



<p>Journal of Management and Business Innovation (JOMBINOV) https://v-learnov.com/index.php/jombinov Volume 02 Number 02 June 2026 Page: 136-152 ISSN: 3123-6464 (Online)</p>	<p>From Sensing to Responding: The Role of Digital Capability and Proactive Market Orientation in Enhancing SME Marketing Performance</p> <p>Novi Handayani^{*1}, Neneng Yuyu Yunida Husniawati², Muhammad Angga Anggriawan³</p> <p>^{1,2,3} Department of Management, Bina Bangsa University, Tangerang, Indonesia</p>
<p>Article History: Received: 29 Mar 2026 Revised: 17 Apr 2026 Accepted: 27 Apr 2026</p> <p>Corresponding Author: Novi Handayani</p> <p>Corresponding E-mail: novi.handayani@gmail.com</p>	<p>Abstract:</p> <p>Research Aims: This study aims to examine how market sensing capability and proactive market orientation influence SME marketing performance through customer responsiveness, and how digital capability moderates this relationship. Grounded in dynamic capability and market orientation theories, this research develops an integrative sensing-to-responding framework.</p> <p>Methodology: A quantitative approach was employed using SEM-PLS on 337 SMEs in Tangerang, Indonesia. Data were collected through structured questionnaires and analyzed to test direct, mediating, and moderating effects.</p> <p>Theoretical Contribution/Originality: Theoretically, this study extends the integration of dynamic capability and market orientation literature by positioning customer responsiveness as a key mediating mechanism and digital capability as a boundary condition that strengthens performance outcomes. This offers a novel explanatory pathway for understanding SME marketing performance in dynamic environments.</p> <p>Practitioners/Policy Implications: Practically, the findings highlight that SMEs should strengthen market sensing and proactive orientation capabilities while leveraging digital tools to enhance responsiveness and market performance. Policymakers are encouraged to support digital transformation initiatives that improve SME competitiveness.</p> <p>Research Limitations/Implications: However, the cross-sectional design and geographic limitation reduce generalizability. Future research should adopt longitudinal approaches and explore additional contextual variables.</p> <p>Keywords: Market Sensing Capability, Proactive Market Orientation, Customer Responsiveness, Digital Capability, SME Marketing Performance, Dynamic Capability Theory</p>
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INTRODUCTION

Digital transformation has fundamentally reshaped the logic of global competition, particularly in how small and medium-sized enterprises (SMEs) identify market opportunities and respond to increasingly complex customer dynamics (Kamuri et al., 2023). In an environment characterized by heightened uncertainty, hypercompetition, and technological disruption, the ability not merely to adopt digital technologies but to transform them into strategic capabilities has become a critical determinant of marketing performance (Teece, 2018; Vial, 2019). Recent studies

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suggest that digitalization does not automatically enhance organizational outcomes; rather, its impact depends on a firm's ability to integrate, build, and reconfigure digital-based resources in an adaptive manner (Warner & Wäger, 2019). In this regard, digital capability is no longer viewed as a mere technological infrastructure but as a dynamic mechanism enabling firms to sense market changes and respond swiftly and effectively. However, the literature also highlights a persistent gap among SMEs between technology adoption and its strategic utilization, limiting the realization of potential marketing performance gains (Osabutey & Jackson, 2019).

Concurrently, the shift from traditional market orientation toward proactive market orientation underscores the importance of firms not only responding to expressed customer needs but also anticipating latent demands and proactively creating new value (Narver et al., 2004; Kumar et al., 2016). In an increasingly digitalized global landscape, proactive market orientation becomes even more critical as it enables firms to connect data-driven sensing capabilities with strategically meaningful responses (Kamuri & Anabuni, 2025). Nevertheless, the relationship between digital capability and proactive market orientation in driving marketing performance remains empirically inconsistent, particularly in the SME context, where resource constraints and structural flexibility coexist (Trainor et al., 2014; Jean & Kim, 2020). Moreover, most prior studies treat these variables in isolation, offering limited insight into how the "from sensing to responding" process emerges through their interaction. This limitation signals a pressing need to develop an integrative conceptual framework that explains how digital capability and proactive market orientation jointly enhance SME marketing performance in a more holistic manner.

Within the regional economic context, SMEs in Indonesia – including those in Tangerang – play a strategic role as key drivers of economic growth and employment generation, while simultaneously facing increasingly complex adaptive pressures arising from a rapidly digitalizing market environment. Unlike large firms, SMEs typically operate under significant resource constraints, encompassing financial limitations, technological capacity, and managerial capabilities, which directly affect their ability to leverage market opportunities effectively (Cenamor et al., 2019; Li et al., 2018). In Tangerang, as a major economic buffer zone of a metropolitan area, the intensity of competition and the heterogeneity of customer preferences require SMEs to be not only responsive but also highly adaptive to rapid market changes. However, the adoption of digital technologies among SMEs is often not accompanied by sufficient capability transformation, resulting in technology usage that remains largely operational rather than strategic (Bouwman et al., 2019). This condition creates a gap between the potential benefits of digitalization and the actual realization of marketing performance, indicating that the core issue lies not in technology adoption per se, but in how digital capabilities are developed and embedded within business processes (Kamuri & Mumu, 2026; Sumarsono et al., 2026).

Furthermore, the challenges faced by SMEs in Tangerang extend beyond technological aspects to include the development of a market orientation that enables proactive anticipation of evolving customer needs. The literature indicates that many SMEs still rely on a reactive market orientation, focusing on responding to existing demands rather than uncovering latent opportunities (Narver et al., 2004; Eggers et al., 2020). In highly dynamic market environments, such reactive approaches may constrain the ability of SMEs to build sustainable competitive advantages, particularly as competitors increasingly adopt more innovative and data-driven strategies (Riwu et al., 2026). Additionally, limitations in integrating market intelligence into

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strategic decision-making processes reinforce the presence of a disconnect between sensing and responding activities in SME marketing practices (Trainor et al., 2014). Consequently, understanding how digital capability and proactive market orientation interact within the specific SME context becomes critical, particularly to explain the variation in marketing performance that remains insufficiently addressed in existing empirical studies.

The intensifying competitive pressures in Tangerang place SMEs in a position where reliance on intuition-based conventional marketing approaches is no longer sufficient. In an environment characterized by rapid information flows and increasingly volatile customer preferences, the ability to systematically manage market information becomes a critical prerequisite for generating effective responses. However, prior studies indicate that SMEs often struggle to convert market data into strategically valuable insights, resulting in decision-making processes that remain largely reactive and short-term oriented (Trainor et al., 2014; Wamba et al., 2017). In this context, the limitation does not merely stem from access to technology or data, but from the absence of capabilities that enable a coherent integration between sensing and responding processes. This suggests that without the development of strategically oriented digital capabilities, the increasing volume of information may instead generate additional complexity that SMEs are ill-equipped to manage effectively (Kamuri et al., 2024).

At the same time, the increasingly differentiated local market dynamics require SMEs to move beyond adaptive market orientation toward a more proactive and exploratory stance. Proactive market orientation emphasizes a firm's ability to uncover latent customer needs and shape market preferences through value innovation, rather than merely responding to existing demands (Narver et al., 2004; Slater et al., 2010). In practice, however, many SMEs face constraints in developing such orientation, particularly due to the lack of integration between market knowledge, organizational learning, and the strategic use of technology (Eggers et al., 2020). This misalignment reinforces the presence of fragmentation between sensing capabilities and responding actions in marketing activities, ultimately leading to suboptimal performance outcomes. Therefore, there is a need for a conceptual approach that can explain how the interaction between digital capability and proactive market orientation bridges this gap, particularly within SMEs operating in competitive environments such as Tangerang.

Despite the growing body of literature on digital capability and market orientation, significant conceptual tensions remain in explaining how these constructs interact in influencing marketing performance, particularly within the "from sensing to responding" framework. Theoretically, most studies draw on the dynamic capabilities perspective to explain the role of digital capability in enhancing organizational performance (Tece, 2018; Warner & Wäger, 2019), while others position proactive market orientation within the market-based view tradition (Narver et al., 2004; Kumar et al., 2016). However, the integration of these perspectives remains limited, leaving the transformative mechanisms that connect digitally enabled sensing processes with strategically valuable responding actions insufficiently explained. This limitation is further reinforced by inconsistent empirical findings, where some studies report a significant effect of digital capability on marketing performance (Trainor et al., 2014; Wamba et al., 2017), while others suggest that the relationship is indirect or contingent upon mediating variables (Cenamor et al., 2019; Bouwman et al., 2018). In the Indonesian context, similar inconsistencies are observed, as technological capability does not always translate into improved SME performance (Pratono, 2018;

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Rahayu & Day, 2015), indicating the presence of both theoretical and empirical gaps in explaining these relationships comprehensively.

Furthermore, methodological limitations in prior research contribute to the persistence of these gaps. Many studies still rely on linear analytical approaches such as multiple regression, which are insufficient to capture complex relationships involving mediation and moderation effects simultaneously (Hair et al., 2021; Sarstedt et al., 2021). Given that the relationships among digital capability, proactive market orientation, and marketing performance are inherently complex and potentially contingent, more robust analytical frameworks are required. While some international studies (Trainor et al., 2014; Wamba et al., 2017; Cenamor et al., 2019) have begun employing structural modeling techniques, their scope remains limited in integrating all relevant constructs within a unified framework. Meanwhile, studies in the Indonesian context, such as Pratono (2018) and Hapsari et al., (2017), have yet to fully leverage SEM-PLS approaches to explore latent variable relationships in depth. This indicates a clear methodological gap, where existing analytical approaches fall short in capturing the underlying causal complexity of the phenomenon.

Moreover, a significant knowledge void persists regarding how the interaction between digital capability and proactive market orientation shapes marketing performance within SMEs, particularly in emerging regional contexts such as Tangerang. Most prior studies treat these constructs independently or examine only one of them, thereby failing to provide a holistic understanding of the integrative mechanisms linking sensing and responding processes (Jean & Kim, 2020; Eggers et al., 2020). From a practical standpoint, this limitation translates into a lack of actionable strategic guidance for SME practitioners in managing digital transformation alongside market orientation. Local studies (Rahayu & Day, 2015; Pratono, 2018) further reveal that many SMEs struggle to convert technology adoption into tangible marketing advantages. Accordingly, there exist knowledge, topic, and practical-knowledge gaps, underscoring the need for research that not only integrates these constructs but also examines mediating and moderating mechanisms within a comprehensive conceptual framework.

The limited conceptual integration between digital capability and proactive market orientation provides an opportunity for a more substantive theoretical contribution through the development of a comprehensive “from sensing to responding” framework. Unlike prior studies that tend to treat these constructs in isolation, this research proposes an integrated causal mechanism in which proactive market orientation acts as a mediator linking digital capability to marketing performance. This approach not only extends the dynamic capabilities perspective (Teece, 2018) by incorporating a proactive market-oriented dimension, but also enriches the market orientation literature by explicitly connecting it with digital-based capabilities (Narver et al., 2004; Kumar et al., 2016). In doing so, the study addresses the theoretical gap through cross-perspective synthesis, while simultaneously responding to the empirical gap by examining both direct and indirect relationships, thereby offering a more holistic understanding of how sensing processes can be transformed into strategically valuable responding actions within the SME context.

Furthermore, the novelty of this study is also reflected in its methodological approach and contextual extension, which jointly address the limitations identified in prior research. By employing a SEM-PLS approach, this study enables the examination of complex models incorporating both mediation and moderation effects within an integrated analytical framework (Hair et al., 2021; Sarstedt et al., 2021). In particular, testing the moderating role in the relationship

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between proactive market orientation and marketing performance introduces a contingency perspective that has been largely overlooked in existing literature, thereby helping to explain previously inconsistent empirical findings. Additionally, the focus on SMEs in Tangerang contributes to contextual enrichment by providing insights into how digital capability and market orientation interact within an emerging business environment. Accordingly, this study not only fills the methodological gap, but also addresses the knowledge, topic, and practical-knowledge gaps, particularly by offering a more applicable analytical framework for SME practitioners in managing the linkage between sensing, proactive market orientation, and responding to enhance marketing performance sustainably.

Building upon the identified conceptual limitations and empirical inconsistencies in the existing literature, this study is specifically designed to investigate the causal mechanisms linking digital capability, proactive market orientation, and marketing performance within the “from sensing to responding” framework. From a theoretical standpoint, the study aims to examine how digital capability functions not merely as a technological resource, but as a dynamic capability that enables firms to sense market changes and transform them into strategically valuable actions through proactive market orientation (Teece, 2018; Narver et al., 2004). Accordingly, the primary focus of this research is to clarify both direct and indirect relationships among the variables, particularly by positioning proactive market orientation as a mediating mechanism that explains how digital capability is translated into enhanced marketing performance. This approach is expected to provide a more nuanced understanding of value transformation processes that have not been comprehensively addressed in prior studies.

Furthermore, this study seeks to examine the role of contingency factors in strengthening or weakening the relationship between proactive market orientation and marketing performance, thereby offering a more contextualized perspective on the variability of empirical findings. By employing a SEM-PLS approach, the research aims to capture the complexity of structural relationships involving both mediation and moderation effects simultaneously (Hair et al., 2021; Sarstedt et al., 2021). Contextually, the study focuses on SMEs in Tangerang as a representation of a dynamic and competitive business environment, enabling the proposed model to be tested under real-world conditions characterized by both resource constraints and organizational flexibility. Through this approach, the study not only aims to validate the proposed conceptual model but also to provide a stronger analytical foundation for understanding how the integration of digital capability and proactive market orientation can more effectively enhance marketing performance.

METHODS

This study employs a quantitative approach with an explanatory research design aimed at examining causal relationships among variables within the proposed conceptual model. A quantitative approach is selected as it enables the objective measurement of latent constructs such as digital capability, proactive market orientation, and marketing performance through structured indicators, while also facilitating empirical hypothesis testing (Sugiyono, 2022). Furthermore, the explanatory design is utilized to clarify direct, mediating, and moderating relationships among variables, thereby providing a more comprehensive understanding of the “from sensing to responding” process in the SME context.



To test the proposed model, this study adopts the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, which is particularly suitable for analyzing complex relationships among latent variables and accommodating both mediation and moderation effects simultaneously (Sarstedt et al., 2021). PLS-SEM is also appropriate for predictive and exploratory research, especially in SME contexts where sample sizes are often limited and data distributions may not meet normality assumptions (Hair et al., 2021). Therefore, this approach allows for a more flexible and robust examination of the structural relationships among the constructs under investigation.

The population of this study consists of Micro, Small, and Medium Enterprises (SMEs) operating in the Tangerang region. The selection of this population is based on the relevance of the research context, which focuses on the dynamics of digital capability and market orientation within a competitive and increasingly digitalized business environment. SMEs are considered an appropriate context due to their unique characteristics, including resource constraints alongside high flexibility in responding to market changes, making them suitable for examining the “from sensing to responding” mechanism (Cenamor et al., 2019; Eggers et al., 2020).

The sample comprises 337 respondents, representing SME actors in Tangerang who meet specific criteria: (1) having operated their business for at least two years, (2) having adopted digital technology in business activities, and (3) being directly involved in marketing decision-making processes. The sampling technique employed is purposive sampling, a non-probability sampling method that allows for the selection of respondents based on criteria relevant to the research objectives (Sekaran & Bougie, 2016). This technique is chosen to ensure that respondents possess sufficient knowledge and experience related to digital capability and market orientation. The sample size of 337 is considered adequate as it meets the requirements for SEM-PLS analysis, which emphasizes sufficient sample size to ensure stable parameter estimation and predictive accuracy (Hair et al., 2021; Sarstedt et al., 2021). Moreover, this number exceeds the minimum requirement based on the *10-times rule*, which suggests that the sample size should be at least ten times the maximum number of structural paths or indicators in the model, thereby ensuring more robust and reliable estimation results.

Data collection in this study was conducted through a survey using a structured questionnaire distributed to SME actors in the Tangerang region. The survey approach was chosen as it enables systematic data collection from a large number of respondents and is suitable for measuring perceptions of latent constructs such as digital capability, proactive market orientation, and marketing performance (Sekaran & Bougie, 2016). The questionnaire was developed based on measurement indicators adapted from prior studies that have demonstrated validity and reliability in the international literature, ensuring conceptual consistency and measurement accuracy (Hair et al., 2021). Data collection was carried out through both direct and online distribution to enhance response rates and reach a broader range of respondents.

The research instrument employed a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure respondents' level of agreement with each statement. The use of a Likert scale is considered effective in capturing individual perceptions of abstract constructs and is widely applied in SEM-PLS-based research (Sarstedt et al., 2021). Each variable in this study was operationalized through multiple indicators reflecting its conceptual dimensions, with digital capability referring to the ability to integrate and utilize digital technologies, proactive market orientation reflecting the ability to anticipate customer needs proactively, and marketing

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performance representing outcomes achieved in marketing activities. Prior to large-scale data collection, a pilot test was conducted to ensure clarity of the questionnaire items and to minimize potential measurement bias. This approach is essential to ensure that the data quality meets the requirements for structural equation modeling analysis.

Data analysis in this study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to examine causal relationships among latent constructs, including direct, mediating, and moderating effects within the proposed model. This approach is selected due to its ability to handle complex models without strict normality assumptions and its suitability for predictive research in SME contexts (Hair et al., 2021; Sarstedt et al., 2021). The analysis is conducted in two stages: the outer model to assess construct validity and reliability using indicators such as loading factors, AVE, Composite Reliability, and HTMT, and the inner model to evaluate structural relationships through path coefficients, R-square, effect size (f^2), and predictive relevance (Q^2). Significance testing is performed using a bootstrapping procedure, including the assessment of mediation and moderation effects in explaining the relationships between digital capability, proactive market orientation, and marketing performance.

RESULTS

Respondent Characteristics

Table 1. Respondent Characteristics

Characteristics	Category	Frequency	Percentage (%)
Type of Business	Culinary	128	38.0
	Fashion	74	22.0
	Retail/Trading	69	20.5
	Services	66	19.5
Total		337	100
Business Duration	2-5 years	142	42.1
	6-10 years	109	32.3
	>10 years	86	25.5
Total		337	100
Annual Profit (IDR)	< 100 million	121	35.9
	100-300 million	134	39.8
	> 300 million	82	24.3
Total		337	100

Source: Processed Primary Data, 2026

The respondent profile indicates that the majority of SMEs operate in the culinary sector (38.0%), followed by fashion, retail, and services, suggesting a relatively diverse business composition. In terms of business duration, most respondents have been operating for 2-5 years (42.1%), indicating a dominance of relatively young firms, although a substantial proportion has more than 6 years of experience. Regarding financial performance, the majority of SMEs report an annual profit between IDR 100-300 million (39.8%), reflecting a moderate level of business performance with variation across firms.

Outer Model Evaluation

The outer model in PLS-SEM refers to the measurement model that specifies the relationship between latent constructs and their observed indicators. It is used to assess the validity and reliability of the constructs before evaluating the structural relationships. The evaluation of the outer model involves several key criteria, including convergent validity, discriminant validity, and construct reliability (Hair et al., 2021; Sarstedt et al., 2021). Convergent validity examines whether indicators of a construct share a high proportion of variance, typically assessed loading factors (>0.70) and Average Variance Extracted (AVE) (>0.50). Discriminant validity ensures that constructs are empirically distinct, commonly evaluated using the Heterotrait-Monotrait Ratio (HTMT) (<0.90) (Henseler et al., 2015). Meanwhile, reliability reflects the internal consistency of indicators, measured Composite Reliability and Cronbach’s Alpha (>0.70). These criteria collectively ensure that the measurement model is both valid and reliable for further structural analysis.

Table 2. Convergent Validity & Reliability

Variable	Indicator	Loading	AVE	Composite Reliability	Cronbach’s Alpha
Market Sensing Capability (X1)	MSC1	0.821	0.712	0.908	0.861
	MSC2	0.853			
	MSC3	0.874			
	MSC4	0.832			
Proactive Market Orientation (X2)	PMO1	0.836	0.726	0.916	0.879
	PMO2	0.869			
	PMO3	0.888			
	PMO4	0.841			
Customer Responsiveness (M)	CR1	0.812	0.689	0.899	0.852
	CR2	0.844			
	CR3	0.867			
	CR4	0.826			
Digital Capability (Z)	DC1	0.801	0.673	0.891	0.844
	DC2	0.835			
	DC3	0.862			
	DC4	0.819			
Marketing Performance (Y)	MP1	0.808	0.681	0.894	0.846
	MP2	0.834			
	MP3	0.861			
	MP4	0.822			

Source: Processed Primary Data, 2026

The results of convergent validity testing show that all indicators of the five constructs – Market Sensing Capability, Proactive Market Orientation, Customer Responsiveness, Digital Capability, and Marketing Performance – have loading factor values above the threshold of 0.70.

This indicates that each indicator has a strong representation of its respective latent construct. In addition, all AVE values exceed 0.50, confirming that each construct is able to explain more than 50% of the variance of its indicators, thereby demonstrating adequate convergent validity (Hair et al., 2021; Sarstedt et al., 2021). Furthermore, Composite Reliability and Cronbach's Alpha values for all constructs are above 0.70, indicating strong internal consistency reliability. These results collectively confirm that the measurement model is reliable and suitable for further structural analysis.

Table 3. Discriminant Validity (HTMT)

Variable	X1	X2	M	Z	Y
Market Sensing Capability (X1)	–				
Proactive Market Orientation (X2)	0.821	–			
Customer Responsiveness (M)	0.798	0.842	–		
Digital Capability (Z)	0.756	0.781	0.803	–	
Marketing Performance (Y)	0.812	0.856	0.871	0.829	–

Source: Processed Primary Data, 2026

The discriminant validity results based on the Heterotrait-Monotrait Ratio (HTMT) indicate that all inter-construct correlations are below the conservative threshold of 0.90. This suggests that each construct in the model is empirically distinct and measures a unique theoretical domain (Henseler et al., 2015). The relatively moderate HTMT values among constructs such as Market Sensing Capability, Proactive Market Orientation, Customer Responsiveness, Digital Capability, and Marketing Performance further support the conceptual distinctiveness of the proposed model. Therefore, the measurement model satisfies the requirement of discriminant validity, ensuring that multicollinearity between constructs does not distort the structural model estimation.

Outer Model Evaluation

The inner model in PLS-SEM evaluates the structural relationships among latent constructs, including direct, mediating, and moderating effects. Its assessment is based on several key criteria. Path coefficients (β) indicate the strength and direction of relationships and are considered significant when t -value > 1.96 and p -value < 0.05 using bootstrapping. The coefficient of determination (R^2) measures the explanatory power of the model, where values of 0.75, 0.50, and 0.25 indicate substantial, moderate, and weak levels respectively (Hair et al., 2021). Effect size (f^2) evaluates the contribution of each predictor with thresholds of 0.02 (small), 0.15 (medium), and 0.35 (large). Predictive relevance (Q^2) is assessed through blindfolding, where values greater than zero indicate acceptable predictive capability. In addition, mediation effects are confirmed through the significance of indirect effects, while moderation effects are identified through significant interaction terms (Preacher & Hayes, 2008; Nitzl, 2016). Collectively, these criteria ensure that the structural model is both statistically robust and theoretically meaningful.

Table 4. Structural Model Results (Hypothesis Testing)

Hypothesis	Relationship	Path Coefficient	t-value	p-value	Decision
H1	Market Sensing Capability (X1) → Customer Responsiveness (M)	0.312	4.981	0.000	Supported
H2	Proactive Market Orientation (X2) → Customer Responsiveness (M)	0.428	6.214	0.000	Supported
H3	Customer Responsiveness (M) → Marketing Performance (Y)	0.365	5.102	0.000	Supported
H4	Market Sensing Capability (X1) → Marketing Performance (Y)	0.221	3.487	0.001	Supported
H5	Proactive Market Orientation (X2) → Marketing Performance (Y)	0.298	4.612	0.000	Supported

Source: Processed Primary Data, 2026

The structural model results indicate that all hypothesized relationships are statistically significant and supported. Market Sensing Capability and Proactive Market Orientation both have a significant positive effect on Customer Responsiveness, suggesting that firms with stronger ability to sense market changes and adopt proactive strategic behavior are more capable of responding effectively to customer needs. In addition, Customer Responsiveness significantly influences Marketing Performance, confirming its central role in translating strategic capabilities into performance outcomes. Furthermore, both Market Sensing Capability and Proactive Market Orientation also demonstrate significant direct effects on Marketing Performance, indicating the presence of partial mediation through Customer Responsiveness.

Table 5. Mediation Effect

Indirect Path	Coefficient	t-value	p-value	Decision
Market Sensing Capability (X1) → Customer Responsiveness (M) → Marketing Performance (Y)	0.114	3.921	0.000	Supported
Proactive Market Orientation (X2) → Customer Responsiveness (M) → Marketing Performance (Y)	0.156	4.876	0.000	Supported

Source: Processed Primary Data, 2026

The mediation analysis shows that Customer Responsiveness significantly mediates the relationship between both Market Sensing Capability and Proactive Market Orientation toward Marketing Performance. This is evidenced by significant indirect effects, indicating that the ability of firms to convert sensing and proactive orientation into performance is partly explained through their responsiveness to customer needs. This confirms that Customer Responsiveness acts as a key mechanism that transmits strategic capabilities into tangible performance outcomes.

Table 6. Moderation Effect

Moderating Path	Coefficient	t-value	p-value	Decision
Digital Capability (Z) → Market Sensing Capability (X1) → Marketing Performance (Y)	0.089	2.967	0.003	Supported
Digital Capability (Z) → Proactive Market Orientation (X2) → Marketing Performance (Y)	0.102	3.411	0.001	Supported

Source: Processed Primary Data, 2026

The moderation results reveal that Digital Capability significantly strengthens the relationships between the independent variables and Marketing Performance. This indicates that firms with higher levels of digital capability are more effective in leveraging both Market Sensing Capability and Proactive Market Orientation to improve performance outcomes. The positive and significant interaction effects suggest that digital capability plays an enabling role in amplifying the effectiveness of strategic market behaviors, thereby reinforcing the importance of digital transformation in SME performance enhancement.

R-Square (R^2) is a measure that indicates the extent to which independent variables explain the variance of the dependent variable in a structural model. In the context of PLS-SEM, R^2 represents the model's explanatory power, reflecting how well the exogenous constructs account for the variance of endogenous constructs (Hair et al., 2021). Higher R^2 values indicate stronger explanatory capability of the model in explaining the phenomenon under investigation, making it a critical criterion in structural model assessment (Henseler et al., 2016).

Q-Square (Q^2) is an indicator used to assess the predictive relevance of the model through the blindfolding procedure. According to Hair et al. (2021), a Q^2 value greater than zero indicates that the model has sufficient predictive relevance for a given endogenous construct. Unlike R^2 , which focuses on explanatory power, Q^2 evaluates the model's ability to predict omitted data points, thereby strengthening the predictive validity of the PLS-SEM model.

Table 7. R-Square (R^2) and Q-Square (Q^2) Result

Endogenous Variable	R^2	Q^2
Customer Responsiveness (M)	0.612	0.421
Marketing Performance (Y)	0.684	0.458

Source: Processed Primary Data, 2026

The coefficient of determination (R^2) indicates that Customer Responsiveness has an R^2 value of 0.612, meaning that 61.2% of its variance is explained by Market Sensing Capability and Proactive Market Orientation. Meanwhile, Marketing Performance shows an R^2 value of 0.684, indicating that 68.4% of its variance is explained by the full structural model. According to Hair et al. (2019), these values reflect a moderate to substantial explanatory power, suggesting that the model has strong explanatory capability.

The Q^2 values for both endogenous constructs are above zero (Customer Responsiveness = 0.421; Marketing Performance = 0.458), indicating that the model demonstrates strong predictive relevance. This confirms that the model is not only explanatory but also has strong predictive accuracy for the observed data.

Table 8. Effect Size (F^2)

Structural Relationship	F^2	Category
Market Sensing Capability (X1) → Customer Responsiveness (M)	0.182	Medium
Proactive Market Orientation (X2) → Customer Responsiveness (M)	0.241	Medium
Customer Responsiveness (M) → Marketing Performance (Y)	0.196	Medium
Market Sensing Capability (X1) → Marketing Performance (Y)	0.087	Small
Proactive Market Orientation (X2) → Marketing Performance (Y)	0.134	Medium

Source: Processed Primary Data, 2026

F-Square (F^2) is a measure used to assess the effect size of each exogenous construct on endogenous constructs within the structural model. It indicates the relative contribution of a predictor variable when it is removed from the model. In PLS-SEM analysis, F^2 helps identify whether a construct has a small, medium, or large effect on the dependent variable, thereby providing deeper insight into the relative importance of each predictor in the structural model (Hair et al., 2021).

The F^2 results show that both Market Sensing Capability and Proactive Market Orientation have a medium effect on Customer Responsiveness, indicating their important role in shaping customer responsiveness capabilities. Similarly, Customer Responsiveness has a medium effect on Marketing Performance, reinforcing its role as a key mediating construct in the model.

However, Market Sensing Capability shows a small direct effect on Marketing Performance, suggesting that its influence is mostly indirect through Customer Responsiveness. In contrast, Proactive Market Orientation demonstrates a medium direct effect on Marketing Performance, indicating that it plays a more substantial role in both direct and indirect performance improvement mechanisms.

DISCUSSION

From the respondents' descriptions in this study, it can be understood that the dominance of the culinary and trade sectors reflects the general characteristics of the MSME structure in developing countries, influenced by low entry barriers and high market demand (Eggers et al., 2020). This diversity is important because it shows that the research model is tested in various business contexts, thereby enhancing the external validity of the research. Furthermore, the dominance of businesses aged 2–5 years indicates that most MSMEs are in the growth and adaptation phase, where dynamic capabilities such as digital capabilities become crucial factors in determining performance (Cenamora et al., 2019). At this stage, business actors tend to start adopting technology, but have not yet fully integrated it strategically.

Furthermore, variations in profit levels indicate differences in marketing performance among SMEs, which serve as an important basis for explaining differences in strategic behavior. SMEs with moderate profit levels tend to be more active in seeking market opportunities and developing proactive strategies to maintain competitiveness (Pratono, 2018). This condition reinforces the relevance of testing the role of proactive market orientation as a mediating

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mechanism in linking sensing capabilities with performance. Overall, the characteristics of the respondents reflect an empirical context that embodies a combination of resource limitations, market dynamics, and performance variations, making it suitable for testing the proposed conceptual model.

The findings of this study reveal that integrating market sensing capability and proactive market orientation cannot be separated from the role of customer responsiveness as a mediating mechanism in enhancing marketing performance. In the context of SMEs operating in highly dynamic markets, these results reinforce the notion that competitive advantage is no longer solely driven by passive market understanding, but rather by the organizational capacity to transform market intelligence into adaptive and value-driven strategic responses (Day, 2011; Kohli & Jaworski, 1990).

The outer model results confirm that all indicators of market sensing capability, proactive market orientation, customer responsiveness, digital capability, and marketing performance meet validity and reliability criteria. This indicates strong internal consistency among indicators in representing their respective latent constructs. Theoretically, these findings support the dynamic capability view, which emphasizes that organizational capabilities such as sensing and reconfiguring can only be meaningfully measured when indicators reflect adaptation, integration, and responsiveness to environmental changes (Teece, 2007).

The inner model results indicate that both market sensing capability and proactive market orientation positively influence customer responsiveness. This suggests that firms with stronger market sensing and proactive orientation are better able to respond to customer needs effectively. These findings align with Narver & Slater (2004) and Kohli et al. (1990), who argue that market-oriented firms are more capable of responding to customer needs. Furthermore, customer responsiveness plays a significant mediating role, reinforcing the idea that value creation is indirect and occurs through responsiveness mechanisms (Day, 2011).

The results also show that both market sensing capability and proactive market orientation have significant effects on marketing performance, with proactive orientation demonstrating a stronger effect. This indicates that anticipatory market behavior plays a more dominant role in improving performance compared to passive sensing capabilities. This finding extends prior literature suggesting that proactive market orientation is crucial for sustaining competitive advantage in turbulent environments (Slater et al., 2010).

Customer responsiveness acts as a key mediating mechanism between market capabilities and marketing performance. This confirms that sensing capability alone does not directly generate value unless it is translated into responsive actions. This supports dynamic capability theory, which emphasizes that sensing must be followed by reconfiguring capabilities to create value (Teece, 2007).

Digital capability strengthens the relationship between customer responsiveness and marketing performance, acting as an enabling factor that enhances the conversion of responsiveness into performance outcomes. This aligns with digital transformation literature, which positions digital capability as a strategic enabler of organizational performance improvement (Vial, 2019).

This study addresses multiple research gaps. The theoretical gap is bridged by integrating dynamic capability and market orientation theories. The empirical gap is addressed by focusing on

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SMEs in Tangerang, a context underrepresented in prior studies. The methodological gap is resolved through the use of SEM-PLS, which allows simultaneous testing of complex latent relationships.

Theoretically, this study strengthens the integration of dynamic capability and market orientation theories in explaining SME marketing performance. Practically, SMEs are encouraged to enhance market sensing, proactive orientation, and digital capability to improve responsiveness and performance in dynamic markets.

CONCLUSION

This study aimed to examine how market sensing capability and proactive market orientation influence SME marketing performance through customer responsiveness, and how digital capability strengthens these relationships. Based on the SEM-PLS results, it can be concluded that improvements in SME marketing performance are not directly driven by market capabilities alone, but through a transformative process mediated by the organization's ability to effectively respond to customers.

The findings indicate that market sensing capability and proactive market orientation play a significant role in shaping customer responsiveness, which in turn serves as a key mechanism for enhancing marketing performance. In addition, digital capability strengthens the effect of customer responsiveness on marketing performance, highlighting its role as a strategic enabler rather than merely an operational tool.

Overall, this study answers the main research problem by demonstrating that SME marketing performance is determined by the synergy between market sensing, proactive orientation, customer responsiveness, and digital capability. Thus, the proposed sensing-to-responding model is empirically validated as a holistic and integrated framework for explaining SME marketing performance improvement.

LIMITATION

From a managerial perspective, the findings suggest that SME managers should prioritize the development of market sensing capability and proactive market orientation as foundational strategic competencies, while ensuring that these capabilities are effectively translated into customer responsiveness. The results further highlight that digital capability functions as a critical enabler that strengthens the impact of responsiveness on marketing performance. Therefore, SMEs are encouraged to integrate digital tools not merely as operational support systems, but as strategic assets that enhance real-time responsiveness, customer engagement, and adaptive decision-making in increasingly dynamic markets.

Despite its contributions, this study has several limitations. The cross-sectional design limits the ability to capture dynamic changes in capabilities over time, and the focus on SMEs in a specific geographic context (Tangerang) may restrict generalizability to other regions or sectors. Future research is encouraged to adopt longitudinal designs to capture capability evolution and to expand the model by incorporating additional contextual or organizational factors such as environmental turbulence, innovation capability, or entrepreneurial orientation. Moreover, further studies may test the model in different cultural and industrial settings to enhance external validity and strengthen the robustness of the sensing-to-responding framework.

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