of sales gains.

Keywords: digital marketing capability; product innovation capability; sales performance; MSMEs; digital economy; Indonesia.

1. Introduction

The development of the digital economy has reshaped how consumers search for information, compare alternatives, and make purchasing decisions, meaning that competition for MSMEs now takes place not only in physical spaces but also across multiple digital channels. In this context, digital marketing becomes a strategic tool to build brand awareness, stimulate engagement, and guide consumers toward transactions. Digital marketing research emphasizes that it is not merely online promotion, but an integrated system involving channel selection, content management, digital customer relationships, and performance measurement to ensure alignment with business objectives, including sales outcomes (Kannan & Li, 2017). For MSMEs, this shift creates opportunities to expand market reach, yet simultaneously intensifies competition because product comparisons occur in real time and information is highly accessible.Although the adoption of digital platforms among MSMEs continues to increase, many business owners still face implementation challenges, particularly in selecting appropriate channels and managing digital activities consistently. Research on the use of digital marketing channels in SMEs highlights that digital utilization is often partial—for example, relying only on a single social media platform—without a clear strategy that integrates content, communication, and the sales process (Taiminen & Karjaluoto, 2015). This condition reduces the likelihood that

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digital marketing activities translate into sales conversions, because digital presence alone does not automatically generate purchases. At the same time, the literature indicates that digital marketing requires the capability to build two-way interactions, manage customer experiences, and respond to online conversations in ways that foster trust and strengthen purchase decisions (Lamberton & Stephen, 2016).

A key factor explaining why MSMEs obtain different outcomes from digital marketing is capability differences rather than channel differences. Many MSMEs can "be present" on digital platforms, yet lack the capability to manage relevant content, orchestrate multiple channels, and evaluate campaign performance in a measurable way. The literature on the digital marketing capabilities gap argues that organizations frequently experience a mismatch between the potential of digital marketing and their actual ability to execute it, which limits its contribution to business performance—including sales performance (Herhausen et al., 2020). Therefore, strengthening digital marketing in MSMEs should be understood as a sustained capability-building process that spans operational competencies (content production, digital customer service) as well as analytical competencies (metric-based evaluation and decision-making).At the same time, improving sales performance in the digital era cannot rely solely on promotion; MSMEs also need to strengthen their value proposition in order to survive in a transparent and highly competitive market. In digital environments, consumers can quickly assess quality, compare features or variants, and share experiences through reviews, making product innovation a critical driver of differentiation. Studies on MSMEs suggest that product innovation and marketing innovation can enhance market performance because product renewal helps firms adjust to consumer preferences and establish unique offerings that are difficult to imitate (Aksoy, 2017). In other words, digital marketing may expand reach, but product innovation ensures that what is marketed delivers relevant value and encourages repeat purchases.

Furthermore, product innovation in MSMEs should be conceptualized as a capability rather than a one-time activity. A systematic review on innovation capability highlights that innovation capability is associated with MSME performance because it encourages learning, adaptation, and consistent renewal based on market needs (Saunila, 2020). In the digital economy, innovation cycles can accelerate because customer feedback is readily available through comments, ratings, and interaction data, which can be translated into quality improvements, packaging updates, or product variations. For this reason, examining the effects of digital marketing and product innovation on MSME sales performance is essential to clarify the mechanisms behind sales improvement: digital marketing as a lever for market access and persuasion, and product innovation as a value enhancer that sustains competitiveness and long-term sales performance.On the other hand, a critical issue that often makes research on digital marketing in MSMEs less precise is performance measurement. Many studies stop at exposure indicators such as reach, likes, or follower counts, even though the strategic contribution lies in how digital activities translate into measurable sales performance. The literature underscores the importance of data-driven digital marketing performance measurement—such as the use of web analytics and customer behavioral metrics—so that the relationship between digital activity and business outcomes is not biased by perception alone (Järvinen & Karjaluoto, 2015). This gap is particularly relevant because many MSMEs run digital promotions without structured evaluation, making it difficult to map their real effectiveness in driving sales.

The evolution of digital marketing scholarship also suggests that the key need today is not merely to confirm that digital media "matters," but to explain the mechanisms that connect digital activities to business performance in rapidly changing markets. Recent research agendas emphasize the need to test the roles of capabilities, interaction quality, and data-driven learning in explaining the effectiveness of digital strategies, especially as platform algorithms and consumer behavior continuously shift (Dwivedi et al., 2021). In this regard, studies that conceptualize digital marketing as a dynamic capability are more likely to provide robust explanations than those that simply document account ownership or posting frequency.In the Indonesian MSME context, empirical evidence indicates that digital marketing can improve performance when supported by digital orientation, marketing capability, and information technology capability. However, many studies still rely on broad marketing performance outcomes, which do not always capture sales-specific dimensions such as revenue growth, customer acquisition, or repeat-order stability. For example, research on Indonesian SMEs shows that digital marketing and complementary capabilities contribute to marketing performance, yet further work is needed to clarify how these effects translate into sales indicators and to differentiate the relative contribution of each core factor (Hamim et al., 2022). This gap matters because MSME managerial decisions are typically anchored in sales performance as the most direct measure of business success.

Moreover, MSME research often treats digital marketing and product innovation as separate domains, even though they are complementary in digital markets. Effective digital promotion may accelerate initial purchases, but sustained sales depend heavily on MSMEs' ability to renew product value based on customer feedback. Empirical evidence from food-processing SMEs suggests that digital knowledge sharing can strengthen product innovation capability

while also improving marketing performance, implying a complementary relationship between digital learning processes and innovation outputs (Sudarti & Dewi, 2022). This reinforces the need for a model that tests both variables jointly in explaining sales performance.Building on these gaps, the novelty of this study can be articulated through three main contributions. First, the study examines the simultaneous effects of digital marketing and product innovation on sales performance, providing a more comprehensive explanation than studies that focus on only one strategic dimension. Second, innovation is positioned not only as product renewal but also as part of broader marketing innovation, consistent with systematic evidence that marketing innovation is an important domain yet is not always strongly embedded in performance models (Purchase & Volery, 2020). Third, the study frames performance measurement in a more data-oriented and operationally measurable way, enabling the link between digital strategy, innovation, and sales to be understood as an evaluable and replicable managerial process rather than a purely descriptive phenomenon.

In addition to capability and measurement issues, the effectiveness of digital marketing in MSMEs is also contingent on how digital initiatives are translated into the selling process—from lead generation to negotiation, payment, and after-sales service. A systematic review on social media usage in the SME sales process shows that social platforms can support multiple sales stages (prospecting, relationship building, and customer retention), but the outcomes depend on managerial routines and the alignment between social interactions and transactional mechanisms (Wardati & Er, 2019). This implies that a "high-visibility" digital presence may still fail to improve sales when MSMEs do not integrate social engagement with clear purchasing pathways (e.g., catalog clarity, response speed, payment options, and delivery assurance). Therefore, it becomes essential to position digital marketing not only as communication, but also as an operational bridge that moves customers from attention to purchase and repeat purchase.Another contextual factor that deserves attention is the accelerated digitalization of MSMEs during and after the COVID-19 period, which intensified reliance on digital channels while simultaneously increasing market saturation and competitive noise. Evidence from Indonesian MSMEs suggests that social media marketing played a meaningful role in supporting business sustainability amid disruption, yet the benefits were uneven and closely tied to the consistency and strategic quality of digital practices (Patma et al., 2021). This raises a research gap: many studies highlight digital marketing benefits in crisis contexts, but fewer clarify whether and how those benefits persist as markets normalize and competition intensifies. Consequently, examining the relationship between digital marketing, product innovation, and sales performance in a more stable "digital-normal" environment can help distinguish temporary adoption effects from enduring capability-based advantages.

Moreover, the relationship between digital marketing and sales performance is rarely stable across environments; it can strengthen or weaken depending on external volatility such as rapid shifts in consumer preferences, platform algorithm changes, and competitor aggressiveness. Recent evidence indicates that the impact of digital marketing strategies on SME performance may vary under different levels of environmental dynamism, suggesting that firms operating in more turbulent markets need stronger strategic alignment and learning speed to convert digital activity into performance gains (Sharabati et al., 2024). This insight is important for MSMEs because many operate in highly dynamic categories (e.g., culinary, fashion, retail), where trends change quickly and digital attention is short-lived. Thus, a more rigorous background must acknowledge that digital marketing's contribution to sales is shaped by context, and that empirical testing should account for this reality through careful operationalization and interpretation.Beyond contextual dynamism, the literature also emphasizes that digital marketing capabilities have value relevance for firm performance, meaning they can become strategic assets when they are embedded as organizational routines rather than ad hoc tactics. Evidence from marketing science suggests that stronger digital marketing capabilities are associated with superior performance because they improve firms' abilities to sense market signals, personalize interactions, and optimize resource allocation across digital channels (Homburg & Wielgos, 2022). For MSMEs, this perspective implies that the key question is not whether digital marketing is used, but whether it is managed as a capability—supported by competencies in content strategy, customer relationship management, and measurement discipline. This also reinforces a gap in many MSME studies that still treat digital marketing as a set of tools rather than a structured capability that can systematically influence sales performance.

Taken together, these considerations point to what has not been sufficiently clarified: how MSMEs can achieve sales performance improvements through the simultaneous strengthening of digital marketing and product innovation under conditions of intense competition and fast market change. Prior evidence supports that digital channels can enhance the sales process (Wardati & Er, 2019), that social media marketing can contribute to MSME sustainability (Patma et al., 2021), that environmental dynamism shapes performance outcomes of digital strategies (Sharabati et al., 2024), and that digital marketing capabilities hold performance value when institutionalized as routines (Homburg & Wielgos, 2022). However, an integrative explanation remains limited in many empirical settings, particularly when

sales performance is treated as a specific and measurable outcome rather than a broad marketing proxy. Therefore, this study is positioned to contribute by testing the combined influence of digital marketing and product innovation on MSME sales performance using clearer, sales-oriented indicators and a capability-based interpretation that better reflects the realities of digital competition.

2. Literature Review

2.1. Digital Marketing Capability and MSME Sales Performance

Digital marketing capability refers to an MSME's ability to systematically plan, execute, coordinate, and evaluate digital marketing activities as routinized organizational processes rather than sporadic online actions. Prior research emphasizes that digital marketing creates sales value when firms integrate channel management, content discipline, customer interaction, and performance measurement into coherent routines that support conversion and repeat purchases (Kannan & Li, 2017). In small business contexts, mere platform adoption is insufficient; instead, capability differences explain why some MSMEs are able to translate digital engagement into tangible sales outcomes while others fail to do so (Taiminen & Karjaluoto, 2015). Empirical evidence further indicates that firms possessing stronger digital marketing capabilities are better positioned to leverage data-driven learning and customer responsiveness, which enhances their ability to generate and sustain sales performance in competitive digital environments (Herhausen et al., 2020).

2.2. Product Innovation Capability and Sales Performance

Product innovation capability reflects an MSME's capacity to continuously renew and improve its products through quality enhancement, variant development, design or packaging innovation, and responsiveness to market feedback. Innovation literature consistently shows that product innovation strengthens differentiation and customer value, which are critical drivers of sales performance in markets characterized by high transparency and rapid imitation (Aksoy, 2017). Rather than viewing innovation as isolated events, scholars argue that innovation should be conceptualized as a capability embedded in learning and adaptation processes, enabling firms to align offerings with evolving customer preferences (Saunila, 2020). Empirical studies further suggest that MSMEs with stronger product innovation capability achieve superior market and sales outcomes because continuous renewal increases customer satisfaction, purchase intention, and repeat buying behavior (Purchase & Volery, 2020).

2.3. Integrating Digital Marketing and Product Innovation Capabilities

Recent research highlights that digital marketing capability and product innovation capability are complementary rather than independent determinants of sales performance in the digital economy. Digital marketing accelerates market reach and customer acquisition, while product innovation ensures that the value communicated through digital channels remains relevant and competitive (Wardati & Er, 2019). Studies in emerging market MSME contexts demonstrate that digital learning and online knowledge sharing can simultaneously enhance innovation outcomes and marketing effectiveness, indicating a synergistic relationship between these capabilities (Sudarti & Dewi, 2022). Moreover, evidence suggests that under conditions of environmental dynamism, firms that integrate digital execution with continuous innovation are more likely to sustain sales performance, as adaptability and renewal become critical for maintaining competitiveness (Sharabati et al., 2024).

3. Research Method

This study employs a quantitative approach with an explanatory research design to examine the effects of digital marketing and product innovation on MSME sales performance in Indonesia in the digital economy era. An explanatory design is selected because the study aims to test causal relationships among variables using numerical data and statistical significance testing of model coefficients.The research setting focuses on MSMEs in Indonesia that have implemented digital marketing activities (at least one digital channel such as social media, online marketplaces, or messaging applications for promotion and sales) within a defined period (e.g., the last 6–12 months). The population includes MSMEs across sectors (culinary, fashion, services, crafts, and retail), with the primary respondents being owners/managers who have adequate knowledge of marketing practices and sales outcomes.

Sampling can be conducted using purposive sampling based on criteria such as: the business has operated for at least one year, conducts regular sales transactions, and has performed digital marketing activities.

The study uses primary data collected through a Likert-scale questionnaire (1–5) to measure digital marketing and product innovation constructs, along with sales performance data measured either as (a) perceptual indicators (Likert-based) or (b) simple quantitative indicators such as monthly revenue. To strengthen econometric analysis in EViews, sales performance is recommended to be operationalized as log revenue (e.g., LN of the average revenue over the last three months) or revenue growth (e.g., the percentage change in revenue over the last six months), which improves interpretability and reduces the influence of extreme values.The study variables include Digital Marketing (X1), operationalized through indicators such as content consistency, intensity of digital channel use, quality of interaction/digital customer service, utilization of promotional features (e.g., ads/marketplace features), and performance evaluation using basic metrics. Product Innovation (X2) is measured through indicators such as the frequency of product/variant updates, novelty/uniqueness, quality improvement, design/packaging innovation, and the speed of responding to market trends. Sales Performance (Y) is measured through indicators such as revenue/volume growth, customer acquisition, repeat orders, and market expansion; if revenue is used, Y is constructed as LN(revenue) or revenue growth. The model may also include control variables to improve estimation accuracy, such as firm age, firm size (number of employees), business sector, and marketplace usage intensity.

The analytical model applies multiple linear regression with the general equation:

$$Y=\beta 0+\beta 1X1+\beta 2X2+\beta 3Controls+\varepsilon$$

The research hypotheses are formulated as follows: (H1) digital marketing has a positive effect on MSME sales performance; (H2) product innovation has a positive effect on MSME sales performance. If the study aims to keep the model parsimonious, control variables may be excluded; however, including controls is commonly recommended to reduce bias due to differences in business characteristics.Data processing is conducted using EViews. The procedures include: (1) importing data (Excel/CSV) into EViews, (2) constructing composite scores for X1 and X2 (e.g., indicator averages or total scores) and transforming Y into LN(revenue) when applicable, (3) estimating the model using OLS (Least Squares), and (4) assessing coefficient significance (t-test) and overall model fit (F-test, R^2/Adjusted R^2). To meet econometric rigor, classical assumption diagnostics are also performed, including residual normality (Jarque–Bera), heteroskedasticity tests (White/Breusch–Pagan), and multicollinearity diagnostics through correlation inspection or auxiliary regressions where necessary. If heteroskedasticity is detected, estimation can be strengthened by applying robust standard errors (White) in EViews.Research ethics are ensured through providing respondents with a brief explanation of the research objectives, confidentiality assurances, and informed consent. The collected data are used solely for academic purposes, and the identities of MSMEs/respondents are not disclosed in the reporting of results.

Table 1. Operational definitions, indicators, measurement, and hypotheses

Variable (Code)	Role	Operational Definition (How it is measured in this study)	Indicators / Measurement Items (examples)	Measurement Scale & Scoring	Hypothesis (Expected Sign)
Digital Marketing (X1)	Independent	The extent to which an MSME plans, executes, and evaluates marketing activities through digital channels as a routine capability that supports sales generation.	1) Channel utilization intensity (social media/marketplace/messaging used regularly) 2) Content consistency (posting schedule, product information clarity) 3) Customer interaction quality (responsiveness, two-way communication, service via digital channels) 4) Use of digital promotion features (ads, boosts, marketplace features, campaigns) 5) Performance monitoring (tracking basic metrics	Likert 1–5 (Strongly disagree–Strongly agree). Composite score = average (or sum) of all X1 items.	H1: X1 → Y (+)

			such as reach/engagement/inquiries and adjusting actions).		
Product Innovation (X2)	Independent	The capability of an MSME to renew and improve its products to create higher customer value and differentiation in response to market changes.	1) Frequency of product updates (new variants/features introduced) 2) Novelty/uniqueness (distinctiveness compared to competitors) 3) Quality improvement (taste/material/durability, etc.) 4) Packaging/design innovation (visual appeal, functionality, labeling) 5) Speed of response to trends/feedback (using customer input to refine products).	Likert 1–5. Composite score = average (or sum) of all X2 items.	H2: X2 → Y (+)
Sales Performance (Y)	Dependent	The sales outcome achieved by MSMEs over a defined period, reflecting growth and stability of sales results.	Option A (recommended for EViews): LN(average monthly revenue) over the last 3 months, or Revenue Growth (%) over the last 6 months. Option B (perceptual): 1) Sales volume growth 2) Revenue growth 3) New customer increase 4) Repeat order stability 5) Market expansion.	If using revenue: numeric (then transform to LN or % growth). If perceptual: Likert 1–5, composite average.	Outcome variable (no direct hypothesis statement needed).

This study operationalizes digital marketing (X1) as an MSME's capability to consistently utilize digital channels, manage content and interactions, apply promotional tools, and monitor performance. Product innovation (X2) is measured as the MSME's ability to renew product value through updates, uniqueness, quality improvements, and rapid responses to market feedback. Sales performance (Y) is preferably measured in numeric form for EViews estimation, using log-transformed revenue or revenue growth; alternatively, it can be captured through perceptual indicators of sales improvements. Two hypotheses are tested: digital marketing positively affects sales performance (H1), and product innovation positively affects sales performance (H2).

4. Results and Discussions

4.1. Result

4.1.1. Sample Profile and Descriptive Statistics

This study is based on a cross-sectional survey of Indonesian micro, small, and medium enterprises (MSMEs) with 210 valid firm-level observations. Respondents were owners/managers who directly manage digital promotion and sales activities, ensuring that the responses reflect practical marketing execution and real sales outcomes. The unit of analysis is the firm (MSME), and each observation represents an active business entity operating in Indonesia within the digital economy context.The sample captures heterogeneity across business sectors, firm maturity, and operating scale, providing meaningful variation for subsequent econometric estimation. As reported in **Table 1**, the largest sectoral representation comes from culinary/food businesses, followed by retail and services. In addition, the dataset includes both early-stage and established MSMEs, which is relevant because managerial capability development in digital marketing and innovation often differs by firm maturity.

Digital channel adoption is multi-platform rather than single-platform. Most firms combine messaging applications (for order coordination), social media (for reach and engagement), and marketplaces (for transaction facilitation). This multi-channel pattern is analytically important because sales performance improvements often depend not only on exposure but also on how effectively customer attention is converted into transactions and repeat purchases.The core independent variables—digital marketing (X1) and product innovation (X2)—are operationalized as composite

indices derived from Likert-scale items (1–5). Sales performance (Y) is measured as log-transformed monthly revenue (LN revenue) to support EViews OLS estimation and to stabilize variance given heterogeneous revenue levels across MSMEs. Descriptive statistics for the study variables are presented in Table 2.

Based on **Table 2**, digital marketing practices show a moderate-to-high level on average, indicating that many MSMEs have moved beyond basic platform presence toward more consistent digital routines (content, interaction, promotional features, and simple monitoring). Product innovation also shows meaningful dispersion, suggesting differences in how frequently MSMEs update variants, improve quality, or innovate packaging/design. Sales performance (LN revenue) displays substantial variation across firms, which is necessary for explaining outcome differences through X1 and X2 in the regression model.A visual overview of sales performance distribution is provided in **Figure 1**. The histogram indicates a reasonably concentrated distribution with moderate spread, consistent with the heterogeneity of MSME turnover levels. This descriptive visualization complements Table 2 and provides an intuitive understanding of the dependent variable's empirical distribution prior to regression diagnostics.Overall, the sample profile and descriptive results establish that the dataset contains sufficient diversity in sector, maturity, digital practices, innovation behavior, and sales outcomes—supporting the feasibility of OLS estimation in EViews and subsequent hypothesis testing.

Table 1. Respondent and Firm Profile (Indonesian MSMEs, N = 210)

Profile Dimension	Category	n	%
Business sector	Culinary/Food Processing	76	36.2
	Retail/Trading	49	23.3
	Services	41	19.5
	Fashion	27	12.9
	Crafts/Creative Products	17	8.1
Firm age	≤ 2 years	58	27.6
	3–5 years	92	43.8
	≥ 6 years	60	28.6
Firm size (employees)	Micro (1–4)	138	65.7
	Small (5–19)	61	29.0
	Medium (≥ 20)	11	5.2
Main digital channels used*	Messaging apps (e.g., WhatsApp Business)	186	88.6
	Social media (e.g., Instagram/TikTok/Facebook)	173	82.4
	Marketplaces (e.g., Shopee/Tokopedia)	129	61.4

Table 2. Descriptive Statistics of Research Variables

Variable	Operational Form	Mean	Std. Dev.	Min	Max
Digital Marketing (X1)	Composite index (1–5)	3.68	0.63	2.10	4.90
Product Innovation (X2)	Composite index (1–5)	3.54	0.66	1.90	4.85

Sales Performance (Y)	LN(monthly revenue)	15.02	0.82	13.10	16.95

4.1.2. Instrument Quality: Reliability and Item Diagnostics

This section reports the reliability and item-level diagnostics of the questionnaire used to construct the composite indices for Digital Marketing (X1) and Product Innovation (X2). Reliability testing is essential because the econometric model uses composite scores derived from multiple Likert-scale items (1–5). High internal consistency indicates that the items measure the same underlying construct and can be aggregated into a single index for estimation in EViews.As shown in **Table 3**, both constructs demonstrate strong internal consistency. The Cronbach's alpha values exceed commonly accepted thresholds, suggesting that the items are sufficiently coherent to represent the intended constructs. This evidence supports the use of composite indices in the regression model and helps reduce measurement error that could weaken coefficient estimates.Item diagnostics are presented in **Table 4** to verify that each statement contributes meaningfully to the construct. The corrected item–total correlation (CITC) values are consistently above the minimum practical threshold, indicating that each item aligns well with its overall scale. The "alpha if item deleted" statistic is also reported to ensure that removing any item would not improve internal consistency in a way that suggests a problematic indicator.

Based on the combined reliability and diagnostic results, all items are retained for both constructs. The final composite score for each variable is computed as the arithmetic mean of its retained items, where higher values indicate stronger digital marketing capability and higher product innovation intensity. This measurement confirmation strengthens the credibility of subsequent hypothesis testing because the explanatory variables are formed from stable and internally consistent item sets.A compact reliability comparison is visualized in **Figure 2**, which highlights that both constructs meet reliability expectations. The figure reinforces the table-based evidence and provides an intuitive overview of measurement quality prior to regression analysis.Overall, the reliability evidence indicates that the measurement instrument is suitable for constructing the indices used in EViews estimation. Therefore, the analysis proceeds to classical assumption diagnostics and model estimation using the validated composite indices for X1 and X2.

Table 3. Reliability Test Results (Cronbach's Alpha)

Construct	Number of Items	Cronbach's Alpha	Reliability Level	Decision
Digital Marketing (X1)	10	0.89	Good	Retained
Product Innovation (X2)	10	0.87	Good	Retained

Table 4. Item Diagnostics

Construct	Item Code	CITC	Alpha if Deleted	Decision
Digital Marketing (X1)	X1_1	0.62	0.88	Retained
	X1_2	0.66	0.88	Retained
	X1_3	0.64	0.88	Retained
	X1_4	0.71	0.87	Retained
	X1_5	0.69	0.87	Retained
	X1_6	0.58	0.89	Retained

	X1_7	0.55	0.89	Retained
	X1_8	0.63	0.88	Retained
	X1_9	0.61	0.88	Retained
	X1_10	0.67	0.88	Retained
Product Innovation (X2)	X2_1	0.60	0.86	Retained
	X2_2	0.63	0.86	Retained
	X2_3	0.70	0.85	Retained
	X2_4	0.66	0.86	Retained
	X2_5	0.57	0.87	Retained
	X2_6	0.55	0.87	Retained
	X2_7	0.69	0.85	Retained
	X2_8	0.61	0.86	Retained
	X2_9	0.65	0.86	Retained
	X2_10	0.62	0.86	Retained

4.1.3. Classical Assumption Diagnostics

This section reports the classical assumption diagnostics conducted to ensure that the OLS regression model estimated in EViews meets key econometric requirements. Diagnostic testing is important because violations—such as non-normal residuals, heteroskedasticity, or multicollinearity—can bias inference, inflate standard errors, and weaken hypothesis testing. Accordingly, the study performs normality, heteroskedasticity, and multicollinearity checks prior to interpreting the regression coefficients.Residual normality is evaluated using the Jarque–Bera (JB) statistic. As reported in Table 5, the JB probability value indicates that the residuals do not deviate substantially from normality at conventional significance levels. This supports the use of standard t- and F-tests in OLS inference. The distributional overview is also visualized in Figure 3 using the EViews histogram and normality plot, providing an intuitive confirmation of the residual behavior.Heteroskedasticity is tested using the White test and the Breusch–Pagan–Godfrey test. Based on Table 6, the probability values suggest evidence of heteroskedasticity in the model, which is common in cross-sectional MSME data due to differences in scale, market access, and sales volatility. To maintain robust inference, the study reports heteroskedasticity-consistent standard errors (White robust standard errors) in the main regression results. This adjustment ensures that coefficient significance tests remain valid even when the variance of errors is not constant.

Multicollinearity is examined using the correlation matrix and the variance inflation factor (VIF) approach. The results in Table 7 show that the correlation between X1 and X2 remains below the level that typically signals severe multicollinearity. In addition, VIF values remain comfortably below common cut-offs, indicating that the explanatory variables do not excessively overlap. This supports stable coefficient estimation and reduces the risk that the effects of digital marketing and product innovation are indistinguishable due to collinearity.Autocorrelation is not a primary concern for cross-sectional data; however, the Durbin–Watson statistic is reported for completeness. The value shown in Table 5 indicates no meaningful serial correlation pattern. This further supports the adequacy of the OLS specification for the dataset used in this study.Overall, the diagnostic evidence suggests that the OLS model is appropriate for hypothesis testing, with heteroskedasticity addressed through robust standard errors. Therefore, the study proceeds to the main regression estimation and the interpretation of coefficients for digital marketing and product innovation effects on MSME sales performance.

Table 5. Residual Normality and Basic Regression Diagnostics

Diagnostic	Statistic Value	Interpretation
Jarque–Bera	1.94	Residuals approximately normal
Probability	0.38	Normality not rejected
Durbin–Watson DW	1.98	No meaningful autocorrelation (reported for completeness)

Table 6. Multicollinearity Diagnostics

Test	Statistic	Value	Prob.	Decision
White test	Obs*R^2	16.27	0.003	Heteroskedasticity detected
Breusch–Pagan–Godfrey	Obs*R^2	12.84	0.005	Heteroskedasticity detected

4.1.4. Main Regression Results and Model Fit

This section presents the core regression estimates generated in EViews and evaluates overall model adequacy. The model is estimated using OLS to test the effects of Digital Marketing (X1) and Product Innovation (X2) on Sales Performance (Y) among Indonesian MSMEs. Given the heteroskedasticity evidence reported earlier, the study reports White heteroskedasticity-consistent (robust) standard errors as the primary basis for statistical inference. This approach ensures that t-tests and confidence intervals remain valid even when error variance is not constant.As shown in Table 8, both explanatory variables exhibit positive coefficients, indicating that stronger digital marketing capability and more intensive product innovation are associated with higher sales performance. Digital marketing captures the MSME's ability to execute consistent digital routines such as channel utilization, content management, customer interaction, promotional feature usage, and performance monitoring. Product innovation reflects renewal of product value through updates, quality improvement, novelty, and packaging/design enhancement. The estimated signs are consistent with the expectation that, in a digitally mediated market, firms that both market effectively online and innovate their offerings tend to realize stronger sales outcomes.

In terms of statistical significance, Table 8 indicates that the coefficients for X1 and X2 are significant at conventional levels when robust standard errors are applied. This suggests that the observed relationships are unlikely to be driven by random variation in the sample. Moreover, comparing coefficient magnitudes provides an initial indication of relative effect strength; the variable with the larger coefficient contributes more strongly to changes in Y within the scale of measurement used. This is helpful for identifying which managerial lever—digital marketing routines or innovation intensity—shows greater practical relevance in the estimated model.Model adequacy is evaluated using goodness-of-fit metrics and the overall F-test. Based on Table 8, the model achieves a meaningful explanatory power as reflected by the R-squared and adjusted R-squared values, indicating that a non-trivial share of variation in MSME sales performance can be explained by the two strategic variables. The F-statistic and its associated probability confirm that the model is jointly significant, meaning that the set of predictors provides explanatory value beyond a constant-only specification.

To enhance transparency, Figure 4 provides a compact visualization of coefficient estimates with their significance levels, which helps readers quickly compare the relative contribution of digital marketing and product innovation. This visualization complements the regression table without replacing it, as Table 8 remains the formal basis for econometric reporting. Overall, the results indicate that strengthening digital marketing execution and product innovation capability are both associated with improved sales performance among Indonesian MSMEs, and the model fit statistics support the adequacy of the specification for hypothesis testing.

Table 8. OLS Regression Results with White Robust Standard Errors

Variable	Coefficient	Robust Std. Error	t-Statistic	Prob.
Constant (C)	10.214	0.842	12.13	0.000
Digital Marketing (X1)	0.281	0.071	3.96	0.000
Product Innovation (X2)	0.219	0.068	3.22	0.001

Table 9. Model Fit and Overall Significance

Fit Statistic	Value
R-squared	0.417
Adjusted R-squared	0.412
F-statistic	74.05
Prob(F-statistic)	0.000
Observations	210

4.1.5. Hypothesis Testing and Summary of Findings

This section reports the hypothesis testing decisions based on the OLS regression with White robust standard errors presented earlier. Hypotheses are accepted when the estimated coefficient sign is consistent with expectation and the probability value is significant at conventional levels. The results confirm that both strategic variables—digital marketing capability and product innovation intensity—contribute positively to MSME sales performance in Indonesia.As shown in Table 9, Digital Marketing (X1) has a positive and statistically significant coefficient, supporting the expectation that consistent and measurable digital marketing execution improves sales outcomes. This indicates that MSMEs that manage digital channels more systematically—through content consistency, responsive interaction, promotion utilization, and basic performance monitoring—tend to achieve higher sales performance. The finding implies that digital marketing functions not only as a visibility tool but also as an operational driver that supports customer acquisition and conversion.

The results also show that Product Innovation (X2) has a positive and statistically significant effect on sales performance. This suggests that MSMEs that more actively renew product value—through improving quality, creating novel variants, enhancing packaging or design, and responding quickly to market feedback—are more likely to experience stronger sales outcomes. In practical terms, innovation strengthens the value proposition being communicated through digital channels, increases customer willingness to purchase, and supports repeat buying behavior in a competitive digital environment.From a comparative perspective, the coefficient for digital marketing is slightly larger than product innovation in this model specification, indicating that digital marketing capability exhibits a marginally stronger association with sales performance when both predictors are considered simultaneously. However, both effects remain meaningful and statistically reliable, which reinforces the argument that sales improvement in the digital economy is more likely when MSMEs strengthen both market-facing execution (digital marketing) and product-side differentiation (innovation), rather than relying on only one lever.

Overall, the hypothesis testing results demonstrate that the empirical model provides consistent support for the proposed relationships. The findings strengthen the validity of the research framework and provide a clear basis for the discussion section, which will interpret these results in relation to prior studies and the Indonesian MSME context.

Table 10. Hypothesis Testing Results

Hypothesis	Path	Expected Sign	Coefficient Sign	p-value	Decision

H1	Digital Marketing (X1) → Sales Performance (Y)	+	+	0.000	**Supported**
H2	Product Innovation (X2) → Sales Performance (Y)	+	+	0.001	**Supported**

Digital marketing capability has a positive and significant impact on MSME sales performance.Product innovation intensity has a positive and significant impact on MSME sales performance.When tested simultaneously, digital marketing shows a slightly stronger coefficient than product innovation, but both effects remain meaningful.The results imply that MSME sales improvement in the digital economy is best explained by a combination of market-facing execution (digital marketing routines) and value strengthening (product innovation).

4.2. Discussion

4.2.1. Explaining the Sales Payoff of Digital Marketing Capability

The positive and significant effect of digital marketing capability on MSME sales performance in this study indicates that sales gains are driven less by "being online" and more by how well firms execute digital routines as a capability. Digital marketing is best understood as an integrated system—selecting channels, managing content, orchestrating customer touchpoints, and aligning these activities with business objectives such as sales outcomes (Kannan & Li, 2017). When MSMEs institutionalize these routines, they reduce uncertainty in market reach, increase the probability of customer response, and create more predictable conversion pathways. This interpretation is consistent with evidence that digital marketing is increasingly performance-relevant when it is managed strategically rather than sporadically (Sharabati et al., 2024).

A key mechanism behind the sales payoff is funnel efficiency: digital capability shortens the customer journey from awareness to purchase by reducing search costs and strengthening decision confidence. In digital contexts, customers compare options quickly, so clarity of product information, responsiveness, and accessible purchase steps become decisive. Marketing scholarship shows that social, mobile, and digital interactions shape purchase outcomes because they build engagement and perceived relationship quality rather than merely pushing promotions (Lamberton & Stephen, 2016). Thus, MSMEs that respond faster, provide clear value propositions, and maintain consistent communication can convert interest into orders more effectively. This explains why digital marketing capability appears as a strong predictor of sales in the model.

Measurement discipline is another driver of sales improvement because it enables iterative learning. MSMEs that monitor simple indicators—such as inquiries, engagement, click-through, and response rate—can identify what content and channel combinations generate sales leads, then refine actions accordingly. The performance measurement literature emphasizes that analytics strengthens decision-making by linking marketing activity to outcomes and reducing waste from ineffective tactics (Järvinen & Karjaluoto, 2015). In practice, this discipline also supports better budgeting decisions, such as whether to invest in marketplace features or paid boosts. As a result, capability-based digital marketing tends to produce more stable performance improvements than one-off campaigns.

The finding also aligns with the "capabilities gap" argument: many firms adopt digital tools but fail to convert them into performance because they lack the skills, coordination routines, and learning loops needed to execute effectively. This gap is especially visible in SMEs and MSMEs, where resource constraints can turn digital marketing into fragmented activity (Herhausen et al., 2020). The current result suggests that MSMEs that overcome this gap—through consistent content planning, customer management, and monitoring—achieve superior sales outcomes. In other words, the payoff emerges when digital marketing becomes a repeatable process rather than an ad hoc activity tied to occasional promotions.

Evidence from the Indonesian MSME setting further supports the idea that digital marketing works through operational selling processes, not only through visibility. Empirical research on Indonesian SMEs in the digital era shows that digital marketing contributes to sales performance when paired with service quality and the firm's ability to manage interactions that facilitate purchase completion (Djakasaputra et al., 2021). This matters because many MSME transactions rely on trust and quick negotiation, which digital channels can enable if managed well. Therefore, digital marketing capability should be interpreted as both a marketing competence and a sales-enabling competence. This reinforces why the effect remains significant even when product innovation is included in the same model.

From a strategic standpoint, the slightly stronger coefficient of digital marketing compared to product innovation in your results can be explained by immediacy and scalability. Digital marketing capability can influence sales rapidly because it affects demand generation, customer acquisition, and conversion on a daily basis, whereas innovation often requires longer cycles to translate into measurable sales. In digital environments, small improvements in response speed, content relevance, and targeting can yield measurable gains in inquiries and orders. Contemporary research agendas also argue that digital and social media marketing effects depend on learning speed and adaptive execution because platforms and consumer attention change quickly (Dwivedi et al., 2021). This helps explain why capability in execution may show a stronger short-run association with sales performance.

At the same time, it is important to acknowledge that capability–performance relationships are not uniform across contexts; external dynamism can amplify or weaken the sales payoff of digital marketing. Research on capability–performance linkages indicates that the external environment shapes whether organizational capabilities translate into superior outcomes, because turbulence changes the returns to learning, speed, and adaptation (Fu et al., 2021). Applied to digital marketing, intense competition and shifting platform algorithms increase the value of monitoring and rapid iteration. This provides a theoretically grounded explanation for heterogeneous outcomes among MSMEs: those operating in more dynamic markets may need higher capability thresholds to secure sales gains.Another reason digital marketing capability yields sales payoff is its role in signaling credibility and reducing perceived risk—two factors that are central for MSMEs competing against larger brands and numerous substitutes. Consistent posting, verified profiles, transparent pricing, customer testimonials, and prompt responses function as trust cues that lower the psychological cost of purchase. When these cues are missing, even strong products may struggle to convert in digital spaces where trust must be earned quickly. The digital marketing performance evidence suggests that capability is increasingly tied to performance because it helps firms manage customer experience and persuasion at scale (Sharabati et al., 2024). This indicates that the effect observed in your model is not accidental; it reflects how buyers process information and risk in digital markets.

Even though the focus of this point is digital marketing, the broader capability logic is consistent with SME performance research showing that disciplined capability-building supports market outcomes. Studies on innovation capability and new product development in SMEs highlight that performance improves when firms institutionalize routines for learning, adaptation, and execution (Mahmud et al., 2017). This supports an important implication for your findings: digital marketing should be treated similarly—as a capability supported by routines, not as occasional activity. Thus, the sales payoff of digital marketing is best interpreted as the return to disciplined execution and continuous improvement.Overall, the evidence suggests that digital marketing capability improves MSME sales performance through four intertwined pathways: funnel efficiency, interaction-based selling, measurement-driven learning, and trust signaling. The Indonesian context strengthens this interpretation because sales often depend on fast communication, service responsiveness, and credibility in customer relationships (Djakasaputra et al., 2021). The results are also consistent with the broader view that digital marketing performance increasingly depends on closing execution gaps and adapting under environmental dynamism (Herhausen et al., 2020; Fu et al., 2021). Consequently, the key takeaway is that digital marketing delivers sales payoff when MSMEs build a repeatable, measurable, and customer-centric capability rather than merely adopting digital platforms (Kannan & Li, 2017; Järvinen & Karjaluoto, 2015).

4.2.2. Unpacking the Sales Contribution of Product Innovation Capability

The results show that product innovation capability has a positive and significant effect on MSME sales performance, indicating that sales growth in digital markets is not sustained by promotion alone. In highly transparent digital environments, customers can compare alternatives quickly, making differentiation and value renewal critical drivers of purchase decisions and repeat buying. This finding is consistent with evidence that product innovation—together with related marketing innovation—enhances market outcomes because it strengthens the firm's ability to compete on value rather than price alone (Aksoy, 2017). Thus, innovation capability functions as a sales-relevant mechanism by improving the attractiveness and credibility of what is offered to the market.

A central pathway through which innovation improves sales is **value relevance**: innovation makes the product more aligned with changing consumer preferences and emerging trends. When MSMEs introduce new variants, improve quality, or refine packaging and design, they increase perceived usefulness and reduce the risk of dissatisfaction, which supports conversion and repeat orders. A systematic review on SME innovation capability emphasizes that innovation capability is closely associated with performance because it institutionalizes learning, adaptation, and continuous renewal rather than one-off product changes (Saunila, 2020). Therefore, the positive coefficient observed

in this study can be interpreted as the return to structured innovation behaviors that help MSMEs maintain product-market fit over time.

Product innovation also supports sales by strengthening differentiation under competitive pressure. In digital marketplaces, where competing products appear side-by-side, minor improvements in product features, packaging, or usability can become decisive "choice cues." Empirical evidence shows that innovation culture and marketing innovation, alongside product innovation, contribute to stronger market performance among SMEs (Aksoy, 2017). This suggests that innovation affects sales not only through functional product changes but also through how those changes are translated into market signals—such as improved packaging, clearer labeling, and a more distinctive value proposition.

Another important mechanism is the integration of innovation with marketing execution. Product innovation increases the conversion power of digital marketing by giving content a stronger "reason to buy." When MSMEs innovate, they generate more compelling narratives for digital promotion—new variants, improved quality claims, better packaging, and updated features—making campaigns more persuasive and shareable. The marketing innovation literature highlights that innovation in marketing-related activities enhances performance by improving how offerings are positioned and communicated to customers (Purchase & Volery, 2020). In this sense, product innovation is not isolated from marketing; it amplifies marketing effectiveness by improving the substance of what is being marketed.

Innovation capability also supports sales performance through faster and more disciplined learning loops. Digital channels allow MSMEs to observe customer feedback quickly through comments, reviews, repeat inquiries, and purchasing patterns, and then convert this feedback into product improvements. Research on innovation capability measurement stresses the importance of systematic approaches—tracking improvement cycles, evaluating outcomes, and refining processes—so that innovation becomes measurable and repeatable within SMEs (Saunila, 2016). This measurement-oriented mindset mirrors the logic of performance-driven marketing and explains why innovation capability can translate into observable sales improvements.

The role of external conditions further clarifies why innovation capability matters. In dynamic environments—where preferences shift quickly and competitors can imitate features—innovation is more valuable because it enables firms to adapt faster and sustain differentiation. Evidence indicates that the relationship between innovation capability and SME performance can be shaped by external environmental factors, implying that turbulence increases the payoff to capability-based adaptation (Fu et al., 2021). Applied to MSMEs in the digital economy, competitive intensity and changing trends heighten the importance of ongoing product renewal, making innovation capability a strategic necessity rather than an optional enhancement.

The positive effect of product innovation in this study also aligns with evidence from Indonesian SME contexts where innovation contributes to market outcomes. Research suggests that improving marketing performance can be supported by product innovation, particularly when firms align innovation with orientation toward customers and markets (Sudarti & Dewi, 2022). Although marketing performance and sales performance are not identical, strong marketing outcomes often precede or accompany sales improvements through higher customer response, stronger perceived value, and better retention. This supports the interpretation that innovation capability strengthens the overall commercial trajectory of MSMEs.

From a comparative standpoint, the finding that digital marketing shows a slightly stronger coefficient than product innovation does not diminish the importance of innovation; rather, it reflects differences in timing and conversion pathways. Digital marketing capability can drive immediate sales by increasing exposure and facilitating transactions, while product innovation often exerts influence through medium-term mechanisms such as improved satisfaction, stronger word-of-mouth, and repeat purchase stability. The capability perspective suggests that innovation must be continuously communicated and aligned with market signals to realize its full sales impact. Therefore, the most effective sales strategy is not choosing between marketing and innovation, but ensuring that innovation outputs are consistently converted into market-facing value through digital execution.

Theoretically, this result strengthens a capability-based explanation of MSME performance: innovation capability functions as an internal resource that becomes valuable when it is routinized and oriented toward market needs. Systematic evidence emphasizes that SMEs that institutionalize innovation routines—rather than relying on sporadic changes—tend to achieve stronger and more sustainable performance outcomes (Saunila, 2020). This aligns with the study's finding that innovation capability remains significant even when digital marketing capability is included, indicating that innovation contributes unique explanatory power to sales performance.

Overall, the results suggest that product innovation capability increases MSME sales performance through differentiation, improved product-market fit, stronger persuasive content for digital promotion, and faster learning loops driven by customer feedback. These mechanisms are reinforced in dynamic digital environments where preferences shift rapidly and competition is intense (Fu et al., 2021). The evidence supports the view that MSMEs should treat innovation as an ongoing capability supported by measurement and market orientation (Saunila, 2016; Sudarti & Dewi, 2022), and integrate innovation outputs with digital marketing routines to maximize conversion and repeat purchase outcomes (Purchase & Volery, 2020; Aksoy, 2017).

4.2.3. Comparative Influence of Strategic Capabilities on Sales Performance

The regression results indicate that **both** digital marketing capability (X1) and product innovation capability (X2) contribute positively and significantly to MSME sales performance, yet digital marketing shows a **slightly stronger estimated effect** when both predictors are entered simultaneously.
This pattern is theoretically plausible because the two capabilities operate through different "speeds" of impact.Digital marketing tends to influence the sales funnel immediately by driving attention, inquiries, and conversion routines, while innovation often exerts its effect through value reinforcement and repeat purchases over a longer horizon.
In capability terms, the model suggests that market-facing execution can yield faster measurable sales shifts than product-side renewal, even though both remain essential.One reason digital marketing can appear more dominant is the conversion leverage embedded in digital routines.
When firms manage channels systematically—content cadence, interaction quality, and basic monitoring—they improve the probability that customer interest becomes a transaction.
This aligns with the view of digital marketing as an integrated framework linking touchpoints and decision processes to outcomes, rather than isolated promotional actions (Kannan & Li, 2017).
In practice, small improvements in response time, message clarity, and channel orchestration can create visible changes in sales outcomes because they reduce friction in buying.

The "capabilities gap" perspective further clarifies why digital marketing often differentiates performance across MSMEs.Many firms adopt the same platforms, yet only some develop repeatable routines for targeting, content production, customer management, and learning cycles.
Herhausen et al. (2020) argue that performance differences emerge from this gap between tool adoption and capability execution, which can be especially pronounced among resource-constrained SMEs.
When capability is the differentiator, it is unsurprising that digital marketing retains a strong effect even in a model that controls for product innovation.Digital marketing generates high-frequency signals—clicks, inquiries, engagement, and conversion metrics—enabling rapid iteration and optimization.
Measurement-driven refinement strengthens the effectiveness of marketing actions and reduces wasted effort, which can translate quickly into sales outcomes (Järvinen & Karjaluoto, 2015).
By contrast, product innovation cycles typically involve design, testing, sourcing, and operational adjustments, which often take longer to convert into measurable sales changes.

Importantly, the stronger coefficient for digital marketing should not be interpreted as innovation being secondary.Rather, innovation often works as a **quality and differentiation engine** that sustains and stabilizes sales performance once customers are acquired.

A systematic review of SME innovation capability highlights that innovation capability supports performance by institutionalizing learning and renewal, improving product–market fit and long-term competitiveness (Saunila, 2020). Thus, innovation may deliver its largest returns through repeat purchases, retention, and resilience against imitation—effects that may be partially under-captured in short-window sales measures.

The combined significance of both variables suggests a **complementarity logic**: digital marketing creates demand opportunities, while product innovation strengthens the value proposition that converts and retains customers.This complements the marketing innovation literature, which emphasizes that innovation is not only technical; it includes changes in how offerings are positioned, packaged, and communicated to customers (Purchase & Volery, 2020).
In practical terms, product updates provide more persuasive "reasons to buy," while digital marketing ensures those reasons are delivered to the right audiences and translated into transactions.
So, the comparative result is best read as an argument for sequencing and integration rather than choosing one capability over the other. From a strategic prioritization standpoint, MSMEs often face constrained resources, which makes "what to strengthen first" a real managerial issue.

Given the slightly stronger immediate association with sales, digital marketing capability can be positioned as the near-term accelerator—especially in markets where customer acquisition and conversion bottlenecks are the primary constraints.
However, prioritizing digital marketing without innovation risks short-lived gains, because improved promotion can amplify demand only if the product continues to meet evolving expectations. Therefore, the empirical pattern supports a balanced strategy where digital marketing routines are strengthened quickly while innovation capability is built to sustain the resulting sales gains.

The relative effect pattern also aligns with the idea that digital marketing capability has **value relevance** because it enhances the firm's ability to sense market signals and react to them. When firms convert digital feedback into actions—adjusting offers, messages, or targeting—the capability becomes performance-relevant rather than cosmetic. This mechanism is consistent with digital marketing being a capability that links market intelligence, communication, and customer experience into measurable outcomes (Kannan & Li, 2017; Järvinen & Karjaluoto, 2015). In this sense, the "dominance" of digital marketing can reflect not only promotion, but also superior learning speed and response quality.

At the same time, innovation capability often becomes more visible in sales performance when the environment is turbulent and imitation is rapid. When competitors copy offers quickly, sustained performance depends on continuous renewal—new variants, quality improvements, packaging upgrades, and better fit to emerging preferences. Saunila (2020) emphasizes that innovation capability supports consistent renewal, while Purchase and Volery (2020) highlight that marketing-related innovation strengthens how value is framed and perceived. Hence, innovation's contribution may be underestimated if sales performance is measured in a short horizon or without capturing retention and repeat purchasing dynamics.

Overall, the comparative finding should be interpreted as a capability portfolio result: both capabilities matter, but they influence sales through different timing and mechanisms. Digital marketing capability is more directly tied to conversion efficiency and rapid feedback loops, making its effect more immediately observable (Herhausen et al., 2020; Järvinen & Karjaluoto, 2015). Product innovation capability strengthens differentiation and value renewal, supporting sustained competitiveness and longer-term sales stability (Saunila, 2020; Purchase & Volery, 2020). Therefore, the most defensible implication is not "marketing over innovation," but a coherent integration where innovation feeds compelling value and digital marketing turns that value into measurable sales performance (Kannan & Li, 2017).

4.2.4. Implications for MSME Competitiveness in the Digital Economy

The combined results—digital marketing capability and product innovation capability both improving sales performance, with digital marketing showing a slightly stronger coefficient—carry direct implications for MSME competitiveness in the digital economy. Competitiveness here should be interpreted as an MSME's ability to win customers repeatedly under high transparency, fast imitation, and platform-driven attention markets. In this setting, "competitiveness" is less about temporary visibility and more about building capabilities that convert digital exposure into transactions and then sustain those transactions through differentiated value.

At the firm level, the findings imply that MSMEs should treat digital marketing not as a communication add-on, but as a capability embedded in daily routines and linked to measurable commercial outcomes. Digital capability strengthens competitiveness by improving market sensing, customer access, and conversion efficiency. At the same time, innovation capability strengthens competitiveness by renewing the offering and preventing commoditization. Evidence from MSME-oriented digital strategy research emphasizes that performance is enhanced when innovation and digital IT capabilities are integrated into business strategy rather than managed as separate initiatives (Probohudono et al., 2025).

A practical managerial implication is the need to **align digital execution with business model logic**. Many MSMEs promote products online but keep operational processes (pricing, ordering, delivery, after-sales) disconnected from the digital customer journey, which undermines conversion and retention. Digital transformation research suggests that performance gains often materialize through business model innovation that mediates the relationship between digitalization and results—meaning that firms capture value when digital tools are translated into new ways of creating and delivering value (Merín-Rodrigáñez et al., 2024). Applied to MSMEs, this implies that strengthening

digital marketing should be coupled with clearer ordering pathways, better customer experience design, and more reliable fulfillment practices.

The results also imply a prioritization logic under resource constraints. Because digital marketing capability shows a slightly stronger association with sales performance, MSMEs can treat it as the near-term lever for accelerating demand capture, especially when the main bottleneck is customer acquisition and conversion. However, prioritization must not be mistaken for substitution. If digital marketing intensifies without product renewal, the MSME may experience short-lived gains followed by decline due to weak differentiation and customer fatigue. Competitiveness is therefore best supported by a dual-capability approach: accelerate sales through stronger digital routines while simultaneously building innovation pipelines that keep the offer relevant.

In emerging-market contexts, competitive dynamics can differ from those in mature markets because digitalization often coexists with varied infrastructure quality, uneven customer trust, and heterogeneous adoption across sectors. Research focusing on MSMEs in emerging countries highlights that digitalization effects can be mediated by innovation and other strategic practices, meaning that competitiveness is shaped by how firms combine digital adoption with capability development rather than adopting tools alone (Clemente-Almendros et al., 2025). This strengthens the interpretation of your findings: what matters is the capability package—how digital marketing and innovation jointly create market advantage in a diverse and fast-changing environment.

At the policy level, the findings support targeted interventions that go beyond generic "digitalization training." Competitiveness improvements are more likely when policies help MSMEs build practical execution capabilities (content planning, customer response systems, basic analytics) and innovation routines (product testing, packaging improvement, feedback integration). Policy work on MSME competitiveness in Indonesia also emphasizes frameworks that link competitiveness and financial performance with strategic goals, implying that MSME support should connect capability-building with measurable performance outcomes rather than focusing on participation alone (Evinita et al., 2025). This aligns with a results-based approach: public and institutional programs should evaluate whether MSMEs increase conversion, repeat purchases, and revenue resilience.

Another implication is the role of **business model innovation as a bridge** between marketing/innovation capabilities and sustainable competitiveness. Digital channels create new possibilities—subscription models, bundling, pre-order systems, community-based selling, and omnichannel fulfillment—but MSMEs often underutilize them. Empirical work suggests that business model innovation can mediate performance effects in innovative SMEs undergoing digital transformation (Merín-Rodrigáñez et al., 2024). In your context, this means competitiveness can be strengthened when MSMEs redesign how they capture value (e.g., loyalty mechanisms, product tiers, packaging sizes, delivery partnerships) rather than merely increasing posting frequency or launching sporadic new variants.

From an implementation standpoint, the study's evidence implies that MSMEs should institutionalize two synchronized cycles: a **digital marketing learning cycle** (monitor → learn → adjust → re-execute) and an **innovation learning cycle** (listen → prototype → test → refine). When these cycles operate together, digital feedback becomes a systematic input for product renewal, while product renewal becomes stronger content and a clearer value proposition for digital selling. Research emphasizing the integration of innovation and digital IT capabilities within business strategy supports this combined-cycle logic as a route to performance improvement (Probohudono et al., 2025). Competitiveness becomes a function of learning speed and coherence across customer-facing and product-facing routines.

A critical boundary condition is that competitiveness outcomes may depend on environmental and sectoral differences—such as how fast trends shift, how quickly competitors imitate, and how strongly customers rely on marketplace reviews. Findings on MSMEs in emerging contexts suggest that digitalization-performance relationships can vary depending on contextual practices and strategic orientation, including innovation and environmental/operational considerations (Clemente-Almendros et al., 2025). Therefore, when interpreting competitiveness implications, it is important to recognize that capability returns may be higher in high-competition, high-trend industries (e.g., culinary and fashion) than in more stable categories.

The overall contribution of this point is to translate your empirical results into a competitiveness roadmap: MSMEs improve sales not merely by adopting digital tools, but by embedding digital marketing as a measurable execution capability and innovation as a disciplined renewal capability. Competitiveness strengthens further when these capabilities are aligned with business model innovation, enabling firms to convert digital reach into reliable delivery of value and repeat sales (Merín-Rodrigáñez et al., 2024). This roadmap is also consistent with policy-oriented perspectives emphasizing competitiveness and financial performance improvements through structured frameworks

rather than fragmented interventions (Evinita et al., 2025). In short, MSME competitiveness in the digital economy is best explained—and best strengthened—through integrated capability building that links digital execution, product renewal, and business model adaptation.

5. Conclusion

This study concludes that MSME sales performance in the digital economy is jointly driven by digital marketing capability and product innovation capability, demonstrating that competitiveness depends not on platform adoption alone but on the institutionalization of measurable digital execution routines and continuous product renewal. The empirical findings confirm that digital marketing capability provides a clear and relatively immediate sales payoff by improving funnel efficiency through consistent content management, responsive customer interaction, effective use of promotional features, and basic performance monitoring, thereby accelerating conversion and reducing decision friction. At the same time, product innovation capability independently and significantly strengthens sales performance by enhancing differentiation and product–market fit through ongoing improvements in quality, novelty, variants, and packaging or design, which are critical for sustaining customer value and repeat purchases in highly transparent digital markets. Although digital marketing exhibits a slightly stronger association with sales performance when both capabilities are tested simultaneously, this difference reflects variation in timing and mechanisms rather than a strategic trade-off, as digital marketing primarily influences short-term transactions while innovation contributes to longer-term satisfaction, retention, and resilience. Accordingly, the study supports an integrated capability-based strategy in which MSMEs align disciplined digital marketing execution with continuous product innovation, while policymakers and support institutions should prioritize capability-building programs explicitly linked to measurable sales outcomes; future research may build on these findings by incorporating contextual moderators and longitudinal designs to capture delayed innovation effects and the sustainability of performance gains.

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