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Digital Marketing, CRM, Innovation Orientation, and Market Responsiveness in Medan SME Competitiveness

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Abstract

Purpose: This study examines digital marketing capabilities, Customer Relationship Management (CRM), and innovation orientation in relation to SME competitive advantage in Medan, Indonesia, with market responsiveness as a proposed mediator.

Research Methodology: A cross-sectional survey collected 243 valid responses from SME owners and managers between July and September 2024 using purposive sampling. Covariance-based structural equation modeling in AMOS 26.0 used maximum likelihood estimation and 5,000 bootstrap resamples.

Results: Digital marketing capabilities and innovation orientation showed significant positive direct and indirect relationships with competitive advantage. CRM had a significant indirect relationship through market responsiveness, whereas its direct relationship was not significant. Indirect estimates were 0.104, 0.081, and 0.120, respectively. Innovation orientation had the largest total point estimate, although differences between effects were not tested.

Conclusions: The findings are consistent with market responsiveness connecting strategic capabilities to competitive advantage. CRM's nonsignificant direct path does not establish that its contribution operates exclusively through this mediator.

Limitations: The single-city, cross-sectional design and self-reported measures restrict causal inference and generalizability.

Contributions: The study connects contemporary resource-based value-creation theory with dynamic-capabilities research, examining market responsiveness as a specific pathway between digital, relational, and innovation capabilities and perceived competitive advantage in an Indonesian SME setting.

Keywords: *Competitive Advantage, CRM, Digital Marketing Capabilities, Innovation Orientation, Market Responsiveness, SMEs*

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1. Introduction

Small and Medium Enterprises (SMEs) are an important part of Indonesia business economy, but their development and competitiveness depend on capabilities and operating conditions (Tambunan, 2019). A recent mapping of MSME competitive-advantage research identifies digital technology, innovation, and organizational capabilities among the relevant areas of inquiry (Oktaria, Raras, Alam, Barusman, & Habiburrahman, 2024). Medan, North Sumatra, provides the setting for examining how digital marketing capabilities, customer relationship management, and innovation orientation relate to

competitive advantage through market responsiveness. Digital platforms and communication channels create opportunities for SMEs to change how they reach customers and organize their business models (Bouwman, Nikou, & Reuver, 2019; Eller, Alford, Kallmünzer, & Peters, 2020; Nambisan, Wright, & Feldman, 2019). Reviews of digital transformation emphasize that these changes involve organizational processes and value creation as well as technology adoption (Verhoef et al., 2021; Vial, 2019). Research on SME responses during the COVID-19 period further documents different paths of digital adaptation (Guo, Yang, Huang, & Guo, 2020; Priyono, Moin, & Putri, 2020). A capability perspective therefore concerns what firms can do with digital resources, rather than the presence of tools alone (Li, Su, Zhang, & Mao, 2018; Matarazzo, Penco, Profumo, & Quaglia, 2021).

Customer Relationship Management (CRM) concerns the processes through which firms develop customer knowledge and manage customer relationships. Research on CRM capabilities and social media technology connects these activities with relationship and firm performance (Foltean, Trif, & Tuleu, 2019). Work on digital CRM also relates customer information to business model innovation (Gil-Gomez, Guerola-Navarro, Oltra-Badenes, & Lozano-Quilis, 2020). These perspectives motivate examining whether CRM is associated with competitive advantage directly, through a firm's responsiveness to market information, or through both pathways. Innovation orientation describes a firm's commitment to experimentation, learning, and the development of new products, processes, or business approaches. It is related to, but distinct from, innovation capability and realized innovation outcomes. Reviews of innovation in SMEs and digital transformation provide a basis for examining this strategic orientation (Appio, Frattini, Petruzzelli, & Neirotti, 2021; Saunila, 2020). Studies of innovation practices and digital innovation also motivate attention to the organizational processes connecting innovative activity with performance (Adam & Alarifi, 2021; Khin & Ho, 2019).

This study proposes market responsiveness as an intermediary between strategic capabilities and competitive advantage. It concerns the ability to identify and respond to customer and competitive information. Work on technology-enabled dynamic capabilities, analytics, and business model change supports examining how resources become market-facing action (Mikalef & Pateli, 2017; Rachinger, Rauter, Müller, Vorraber, & Schirgi, 2019; Wamba et al., 2017). Responsiveness is treated as a specific adaptive behavior; it does not by itself capture every aspect of sensing, seizing, and organizational transformation. The theoretical framing combines resource-based theory with the dynamic-capabilities perspective. The contemporary value-creation account of resource-based theory distinguishes the creation and appropriation of value Barney, Ketchen, and Wright (2021), while dynamic-capabilities research examines how firms configure and adapt their activities and business models (Teece, 2018). Applied here, digital marketing, CRM, and innovation orientation represent strategic capabilities or orientations, and market responsiveness is a proposed route through which they relate to perceived competitive advantage.

Recent Indonesian studies already examine digital marketing and competitive advantage in Banyuasin, marketing capability as a mediator in Batam, and human-resource readiness as a mediator in Makassar (Hadiwijaya & Yustini, 2023; Lestari, Adi, & Karlina, 2026; Musfirah & Jumain, 2026). These studies provide relevant comparisons, but their constructs, respondents, and locations differ. The present study contributes a joint examination of digital marketing capabilities, CRM, and innovation orientation through market responsiveness in Medan, without claiming that capability-mediated SME performance is an entirely unexplored topic. The objectives are to examine the direct relationships of digital marketing capabilities, CRM, and innovation orientation with competitive advantage; their relationships with market responsiveness; the responsiveness–competitive advantage relationship; and the three indirect pathways. Section 2 develops the hypotheses, Section 3 describes the method, Section 4 presents and discusses the results, and Section 5 concludes with limitations and future research directions.

2. Literature Review and Hypotheses Development

2.1 Theoretical Foundations

Resource-based theory directs attention to how firms use resources and capabilities to create and appropriate value (Barney et al., 2021). Digital marketing competencies, customer information, and an

orientation toward innovation may support distinct offerings or more effective market interaction. Their value depends on their deployment and context. This study measures perceived competitive advantage rather than directly measuring economic rents, resource rarity, or sustained advantage over time. The dynamic-capabilities perspective complements this account by emphasizing adaptation and the configuration of business activities (Teece, 2018). Research on digital transformation and customer value creation illustrates how digital resources can be combined with organizational capabilities (Matarazzo et al., 2021; Vial, 2019). Market responsiveness is proposed as one observable adaptive pathway. Because routine responsiveness and broader organizational transformation are not identical, the model tests a limited application of this perspective rather than the full dynamic-capabilities framework.

2.2 Digital Marketing Capabilities And Competitive Advantage

Digital marketing capabilities refer to competencies used to create, communicate, and deliver customer value through digital channels (Kannan, 2017). They include social media management, content creation, digital analytics, and online customer engagement. Research on digital platform capability and digital orientation provides a basis for examining how these competencies relate to SME performance (Cenamor, Parida, & Wincent, 2019; Quinton, Canhoto, Molinillo, Pera, & Budhathoki, 2018). A review of social media use in SME sales also identifies its relevance across sales activities (Wardati & Mahendrawathi, 2019). Indonesian evidence offers further context. (Hadiwijaya & Yustini, 2023) examine consumer preferences, digital marketing, and SME competitive advantage in Banyuasin. Gumay and Syarif (2025) examine marketing technology alongside financial management in relation to MSME performance in Kotabumi. These studies concern different respondents and outcomes, but they motivate testing digital marketing capabilities in Medan. Accordingly:

> *H_1:* Digital marketing capabilities are positively associated with the competitive advantage of SMEs in Medan

2.3 Customer Relationship Management and Competitive Advantage

CRM includes activities for identifying, acquiring, retaining, and developing customers. The original scale-development study by Sin, Tse, and Yim (2005) informs the measurement lineage, while more recent work examines CRM capabilities alongside social media and digital business model innovation (Foltean et al., 2019; Gil-Gomez et al., 2020). Effective use of customer information may improve service and differentiation, providing a rationale for a positive CRM–competitive advantage relationship. That relationship may depend on whether firms use customer information in their decisions and operations. The present study tests a direct path while also allowing an indirect path through market responsiveness. Cultural explanations and informal relationship practices are not measured and therefore are not assumed to characterize all participating firms. The direct hypothesis is:

> *H_2:* Customer relationship management is positively associated with the competitive advantage of SMEs in Medan

2.4 Innovation Orientation and Competitive Advantage

Innovation orientation is a strategic disposition toward learning and experimentation. It differs from a count of new products or an observed innovation outcome. Research on digital transformation, firm innovation, and SME innovation capability supports examining the organizational conditions behind innovative activity (Appio et al., 2021; Ferreira, Fernandes, & Ferreira, 2019; Saunila, 2020). Innovation studies in SMEs examine how entrepreneurial, marketing, relational, and support conditions relate to innovation capability and performance (Adam & Alarifi, 2021; Sulistyo, 2016). Digital-innovation research provides an additional example of an intervening capability linking technology with organizational performance (Khin & Ho, 2019). These findings motivate the following hypothesis without equating innovation orientation with every form of innovation capability:

H_3: Innovation orientation is positively associated with the competitive advantage of SMEs in Medan

2.5 Strategic Capabilities and Market Responsiveness

Market responsiveness concerns how firms respond to customer and competitor information (Homburg, Grozdanovic, & Klarmann, 2007). Digital marketing can supply information about customer behavior, CRM can organize customer knowledge, and innovation orientation can support experimentation with responses. Studies of digital data and social-media-enabled innovation provide related evidence for these information and adaptation processes (Scuotto, Giudice, Peruta, & Tarba, 2017; Sestino, Prete, Piper, & Guido, 2020). The proposed relationships are:

H_4: Digital marketing capabilities are positively associated with market responsiveness

H_5: Customer relationship management is positively associated with market responsiveness

H_6: Innovation orientation is positively associated with market responsiveness

2.6 Market Responsiveness and Competitive Advantage

A responsive firm may adjust its offerings and decisions as market information changes. Technology-enabled dynamic-capabilities and analytics studies motivate examining this link with competitive performance (Mikalef & Pateli, 2017; Wamba et al., 2017). Research on SME platform capabilities further suggests that digital resources need complementary organizational capabilities (Cenamor et al., 2019). Accordingly:

H_7: Market responsiveness is positively associated with the competitive advantage of SMEs in Medan

2.7 The Mediating Role of Market Responsiveness

The mediation argument is that strategic capabilities may relate to competitive outcomes through the firm's ability to act on market information. This interpretation is consistent with dynamic-capabilities research Matarazzo et al. (2021); Teece (2018) and with recent Indonesian studies specifying marketing capability or human-resource readiness as intermediaries (Lestari et al., 2026; Musfirah & Jumain, 2026). The present mediator is market responsiveness, and the hypotheses concern statistical indirect relationships. Cross-sectional mediation alone cannot establish a temporal or causal mechanism (Agler & Boeck, 2017).

H_8: Digital marketing capabilities have a positive indirect association with competitive advantage through market responsiveness

H_9: Customer relationship management has a positive indirect association with competitive advantage through market responsiveness

H_{10}: Innovation orientation has a positive indirect association with competitive advantage through market responsiveness

3. Research Methodology

The study employed a quantitative, cross-sectional survey. Covariance-Based Structural Equation Modeling (CB-SEM) in AMOS 26.0, using maximum likelihood estimation, assessed measurement and structural relationships. CB-SEM is appropriate for evaluating a specified latent-variable model, but its use does not convert observational associations into causal effects (Dash & Paul, 2021).

3.1 Population and Sample

The target population comprised SME owners and managers operating in Medan, North Sumatra. The sampling frame came from the Medan City Cooperatives and SMEs Office, supplemented by local business associations and chambers of commerce. Purposive selection used the stated study criteria: annual revenue between IDR 300 million and IDR 50 billion, at least two years of operation, use of at least one form of digital marketing, and an owner, co-owner, or senior manager as respondent. The revenue interval was used as an operational selection criterion. The stated planning target was 240 respondents, based on a heuristic of five observations for each of 48 reported estimated parameters. This calculation does not itself establish statistical power; model-specific power analysis requires

assumptions about the model and target effects (Moshagen & Bader, 2024). Of 280 questionnaires distributed between July and September 2024, 256 were returned (91.4%). Screening for incomplete responses and outliers using a Mahalanobis-distance criterion of $p < 0.001$ left 243 valid responses for analysis.

3.2 Measurement Instruments

All constructs used multi-item measures and five-point response options from 1 (strongly disagree) to 5 (strongly agree). Digital marketing capabilities comprised eight items covering social media marketing, content creation, analytics, and online engagement, with adaptation sources listed as (Cenamor et al., 2019; Kannan, 2017; Quinton et al., 2018). CRM comprised seven items concerning customer identification, acquisition, retention, and development, attributed to (Foltean et al., 2019; Gil-Gomez et al., 2020; Sin et al., 2005). Innovation orientation comprised seven items on learning philosophy, strategic direction, and transfunctional acclimation, attributed to (Appio et al., 2021; Saunila, 2020; Sulistyo, 2016). Market responsiveness comprised six items concerning the speed and effectiveness of market responses, attributed to (Homburg et al., 2007; Mikalef & Pateli, 2017; Wamba et al., 2017). Competitive advantage comprised seven items covering cost leadership, differentiation, responsiveness, and market position, attributed to (Mikalef & Pateli, 2017; Wamba et al., 2017). The questionnaire was developed in English and translated into Bahasa Indonesia using backtranslation. A pilot with 30 SME owners in Medan assessed clarity, face validity, and preliminary reliability.

3.3 Data Analysis Procedure

The analysis first assessed the measurement model through confirmatory factor analysis and then estimated the structural model. The stated screening criteria were factor loadings above 0.50, Average Variance Extracted (AVE) above 0.50, and Composite Reliability (CR) above 0.70. Discriminant validity was assessed by comparing square roots of AVE with inter-construct correlations and by the Heterotrait–Monotrait Ratio (HTMT), using 0.85 as a heuristic (Franke & Sarstedt, 2019). Model fit was examined using χ^2/df, CFI, TLI, RMSEA, and SRMR. The study's reference thresholds were 3.0, 0.90, 0.90, 0.08, and 0.08, respectively; fit should also be interpreted in relation to model size and specification (McNeish & Wolf, 2023; Shi, Lee, & Maydeu-Olivares, 2019). Indirect relationships were assessed with 5,000 bootstrap resamples and 95% bias-corrected confidence intervals (Agler & Boeck, 2017).

4. Results and Discussions

4.1 Respondent Profile

The demographic profiles of the 243 respondents revealed the following characteristics. In terms of gender, 141 (58.0 %) respondents were male and 102 (42.0%) were female. Regarding age distribution, 47 respondents (19.3%) were aged 21–30 years, 89 (36.6%) were aged 31–40 years, 72 (29.6%) were aged 41–50 years, and 35 (14.4%) were above 50 years of age. Regarding educational attainment, 28 respondents (11.5%) held a senior high school diploma, 143 (58.8%) possessed a bachelor's degree, 62 (25.5%) held a master's degree, and 10 (4.1%) had a doctoral degree. In terms of business tenure, 53 respondents (21.8%) had operated their enterprises for 2–5 years, 98 (40.3%) for 6–10 years, 61 (25.1%) for 11–15 years, and 31 (12.8%) for over 15 years. The sectoral distribution comprised food and beverage (31.3%), creative industries (22.6%), retail trade (19.8%), professional services (14.4%), and other sectors (11.9%).

4.2 Measurement Model Assessment

Table 1 presents the reported standardized factor loadings, composite reliability, average variance extracted, and Cronbach alpha for the five constructs.

Table 1. Measurement model assessment results

Construct / Item	Loading	CR	AVE	Cronbach α
Digital Marketing Capabilities		0.921	0.596	0.914
DMC1	0.762			

Construct / Item	Loading	CR	AVE	Cronbach α
DMC2	0.794			
DMC3	0.813			
DMC4	0.738			
DMC5	0.786			
DMC6	0.755			
DMC7	0.821			
DMC8	0.704			
Customer Relationship Management		0.908	0.586	0.901
CRM1	0.748			
CRM2	0.791			
CRM3	0.812			
CRM4	0.726			
CRM5	0.769			
CRM6	0.743			
CRM7	0.781			
Innovation Orientation		0.916	0.610	0.908
IO1	0.802			
IO2	0.776			
IO3	0.834			
IO4	0.751			
IO5	0.793			
IO6	0.768			
IO7	0.741			
Market Responsiveness		0.897	0.593	0.889
MR1	0.783			
MR2	0.809			
MR3	0.756			
MR4	0.791			
MR5	0.728			
MR6	0.744			
Competitive Advantage		0.913	0.601	0.905
CA1	0.789			
CA2	0.814			
CA3	0.762			
CA4	0.798			
CA5	0.741			
CA6	0.773			
CA7	0.756			

All reported standardized loadings exceeded 0.70. Composite reliability ranged from 0.897 to 0.921, AVE from 0.586 to 0.610, and Cronbach alpha from 0.889 to 0.914.

4.3 Discriminant Validity

Table 2 presents the reported inter-construct correlations and square roots of AVE. These values provide a comparison of within-construct variance with correlations between constructs.

Table 2. Discriminant validity using the Fornell–Larcker comparison

	DMC	CRM	IO	MR	CA
DMC	0.772				
CRM	0.614	0.765			
IO	0.582	0.547	0.781		
MR	0.639	0.601	0.654	0.770	
CA	0.587	0.498	0.621	0.674	0.775

The diagonal entries in Table 2 exceed the corresponding inter-construct correlations. HTMT ratios were also reported as below 0.85. This supports a provisional discriminant-validity assessment using the stated criteria, rather than establishing construct distinctness solely from a cutoff (Franke & Sarstedt, 2019). The inclusion of responsiveness indicators in the competitive-advantage measure warrants particular attention to overlap with market responsiveness.

4.4 Structural Model and Model Fit

The reported fit statistics were χ^2 = 1098.476, df = 595, CFI = 0.937, TLI = 0.929, RMSEA = 0.059 (90% CI: 0.053–0.065), and SRMR = 0.054. The chi-square/degrees-of-freedom ratio calculated from these figures is 1.846. The descriptive fit indices meet the study's reference thresholds, but model size and specification also affect their interpretation (McNeish & Wolf, 2023; Shi et al., 2019).

4.5 Direct Relationships

Table 3 presents the seven direct path estimates and associated tests. The hypotheses concern positive relationships within the specified model.

Table 3. Direct structural-path estimates

H	Path	Estimate	S.E.	C.R.	p-value	Result
H_1	DMC → CA	0.218	0.072	3.028	0.002	Supported
H_2	CRM → CA	0.094	0.068	1.382	0.167	Not supported
H_3	IO → CA	0.247	0.074	3.338	***	Supported
H_4	DMC → MR	0.296	0.069	4.290	***	Supported
H_5	CRM → MR	0.231	0.066	3.500	***	Supported
H_6	IO → MR	0.342	0.071	4.817	***	Supported
H_7	MR → CA	0.351	0.079	4.443	***	Supported

Digital marketing capabilities had a significant positive direct relationship with competitive advantage (reported β = 0.218, C.R. = 3.028, p = 0.002), as did innovation orientation (β = 0.247, C.R. = 3.338, p < 0.001), supporting H_1 and H_3. The direct CRM relationship was not significant (β = 0.094, C.R. = 1.382, p = 0.167), so H_2 was not supported. This nonsignificant estimate does not demonstrate an exactly zero relationship. All three predictors had significant positive relationships with market responsiveness: digital marketing capabilities (β = 0.296, C.R. = 4.290, p < 0.001), CRM (β = 0.231, C.R. = 3.500, p < 0.001), and innovation orientation (β = 0.342, C.R. = 4.817, p < 0.001). These results support H_4–H_6. Market responsiveness was positively associated with competitive advantage (β = 0.351, C.R. = 4.443, p < 0.001), supporting *H7*. Reported R^2 values were 0.583 for competitive advantage and 0.527 for market responsiveness. Innovation orientation had the largest point estimate among the three antecedents, but differences between coefficients were not tested.

4.6 Mediation Analysis

Table 4 presents the indirect estimates obtained using 5,000 bootstrap resamples and 95% bias-corrected confidence intervals.

Table 4. Indirect relationships through market responsiveness

H	Indirect Path	Indirect Effect	Lower CI	Upper CI	p-value	Result
H_8	DMC → MR → CA	0.104	0.051	0.174	0.001	Supported
H_9	CRM → MR → CA	0.081	0.032	0.149	0.004	Supported

H	Indirect Path	Indirect Effect	Lower CI	Upper CI	p-value	Result
H_{10}	IO → MR → CA	0.120	0.063	0.198	0.001	Supported

The indirect digital marketing–competitive advantage estimate was 0.104 (95% CI: 0.051–0.174, p = 0.001), supporting H_8. Its positive indirect estimate and significant positive direct estimate are consistent with complementary partial mediation in the specified model. The indirect CRM estimate was 0.081 (95% CI: 0.032–0.149, p = 0.004), supporting H_9. Together with the nonsignificant direct estimate, this is an indirect-only statistical pattern. It does not prove that CRM operates entirely through market responsiveness or that no alternative pathway exists (Agler & Boeck, 2017).

The indirect innovation-orientation estimate was 0.120 (95% CI: 0.063–0.198, p = 0.001), supporting H_{10}. The significant positive direct and indirect estimates are consistent with complementary partial mediation. Summing the reported direct and indirect estimates gives total point estimates of 0.367 for innovation orientation, 0.322 for digital marketing capabilities, and 0.175 for CRM. These are descriptive comparisons, not tests that one total relationship is statistically larger than another. Table 5 consolidates the ten hypothesis tests and distinguishes complementary partial mediation from the indirect-only CRM pattern.

Table 5. Summary of hypothesis tests

Hypothesis	Statement	Result	Mediation Type
H_1	DMC → CA (Direct)	Supported	
H_2	CRM → CA (Direct)	Not supported	
H_3	IO → CA (Direct)	Supported	
H_4	DMC → MR	Supported	
H_5	CRM → MR	Supported	
H_6	IO → MR	Supported	
H_7	MR → CA	Supported	
H_8	DMC → MR → CA	Supported	Complementary partial
H_9	CRM → MR → CA	Supported	Indirect-only
H_{10}	IO → MR → CA	Supported	Complementary partial

4.7 Direct Relationships with Competitive Advantage

The positive direct relationship between digital marketing capabilities and competitive advantage is consistent with work on digital platforms, digital orientation, and SME sales processes (Cenamor et al., 2019; Quinton et al., 2018; Wardati & Mahendrawathi, 2019). The findings also provide a comparison with Indonesian studies of digital marketing and competitive advantage or business performance (Gumay & Syarif, 2025; Hadiwijaya & Yustini, 2023). The survey does not identify which individual digital tool caused an improvement or measure changes in competitiveness over time. The CRM result distinguishes a nonsignificant direct estimate from a significant indirect relationship.

CRM studies connect customer information and digital interaction with organizational outcomes Foltean et al. (2019)and Gil-Gomez et al. (2020) the present pattern is consistent with responsiveness being one relevant intermediary. Explanations based on informal practices, local culture, or resource constraints remain hypotheses because those mechanisms were not directly measured. Innovation orientation had the largest direct point estimate among the three antecedents of competitive advantage. This is compatible with research on innovation practices, digital transformation, and innovation capability (Adam & Alarifi, 2021; Appio et al., 2021; Saunila, 2020). However, the difference between 0.247 and the digital-marketing estimate of 0.218 was not tested, so the results do not establish that innovation orientation is a statistically stronger predictor.

4.8 Relationships with Market Responsiveness

The positive relationships of the three antecedents with market responsiveness are consistent with the proposed adaptive pathway. Dynamic-capabilities and analytics research provides a rationale for connecting information and organizational resources with responses to changing conditions (Mikalef & Pateli, 2017; Teece, 2018; Wamba et al., 2017). The largest antecedent point estimate was for innovation orientation (0.342), followed by digital marketing capabilities (0.296) and CRM (0.231); their ordering should not be interpreted as a tested difference. Digital marketing and CRM can supply different forms of customer information, while innovation orientation may encourage firms to act on it. Research on digital customer value and data-enabled business processes supports this interpretation (Matarazzo et al., 2021; Sestino et al., 2020). It remains an interpretation of cross-sectional associations: the study did not observe the timing of information collection, managerial decisions, and subsequent performance.

4.9 The Mediating Role of Market Responsiveness

The three significant indirect estimates are consistent with market responsiveness linking strategic capabilities to competitive advantage. For CRM, the indirect-only pattern is informative because it separates evidence for the proposed indirect path from the absence of a statistically significant direct estimate. It should not be described as proof of an exclusive or fully causal mechanism (Agler & Boeck, 2017). Digital marketing capabilities and innovation orientation had significant direct and indirect estimates. Their totals, together with the CRM total, summarize the reported model but do not estimate the returns from increasing a capability or provide a causal ranking for investment. Comparing strategic priorities requires uncertainty estimates for the contrasts, implementation costs, and evidence about changes over time.

4.10 Theoretical Implications

The theoretical contribution is to connect the resource-based value-creation perspective with a specific adaptive pathway in SMEs (Barney et al., 2021; Teece, 2018). Market responsiveness links the measured digital, relational, and innovation constructs with perceived competitive advantage, complementing research on business model adaptation and digital entrepreneurship (Bouwman et al., 2019; Ghezzi & Cavallo, 2020; Rachinger et al., 2019). Recent Indonesian studies identify marketing capability and human-resource readiness as other intermediaries Lestari et al. (2026); Musfirah and Jumain (2026); the present model places market responsiveness at the center of that comparison. The findings do not establish sustained economic rents or validate every component of dynamic-capabilities theory.

4.11 Practical Implications

For SME owners and managers, the results motivate connecting digital marketing and customer information with decisions about offerings and service responses. Managers can support experimentation and learning while tracking whether changes improve customer or business outcomes. CRM information should be used in operational decisions, but the present study does not show that responsiveness is its only source of value. Investment priorities should reflect firm-specific constraints and observed results rather than the ordering of coefficients alone. For policymakers, capability-development programs can combine digital skills with customer-information use and opportunities for small-scale innovation. Research in Kotabumi, Batam, and Makassar offers related examples of complementary capabilities in Indonesian small businesses (Gumay & Syarif, 2025; Lestari et al., 2026; Musfirah & Jumain, 2026). Program effectiveness still requires evaluation; this survey does not estimate the impact of training, subsidies, or incubation initiatives.

5. Conclusions

5.1 Conclusion

Using survey data from 243 SME owners and managers in Medan, the study reports support for nine of ten hypotheses. Digital marketing capabilities and innovation orientation had significant positive direct relationships with competitive advantage, while CRM had a significant indirect relationship through market responsiveness and a nonsignificant direct estimate. All three indirect estimates were positive, with bootstrap intervals excluding zero. The reported model explained 58.3% of the variance

in competitive advantage and 52.7% in market responsiveness. Innovation orientation had the largest total point estimate, although differences among totals were not tested. The findings are consistent with responsiveness as an adaptive pathway. They support further investigation of how SMEs use strategic capabilities rather than a causal prescription for prioritizing investments.

5.2 Research Limitations

The findings are limited by one-city purposive sampling, cross-sectional self-reports, possible construct overlap, and untested industry differences. Harman single-factor result does not establish freedom from method bias. The study does not directly assess objective performance, sustained advantage, or the full range of dynamic capabilities.

5.3 Directions for Future Research

Future research should follow firms over time, use independent or objective outcome measures, and separate market responsiveness from responsiveness-related competitive-advantage items. Comparisons across cities and sectors could assess contextual differences, while alternative mediators such as organizational learning or human-resource readiness could be tested explicitly. Experiments or longitudinal program evaluations would provide a stronger basis for managerial and policy decisions. Qualitative work could examine how firms actually turn digital and customer information into market responses.

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