

The Effects of Entrepreneurial Orientation and Market Orientation on Marketing Performance: The Mediating Role of Digital Marketing Capability among E-Commerce Entrepreneurs in Northeastern Thailand

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Abstract (English)

This study examined the effects of entrepreneurial orientation and market orientation on digital marketing capability and marketing performance, together with the mediating role of digital marketing capability among e-commerce entrepreneurs in Northeastern Thailand. The sample comprised 374 e-commerce entrepreneurs selected through simple random sampling. Data were collected using mailed questionnaires and analyzed through structural equation modeling. The structural model showed a good fit to the empirical data. Entrepreneurial orientation had positive effects on digital marketing capability ($\beta = 0.197$, $p = 0.001$) and marketing performance ($\beta = 0.108$, $p = 0.033$), while market orientation had positive effects on digital marketing capability ($\beta = 0.504$, $p < 0.001$) and marketing performance ($\beta = 0.292$, $p < 0.001$). Digital marketing capability also had a positive effect on marketing performance ($\beta = 0.520$, $p < 0.001$). Entrepreneurial orientation and market orientation jointly explained 42.2% of the variance in digital marketing capability ($R^2 = 0.422$). When digital marketing capability was included in the model, 65.8% of the variance in marketing performance was explained ($R^2 = 0.658$). Digital marketing capability partially mediated both the entrepreneurial orientation–marketing performance and market

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orientation–marketing performance relationships. These findings suggest that digital marketing capability represents one mechanism through which the two strategic orientations are associated with marketing performance among e-commerce entrepreneurs in Northeastern Thailand.

Keywords (English)

Digital Marketing Capability; Entrepreneurial Orientation; Market Orientation; Marketing Performance; E-Commerce Entrepreneurs

Introduction

Digital technologies and the Internet have reshaped how businesses reach markets, conduct transactions, and manage customer relationships through digital platforms, mobile commerce, and data-driven marketing tools (Nambisan et al., 2019; Verhoef et al., 2021). In Thailand, the value of e-commerce was estimated at approximately 5.96 trillion baht in 2023, reflecting the continuing expansion of online commercial activity (Electronic Transactions Development Agency [ETDA], 2024). Access to digital technologies alone does not necessarily lead to favorable marketing outcomes; firms must also be able to integrate these technologies into their marketing activities and organizational processes (Dwivedi et al., 2021, 1-37).

This issue is particularly relevant to e-commerce entrepreneurs in Northeastern Thailand. For this study, e-commerce entrepreneurs are defined as registered businesses conducting commercial transactions involving products or services through online or other electronic channels. As of November 2025, the Department of Business Development (DBD) sampling frame contained 9,971 registered e-commerce entrepreneurs across the region (Department of Business Development [DBD], 2025). Digital use is already extensive: 87.7% of people aged six years and over in Northeastern Thailand used the Internet in 2024 (National Statistical Office [NSO], 2025). At the same time, regional economic growth remained modest, with the Bank of Thailand projecting Northeastern GRP growth in 2024 within a range of –0.2% to 0.8% (Bank of Thailand [BOT], 2024). The coexistence of widespread digital use and modest regional economic growth provides a relevant setting for examining how strategic orientations and digital marketing capability are associated with marketing performance.

Entrepreneurial orientation and market orientation offer distinct but complementary bases for responding to changing markets. Entrepreneurial orientation reflects a firm's tendency toward innovation, proactive action, and opportunity seeking, whereas market orientation directs organizational attention toward customers, competitors, and market information (Miller, 1983; Kohli & Jaworski, 1990; Narver & Slater, 1990; Donbesuur et al., 2020). These orientations alone, however, may not fully explain marketing performance in markets increasingly shaped by digital technologies. From the perspective of dynamic capability theory, firms respond to environmental change by sensing opportunities, mobilizing resources, and reconfiguring organizational competencies (Teece et al., 1997; Teece, 2018). Digital marketing capability may therefore represent an organizational mechanism through which entrepreneurial and market orientations are linked to marketing performance.

Existing research leaves both a mechanism-based and a contextual gap. Thai studies have examined related relationships but not the configuration proposed here. Digital entrepreneurship has been linked to new product development and customer responsiveness among Thai e-commerce businesses (Chinchang & Kuleelung, 2022, 1733-1755), while corporate entrepreneurship, service innovation, and e-marketplace involvement have been examined among Thai online entrepreneurs (Pangthong et al., 2024, 48-66). More specifically, research among e-commerce entrepreneurs in Northeastern Thailand found that business differentiation and rapid customer response positively affected marketing performance, whereas social media orientation and marketing content creativity did not, indicating that individual digital marketing strategies do not contribute uniformly to marketing performance (Ploenlap et al., 2024, 64-80). International evidence has moved closer to the present model. Digital marketing capability was found to mediate the relationships of both entrepreneurial orientation and market orientation with marketing performance among SMEs in North Sumatra, Indonesia (Hidayati et al., 2025, 329-342), while mediation between entrepreneurial orientation and marketing performance through digital marketing capability has also been reported among Omani SMEs (Al Buraiki & Nofal, 2026). Nevertheless, these studies were conducted among general SME populations outside Thailand. Evidence remains limited on how EO and MO are jointly associated with marketing performance through digital marketing capability among registered e-commerce entrepreneurs in Northeastern Thailand.

Against this background, the study examines the effects of entrepreneurial orientation and market orientation on digital marketing capability and marketing performance among e-commerce entrepreneurs in Northeastern Thailand, together with the effect of digital marketing capability on marketing performance and its mediating role in these relationships. Two research questions are addressed: (1) How do entrepreneurial orientation and market orientation affect digital marketing capability and marketing performance? and (2) Does digital marketing capability mediate the relationships between entrepreneurial orientation and marketing performance and between market orientation and marketing performance? Addressing these questions provides context-specific evidence on the role of digital marketing capability within these relationships and may inform e-commerce entrepreneurs and organizations supporting business development in Northeastern Thailand.

Objectives

1. To examine the effects of entrepreneurial orientation and market orientation on digital marketing capability and marketing performance among e-commerce entrepreneurs in Northeastern Thailand.
2. To examine the mediating role of digital marketing capability in the relationships between entrepreneurial orientation and marketing performance and between market orientation and marketing performance among e-commerce entrepreneurs in Northeastern Thailand.

Literature Review and Hypothesis Development

1. Dynamic Capability Theory

Dynamic capability theory explains how firms adapt to changing markets and technologies by integrating, building, and reconfiguring organizational resources and competencies. Its central processes- sensing opportunities and threats, seizing identified opportunities, and reconfiguring existing resources enable firms to realign their capabilities as environmental conditions change rather than relying solely on established operational routines (Teece et al., 1997; Teece, 2007, 2018). This logic is particularly relevant to e-commerce, where digital technologies, platforms, customer behavior, and competitive conditions evolve rapidly. In such settings, firms must identify emerging market and

technological developments, act on relevant opportunities, and adjust their resources accordingly, processes increasingly described as digital sensing, digital seizing, and digital reconfiguration (Warner & Wäger, 2019; Ellström et al., 2022).

Entrepreneurial orientation and market orientation are treated here as strategic orientations rather than dynamic capabilities themselves. Entrepreneurial orientation supports opportunity recognition and proactive action, whereas market orientation provides knowledge about customers, competitors, and market change. Digital marketing capability represents the organizational capability through which digital technologies, market intelligence, communication channels, and marketing resources can be coordinated and reconfigured. Dynamic capability theory therefore provides the theoretical basis for examining how entrepreneurial orientation and market orientation relate to digital marketing capability and marketing performance, and whether digital marketing capability mediates these relationships (Homburg & Wielgos, 2022; Hidayati et al., 2025).

2. Marketing performance

Marketing performance reflects the extent to which a firm achieves its market-related objectives through marketing activities and resources. It encompasses both market and financial outcomes and, in this study, is assessed through four dimensions: market share, sales growth, marketing profitability, and customer satisfaction (Narver & Slater, 1990; Morgan, 2012). These dimensions capture changes in market position and sales, financial returns from marketing activities, and the extent to which customer expectations are met. In the e-commerce context, where market conditions and customer responses can change rapidly, marketing performance provides a relevant basis for evaluating the outcomes associated with entrepreneurial orientation, market orientation, and digital marketing capability.

3. Entrepreneurial Orientation on Digital Marketing Capability and Marketing Performance

Entrepreneurial orientation is a firm-level strategic orientation encompassing innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness, which reflect a firm's tendency to pursue new ideas, commit resources under uncertainty, act proactively, make independent decisions, and respond assertively to competitors (Miller, 1983; Lumpkin & Dess, 1996; Hughes & Morgan, 2007). In e-commerce settings, these characteristics may support digital marketing capability by encouraging firms to recognize digital

opportunities, commit resources, and adapt marketing processes as market conditions change. In this study, digital marketing capability comprises innovation ecosystem readiness, digital marketing technology adoption, digital transformation, digital market intelligence and analytics, and digital communication and customer value creation (Homburg & Wielgos, 2022; Masrianto et al., 2022). This relationship is consistent with the sensing, seizing, and reconfiguration logic of dynamic capability theory (Teece, 2007, 1319–1350), and positive associations between entrepreneurial orientation and digital marketing capability have been reported among emerging-market SMEs (Hidayati et al., 2025; Al Buraiki & Nofal, 2026). The strength of this relationship may nevertheless vary across organizational contexts in which digital marketing capability is developed and applied.

Entrepreneurial orientation may also be associated with marketing performance through innovation, opportunity seeking, timely market responses, and competitive action. Positive direct relationships have been identified among emerging-market SMEs (Hidayati et al., 2025; Al Buraiki & Nofal, 2026), although the evidence is not entirely uniform. In Brazilian franchise systems, digital marketing capability fully mediated the relationship between entrepreneurial orientation and performance, suggesting that the extent to which entrepreneurial orientation is directly associated with performance may depend on how effectively entrepreneurial intent is translated into organizational capability (Dermonde et al., 2024). Taken together, the theoretical reasoning and prior evidence support the expectation that entrepreneurial orientation is positively related to both digital marketing capability and marketing performance.

H1: Entrepreneurial orientation has a positive influence on digital marketing capability.

H2: Entrepreneurial orientation has a positive influence on marketing performance.

4. Market Orientation on Digital Marketing Capability and Marketing Performance

Market orientation is a firm-wide strategic orientation centered on understanding market conditions and using market knowledge to guide coordinated organizational action. Its conceptual foundations combine the cultural perspective of customer orientation, competitor orientation, and interfunctional coordination (Narver & Slater, 1990, 20-35) with the behavioral emphasis on market intelligence generation and use (Kohli & Jaworski, 1990, 1-18). Accordingly, this study represents market orientation through four dimensions: customer orientation, competitor orientation, interfunctional coordination, and market intelligence

generation. These dimensions capture systematic attention to customers and competitors, coordination across organizational functions, and the acquisition of market information needed to support marketing decisions.

Market orientation may also provide an informational foundation for digital marketing capability and marketing performance. Knowledge of customers, competitors, and market change can inform digital resource allocation and marketing decisions, while digital technologies broaden the speed and scope of market information use among SMEs (Kraus et al., 2019, 353-375). From a dynamic capability perspective, market orientation supports the sensing of market changes, whereas digital marketing capability helps translate market knowledge into coordinated digital responses (Teece, 2007, 1319–1350). Prior studies have generally linked market orientation to stronger marketing capabilities and market outcomes, although the strength and pathways of these relationships vary across settings (Kajalo & Lindblom, 2015; Trainor et al., 2014; Mandagie et al., 2024). Evidence from Indonesian food-producing SMEs, for example, found no significant direct effect of market orientation on marketing performance, but identified significant indirect effects through innovation capability and sustainable competitive advantage (Fahmi et al., 2024, 487-503). This variation suggests that the value of market orientation may depend partly on the organizational capabilities through which market knowledge is applied. On this basis, positive relationships with both digital marketing capability and marketing performance are proposed.

H3: Market orientation has a positive influence on digital marketing capability.

H4: Market orientation has a positive influence on marketing performance.

5. Digital Marketing Capability and Marketing Performance

Digital marketing capability refers to a firm's ability to coordinate, deploy, and adapt technology-enabled marketing processes in support of marketing objectives and value creation. In this study, it comprises innovation ecosystem readiness, digital marketing technology adoption, digital transformation, digital market intelligence and analytics, and digital communication and customer value creation (Day, 2011; Morgan et al., 2009; Homburg & Wielgos, 2022; Masrianto et al., 2022). Together, these dimensions reflect the organizational capacity to integrate digital technologies, market knowledge, and marketing resources as market conditions change. From a dynamic capability perspective, digital marketing capability enables firms to reconfigure digital resources and market knowledge into coordinated

marketing responses (Teece, 2007, 1319–1350). Consistent with this view, prior studies have generally linked stronger digital marketing capability with improved firm and marketing outcomes across different organizational settings (Homburg & Wielgos, 2022; Narakorn, 2020; Tongdhamachart & Niyomsilpa, 2022).

The performance implications of digital marketing capability are nevertheless context dependent. Environmental dynamism has been found to strengthen its positive relationship with MSME performance (Purwanti et al., 2022, 433-448), while evidence from SME agro-processors indicates that only particular dimensions of digital marketing capability are associated with market outcomes such as sales growth, market share, and profitability (Chinakidzwa & Phiri, 2020, 746-757). These findings suggest that the value of digital marketing capability depends not simply on digital technology adoption, but on how digital resources, market knowledge, and marketing processes are integrated and applied under specific organizational conditions. Accordingly, a positive relationship between digital marketing capability and marketing performance is proposed.

H5: Digital marketing capability has a positive influence on marketing performance.

6. The Mediating Role of Digital Marketing Capability

Dynamic capability theory suggests that strategic orientations may not translate directly into marketing outcomes unless firms possess organizational capabilities that transform strategic intent and market knowledge into coordinated action. Digital marketing capability serves this function by integrating and reconfiguring digital resources, market intelligence, and marketing processes as market conditions change (Teece, 2007, 1319-1350). Entrepreneurial orientation and market orientation may therefore affect marketing performance indirectly through the development and application of digital marketing capability. Empirical findings generally support this mechanism, although the nature of mediation differs across contexts. Significant mediating effects between entrepreneurial orientation and performance have been reported among emerging-market SMEs and Omani SMEs, whereas full mediation has been identified in Brazilian franchise systems (Hidayati et al., 2025; Al Buraiki & Nofal, 2026; Dermonde et al., 2024). In contrast, Zahara et al. (2023) found no significant mediating effect between entrepreneurial marketing and marketing performance among post-pandemic SMEs. Digital marketing capability has also been shown to mediate the relationship between market orientation and marketing performance, suggesting that market knowledge may produce

stronger performance outcomes when it is translated into coordinated digital marketing activity (Hidayati et al., 2025, 329-342).

Evidence from Thailand points to a similar capability-based mechanism while also revealing an unresolved contextual gap. Marketing capabilities have mediated the effects of entrepreneurial orientation and market orientation on firm performance among Thai SMEs (Lekmat et al., 2018, 213-237), while digital marketing capability has mediated the effects of platform and web capabilities on marketing effectiveness among Thai community enterprises (Tongdhamachart & Niyomsilpa, 2022, 201-220). Related mediation mechanisms have also been observed among Thai online entrepreneurs, although different antecedents and mediating constructs were examined (Wingwon et al., 2025, 93). Collectively, these studies suggest that organizational capabilities can link strategic orientations with performance, but they do not establish whether digital marketing capability mediates both the entrepreneurial orientation–marketing performance and market orientation–marketing performance relationships among e-commerce entrepreneurs in Northeastern Thailand. This unresolved issue provides the basis for the following hypotheses:

H6: Digital marketing capability mediates the positive relationship between entrepreneurial orientation and marketing performance.

H7: Digital marketing capability mediates the positive relationship between market orientation and marketing performance.

Research Framework

Based on the hypotheses developed above, the proposed relationships among entrepreneurial orientation, market orientation, digital marketing capability, and marketing performance are presented in Figure 1.

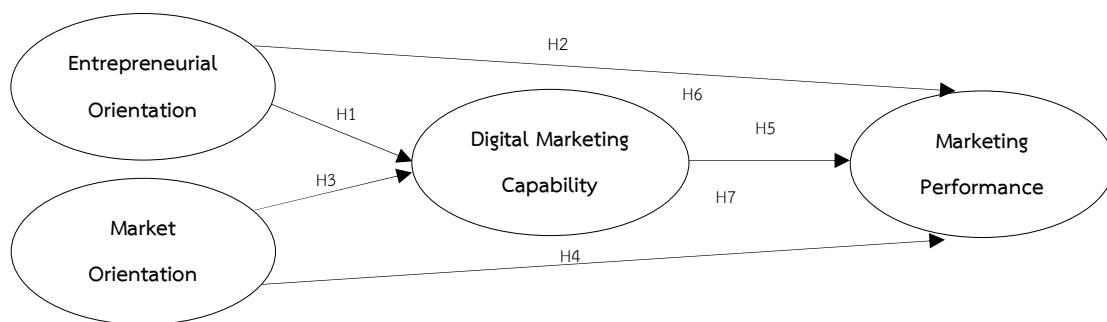


Figure 1: Research Framework Relationships

Research Methodology

1. Population and Sample

The population comprised 9,971 e-commerce entrepreneurs registered with the Department of Business Development (DBD), Ministry of Commerce, Thailand. The DBD database, accessed in November 2025, served as the sampling frame and covered registered e-commerce businesses across the 20 provinces of Northeastern Thailand. E-commerce entrepreneurs were operationally defined as registered businesses conducting commercial transactions involving products or services through online or other electronic channels. Eligible businesses were selected from the sampling frame using simple random sampling. A minimum sample of 370 respondents was initially determined at a 95% confidence level based on the population size (Krejcie & Morgan, 1970, 607-610). Sample adequacy was also assessed in relation to structural equation modeling requirements. The proposed model comprised 18 observed indicators; using the recommended ratio of approximately 10–20 observations per observed variable, a sample of 180–360 respondents was considered adequate for SEM analysis (Vanichbuncha, 2019). The final sample of 374 respondents therefore exceeded both requirements. Key informants were business owners or top-level executives responsible for strategic and marketing decisions, as they were expected to have direct knowledge of the firms' entrepreneurial orientation, market orientation, digital marketing activities, and marketing performance.

2. Data Collection

Data were collected between November 2025 and January 2026. Self-administered questionnaires were mailed to 1,850 e-commerce businesses selected from the DBD sampling frame using the postal addresses recorded in the database. The number of questionnaires distributed exceeded the minimum required sample to allow for non-response associated with mail surveys. Approximately two weeks after the initial mailing, non-responding businesses were contacted by telephone to encourage questionnaire completion and return. A total of 374 usable questionnaires were obtained, yielding a usable response rate of 20.22%, which was considered acceptable for a mail survey using a follow-up procedure (Aaker et al., 2001). Potential non-response bias was assessed by comparing early and late respondents following Armstrong and Overton (1977). No statistically significant differences were found in

firm age ($t = 0.108$, $p > 0.05$) or employee size ($t = 0.126$, $p > 0.05$), providing no evidence of substantial non-response bias based on these characteristics. Ethical approval was obtained before data collection from the Human Research Ethics Committee of Nakhon Phanom University through an expedited review process (Project No. HE26168; No. 261/2568). Approval was granted on October 2, 2025, and remained valid until October 1, 2026.

3. Measures

All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Questionnaire items were developed in Thai from the definitions and measurement concepts reported in prior studies and adapted to the context of e-commerce businesses in Thailand. The instrument was subsequently evaluated through validity assessment and pilot testing. Because the items were developed directly in Thai rather than translated from an English-language questionnaire, translation and back-translation procedures were not required. Table 1 summarizes the dimensions, number of items, representative items, and measurement sources.

Table 1 Measurement of Constructs

Construct	Observed Variable (Number of Items)	Total Items	Sample Item	Sources
Entrepreneurial Orientation (EO)	Innovativeness (5); Risk-taking (5); Proactiveness (5); Autonomy (5); Competitive aggressiveness (5)	25	The business frequently introduces new ideas.	Lumpkin & Dess (1996); Hughes & Morgan (2007)
Market Orientation (MO)	Customer orientation (5); Competitor orientation (5); Interfunctional coordination (5); Market intelligence generation (5)	20	The business regularly identifies customer needs.	Narver & Slater (1990); Kohli & Jaworski (1990)
Digital Marketing Capability (DMC)	Innovation ecosystem readiness (5); Digital marketing technology adoption (5); Digital transformation (5); Digital market intelligence and analytics (5); Digital communication and customer value creation (5)	25	Digital tools are integrated into marketing activities.	Day (2011); Morgan et al. (2009); Homburg & Wielgos (2022)

Table 1 Measurement of Constructs (Continue)

Construct	Observed Variable (Number of Items)	Total Items	Sample Item	Sources
Marketing Performance (MP)	Market share (4); Sales growth (4); Marketing profitability (4); Customer satisfaction (4)	16	The business has increased its market share.	Narver & Slater (1990); Morgan et al. (2009)

4. Pilot Test

Prior to the main data collection, the questionnaire was pilot-tested with 30 respondents to assess item consistency and scale reliability. Item-total correlations ranged from 0.613 to 0.766, exceeding the recommended threshold of 0.30. Cronbach's alpha coefficients ranged from 0.947 to 0.966, above the recommended level of 0.70 (Nunnally & Bernstein, 1994). These results indicated satisfactory internal consistency of the measurement scales before the main data collection.

5. Measurement Model Validation

The measurement model was assessed through confirmatory factor analysis (CFA) using the full sample of 374 respondents. As shown in Table 2, standardized factor loadings across the measurement dimensions ranged from 0.899 to 0.936. Average variance extracted (AVE) values ranged from 0.823 to 0.865, exceeding the recommended threshold of 0.50 (Fornell & Larcker, 1981). Composite reliability (CR) values ranged from 0.949 to 0.967, above the recommended level of 0.70 (Hair et al., 2010), while Cronbach's alpha coefficients ranged from 0.947 to 0.966. These results supported the convergent validity and internal consistency of the four constructs.

Table 2 Measurement Model Validation

Construct	Factor Loading	AVE	CR	Cronbach's Alpha
Entrepreneurial Orientation (EO)	0.904–0.928	0.842	0.964	0.964
Market Orientation (MO)	0.899–0.916	0.823	0.949	0.947
Digital Marketing Capability (DMC)	0.916–0.928	0.852	0.967	0.966
Marketing Performance (MP)	0.924–0.936	0.865	0.962	0.960

6. Discriminant Validity

Discriminant validity was assessed using the Fornell–Larcker criterion, whereby the square root of the average variance extracted (AVE) for each construct should exceed its correlations with other constructs (Fornell & Larcker, 1981). As shown in Table 3, the square

roots of AVE were 0.918 for entrepreneurial orientation, 0.907 for market orientation, 0.923 for digital marketing capability, and 0.930 for marketing performance. Each exceeded the corresponding inter-construct correlations, which ranged from 0.508 to 0.732, supporting adequate discriminant validity among the four constructs.

Table 3 Descriptive Statistics, Correlation Matrix, and Discriminant Validity

Variables	Mean	S.D.	EO	MO	DMC	MP
EO	3.46	0.439	0.918			
MO	3.50	0.398	0.625**	0.907		
DMC	3.36	0.448	0.508**	0.605**	0.923	
MP	3.43	0.450	0.552**	0.661**	0.732**	0.930

Note: Bold diagonal values represent the square root of AVE. ** Correlation is significant at the 0.01 level (2-tailed).

7. Common Method Bias

Because all constructs were measured using self-report data obtained from a single respondent through the same questionnaire, potential common method bias was assessed using Harman's single-factor test (Podsakoff et al., 2003). All 86 measurement items were entered simultaneously into an unrotated principal component analysis. The first component accounted for 27.21% of the total variance, below the commonly used 50% benchmark. The result indicated that no single component accounted for the majority of the variance, suggesting that common method bias was not a major concern in the present data.

8. Data Screening

Prior to SEM analysis, the data were screened for missing values, multivariate outliers, and distributional characteristics. No missing values were identified among the 374 usable responses. Skewness values ranged from -0.060 to 0.185 and kurtosis values from -0.909 to -0.153, indicating no substantial univariate departure from normality (Kline, 2011). Although the Kolmogorov-Smirnov tests were significant ($p < .001$), the skewness and kurtosis statistics indicated only minor distributional deviations. Multivariate outliers were assessed using Mahalanobis distance (D^2) across the 18 observed indicators used in the SEM analysis (Tabachnick & Fidell, 2013). Cases exceeding the critical chi-square value of 42.31 ($df = 18$, $p < .001$) were considered potential multivariate outliers. Mahalanobis D^2 values ranged from 5.60 to 33.52; therefore, no cases exceeded the critical threshold.

9. SEM Estimation and Data Analysis

Structural equation modeling was estimated using the maximum likelihood (ML) method (Byrne, 2016; Kline, 2011). Model fit was evaluated using the chi-square to degrees-of-freedom ratio (χ^2/df), comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), and p-close. These indices were considered jointly in assessing model fit (Hu & Bentler, 1999; Byrne, 2016). Mediating effects were tested using bootstrapping with 5,000 resamples (Preacher & Hayes, 2008, 879-891). An indirect effect was considered statistically significant when its 95% confidence interval did not include zero.

Results

Table 4 presents the descriptive statistics and distributional characteristics of the 18 measurement dimensions. The highest and lowest mean scores were 3.52 and 3.38 for competitive aggressiveness and proactiveness within entrepreneurial orientation; 3.58 and 3.45 for customer orientation and market intelligence generation within market orientation; 3.47 and 3.28 for innovation ecosystem readiness and digital transformation within digital marketing capability; and 3.49 and 3.36 for market share and customer satisfaction within marketing performance, respectively. Skewness ranged from -0.060 to 0.185 and kurtosis from -0.909 to -0.153, indicating no substantial univariate departure from normality (Kline, 2011). Although the Kolmogorov–Smirnov tests were significant ($p < .001$), these distributional statistics indicated only minor deviations from normality.

Table 4 Descriptive Statistics and Distributional Characteristics of the Measurement Dimensions

Construct / Dimension	Mean	S.D.	Opinion Level	Skewness	Kurtosis
Entrepreneurial Orientation (EO)					
Innovativeness	3.47	0.462	Agree	0.158	-0.658
Risk-taking	3.50	0.476	Agree	0.101	-0.567
Proactiveness	3.38	0.453	Neutral	0.112	-0.584
Autonomy	3.42	0.461	Agree	0.055	-0.486
Competitive Aggressiveness	3.52	0.498	Agree	0.006	-0.529
Market Orientation (MO)					
Customer Orientation	3.58	0.416	Agree	-0.060	-0.909
Competitor Orientation	3.48	0.435	Agree	-0.056	-0.728

Table 4 Descriptive Statistics and Distributional Characteristics of the Measurement Dimensions (Continue)

Construct / Dimension	Mean	S.D.	Opinion Level	Skewness	Kurtosis
Interfunctional Coordination	3.49	0.431	Agree	0.022	-0.580
Market Intelligence Generation	3.45	0.426	Agree	0.013	-0.539
Digital Marketing Capability (DMC)					
Innovation Ecosystem Readiness	3.47	0.494	Agree	0.102	-0.413
Digital Marketing Technology Adoption	3.30	0.466	Neutral	0.080	-0.153
Digital Transformation	3.28	0.474	Neutral	0.185	-0.194
Digital Market Intelligence and Analytics	3.37	0.483	Neutral	-0.048	-0.382
Digital Communication and Customer Value Creation	3.38	0.471	Neutral	0.025	-0.511
Innovation Ecosystem Readiness	3.47	0.494	Agree	0.102	-0.413
Marketing Performance (MP)					
Market Share	3.49	0.484	Agree	0.038	-0.665
Sales Growth	3.46	0.473	Agree	0.117	-0.608
Marketing Profitability	3.41	0.473	Agree	-0.011	-0.485
Customer Satisfaction	3.36	0.470	Neutral	0.000	-0.352

Note: Kolmogorov–Smirnov tests were significant ($p < .001$); however, the skewness and kurtosis values indicated no substantial univariate departure from normality.

Table 5 presents the multicollinearity diagnostics for the predictors of marketing performance. The VIF values ranged from 1.650 to 2.007, remaining below the conventional threshold of 10 and indicating no substantial multicollinearity among EO, MO, and DMC (Hair et al., 2010). Accordingly, multicollinearity was unlikely to affect the estimation of the structural relationships.

Table 5 Multicollinearity Diagnostics

Predictor	VIF
Entrepreneurial Orientation (EO)	1.716
Market Orientation (MO)	2.007
Digital Marketing Capability (DMC)	1.650

Table 6 presents the goodness-of-fit indices for the structural model. The model demonstrated a good fit to the empirical data, with $\chi^2/df = 1.411$, CFI = 0.994, TLI = 0.993,

RMSEA = 0.033, SRMR = 0.020, and p-close = 0.996. Collectively, these indices indicated a well-fitting structural model (Hu & Bentler, 1999; Byrne, 2016).

Table 6 Goodness-of-Fit Indices for the Structural Model

Fit Index	Statistical Values / Criteria	Fit Index	Statistical Values / Criteria
χ^2/df	1.411 (< 2.00)	TLI	0.993 (> 0.90)
CFI	0.994 (> 0.90)	RMSEA	0.033 (< 0.05)
SRMR	0.020 (< 0.08)	p-close	0.996 (> 0.05)

Table 7 presents the structural path coefficients for H1–H5. For descriptive interpretation, standardized coefficients of 0.10–0.29 were regarded as small, 0.30–0.49 as medium, and 0.50 or above as large (Cohen, 1988; Nieminen, 2022). EO had small positive effects on DMC ($\beta = 0.197$, $p = 0.001$) and MP ($\beta = 0.108$, $p = 0.033$), supporting H1 and H2. MO had a large positive effect on DMC ($\beta = 0.504$, $p < 0.001$) and a small but comparatively larger positive effect on MP ($\beta = 0.292$, $p < 0.001$) than EO, supporting H3 and H4. DMC had a large positive effect on MP ($\beta = 0.520$, $p < 0.001$), representing the largest standardized direct effect on marketing performance in the model and supporting H5.

Table 7 Structural Path Coefficients

Hypothesis	Path	β	t-value	p-value	Result
H1	EO $\rightarrow$ DMC	0.197	3.31**	0.001	Supported
H2	EO $\rightarrow$ MP	0.108	2.13*	0.033	Supported
H3	MO $\rightarrow$ DMC	0.504	9.12***	<.001	Supported
H4	MO $\rightarrow$ MP	0.292	4.55***	<.001	Supported
H5	DMC $\rightarrow$ MP	0.520	11.50***	<.001	Supported

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Table 8 compares the explained variance in marketing performance between structural models estimated with and without digital marketing capability as a mediating variable. Both models were estimated using the same maximum likelihood procedure. In Model A, entrepreneurial orientation and market orientation jointly explained 50.2% of the variance in marketing performance ($R^2 = 0.502$). In Model B, entrepreneurial orientation and market orientation explained 42.2% of the variance in digital marketing capability ($R^2 = 0.422$), while entrepreneurial orientation, market orientation, and digital marketing capability collectively explained 65.8% of the variance in marketing performance ($R^2 = 0.658$). The inclusion of digital

marketing capability increased the explained variance in marketing performance by 15.6 percentage points ($\Delta R^2 = 0.156$), indicating greater explanatory power for marketing performance in the model that included DMC.

Table 8 Comparison of Explained Variance with and Without the Mediating Variable

Model	Predictors	R ² (DMC)	R ² (MP)
Model A: Without mediator	EO, MO $\rightarrow$ MP	-	0.502
Model B: With mediator	EO, MO $\rightarrow$ DMC; EO, MO, DMC $\rightarrow$ MP	0.422	0.658
ΔR^2 (B – A)	-	-	+0.156

Note: Both structural models were estimated using the maximum likelihood (ML) method. ΔR^2 represents the change in the explained variance of marketing performance after the inclusion of digital marketing capability as a mediating variable.

Table 9 presents the mediation analysis based on 5,000 bootstrap resamples. The indirect effect of EO on MP through DMC was statistically significant (indirect effect = 0.109, 95% CI [0.044, 0.179]), supporting H6. Similarly, the indirect effect of MO on MP through DMC was statistically significant (indirect effect = 0.313, 95% CI [0.231, 0.411]), supporting H7. Both relationships represented partial mediation because the direct effects of EO on MP ($\beta = 0.108$, $p = .033$) and MO on MP ($\beta = 0.292$, $p < .001$) remained statistically significant after DMC was included in the structural model. Accordingly, EO and MO were associated with marketing performance both directly and indirectly through digital marketing capability.

Table 9 Indirect Effects and Mediation Analysis

Hypothesis	Indirect Path	Bootstrap Indirect Effect	95% Bootstrap CI	Result
H6	EO $\rightarrow$ DMC $\rightarrow$ MP	0.109	[0.044, 0.179]	Supported (Partial mediation)
H7	MO $\rightarrow$ DMC $\rightarrow$ MP	0.313	[0.231, 0.411]	Supported (Partial mediation)

Note: An indirect effect is considered statistically significant when the 95% bootstrap confidence interval does not include zero.

Table 10 presents the decomposition of the effects on marketing performance into direct and indirect components. For EO, the total effect on MP was 0.217, comprising a direct effect of 0.108 and an indirect effect through DMC of 0.109. For MO, the total effect on MP was 0.605, consisting of a direct effect of 0.292 and an indirect effect through DMC of 0.313.

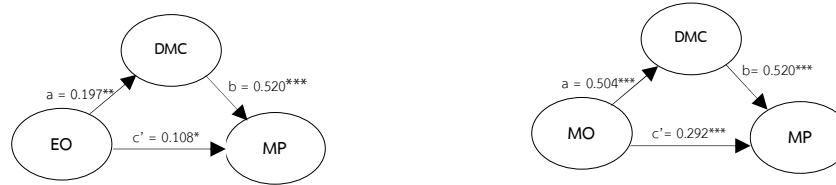
The total effect of MO on MP was larger than that of EO. Consistent with the mediation results reported in Table 9, both relationships reflected partial mediation.

Table 10 Direct, Indirect, and Total Effects on Marketing Performance

Path	Direct Effect	Indirect Effect through DMC	Total Effect	Mediation
EO → MP	0.108	0.109	0.217	Partial
MO → MP	0.292	0.313	0.605	Partial

Note: Total effects were calculated as the sum of the corresponding direct and indirect effects.

Interpretation of the Mediation Model



Bootstrap indirect effect = 0.109, 95% CI [0.044, 0.179]

Bootstrap indirect effect = 0.313, 95% CI [0.231, 0.411]

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 2: The mediating role of digital marketing capability in the entrepreneurial orientation–marketing performance relationship (left) and the market orientation–marketing performance relationship (right).

Figure 2 illustrates the partial mediating role of digital marketing capability in the relationships between entrepreneurial orientation, market orientation, and marketing performance. EO had a positive effect on DMC ($\beta = 0.197$, $p = 0.001$), while MO showed a larger positive effect on DMC ($\beta = 0.504$, $p < 0.001$). DMC, in turn, positively influenced MP ($\beta = 0.520$, $p < 0.001$). As reported in Tables 7 and 9, the direct effects of EO on MP ($\beta = 0.108$, $p = 0.033$) and MO on MP ($\beta = 0.292$, $p < 0.001$) remained statistically significant, while the indirect effects through DMC were also significant. These results indicate partial rather than full mediation in both relationships.

Discussion

Entrepreneurial orientation and market orientation were both positively associated with digital marketing capability and marketing performance, although their relationships differed in magnitude. Entrepreneurial orientation had small effects on digital marketing capability ($\beta = 0.197$) and marketing performance ($\beta = 0.108$), indicating that innovativeness,

risk-taking, proactiveness, autonomy, and competitive aggressiveness contributed to the model but were not dominant determinants of the two outcomes. This pattern is broadly consistent with studies reporting positive relationships between entrepreneurial orientation, digital marketing capability, and performance among small and medium-sized enterprises (Hidayati et al., 2025; Al Buraiki & Nofal, 2026), as well as research linking entrepreneurial orientation with performance among small business settings (Kajalo & Lindblom, 2015, 580-596). The relatively small coefficients found in the present study also support the view that the performance implications of strategic orientations may vary according to organizational and environmental conditions (Alqahtani et al., 2024, 2741-2778). In contrast, market orientation had a large relationship with digital marketing capability ($\beta = 0.504$) and a larger direct relationship with marketing performance ($\beta = 0.292$) than entrepreneurial orientation. Customer orientation, competitor orientation, interfunctional coordination, and market intelligence generation provide information that can be applied directly to digital marketing decisions and resource allocation. From a dynamic capability perspective, this larger standardized relationship is consistent with the sensing process, through which firms identify changes in customers, competitors, and market conditions before resources are deployed or reconfigured (Teece, 2007, 1319–1350). This interpretation is also consistent with prior evidence linking market orientation to marketing capabilities and market-related outcomes (Trainor et al., 2014; Kajalo & Lindblom, 2015). The findings therefore suggest that market-based knowledge may be more immediately connected to digital marketing capability than the broader entrepreneurial posture represented by entrepreneurial orientation.

Digital marketing capability had the largest standardized direct effect on marketing performance ($\beta = 0.520$), indicating its central role within the structural model. This capability extends beyond the adoption of digital technologies and reflects the ability to coordinate and adapt innovation ecosystem readiness, digital marketing technology adoption, digital transformation, digital market intelligence and analytics, and digital communication and customer value creation (Homburg & Wielgos, 2022; Masrianto et al., 2022). These dimensions enable digital technologies, market information, and marketing resources to be integrated into activities related to market share, sales growth, marketing profitability, and customer satisfaction. The result is consistent with previous studies linking digital marketing capability with organizational and marketing outcomes (Narakorn, 2020; Tongdhamachart & Niyomsilpa,

2022) and with broader evidence showing positive relationships between digital capabilities and business performance (Samsuden et al., 2024). However, prior studies also indicate that these performance implications are not uniform. Different components of digital marketing capability may contribute differently to market outcomes (Chinakidzwa & Phiri, 2020), while environmental dynamism may alter the performance value of such capabilities (Purwanti et al., 2022). The large coefficient found in the present study therefore indicates a comparatively substantial relationship within the e-commerce setting examined rather than a universally similar effect across industries or markets.

The mediation results further clarify how the two strategic orientations are related to marketing performance. The indirect effect of entrepreneurial orientation through digital marketing capability was 0.109, whereas the corresponding indirect effect of market orientation was larger at 0.313. Both indirect effects were statistically significant, while the direct effects on marketing performance remained significant, indicating partial rather than full mediation. Digital marketing capability therefore represents one mechanism through which entrepreneurial orientation and market orientation are associated with marketing performance, but it does not account for the entire relationship. This finding is consistent with dynamic capability theory because entrepreneurial orientation and market orientation provide strategic direction and market knowledge, whereas digital marketing capability provides an organizational capability through which digital resources, market intelligence, and marketing processes can be integrated and reconfigured (Teece, 2007). Similar capability-based mechanisms have been identified among Thai small and medium-sized enterprises (Lekmat et al., 2018, 213-237), while digital marketing capability has also been found to mediate relationships involving organizational capabilities and marketing effectiveness in Thailand (Tongdhamachart & Niyomsilpa, 2022, 201-220). International evidence likewise reports significant mediation through digital marketing capability (Hidayati et al., 2025; Al Buraiki & Nofal, 2026). The present findings differ, however, from the full mediation reported in Brazilian franchise systems (Dermonde et al., 2024, 3978-3995) and from nonsignificant mediation reported in another small and medium-sized enterprise context (Zahara et al., 2023, 1-18), indicating that the mediating role of digital marketing capability is context dependent.

Taken together, the findings reveal a differentiated pattern among e-commerce entrepreneurs in Northeastern Thailand. Entrepreneurial orientation contributed positively but

with relatively small effects, market orientation showed a larger standardized relationship with digital marketing capability and a larger direct relationship with marketing performance, and digital marketing capability showed the largest direct relationship with marketing performance. This pattern extends prior Thai evidence on capability-based mechanisms (Lekmat et al., 2018; Tongdhamachart & Niyomsilpa, 2022; Wingwon et al., 2025) and complements previous research among e-commerce entrepreneurs in Northeastern Thailand showing that different digital marketing strategies do not contribute uniformly to marketing performance (Ploenlap et al., 2024). The findings are also consistent with broader evidence that the relative performance contributions of entrepreneurial and market orientations vary according to organizational and environmental conditions (Alqahtani et al., 2024, 2741-2778). Thus, the present study contributes context-specific evidence by examining entrepreneurial orientation, market orientation, digital marketing capability, and marketing performance simultaneously among registered e-commerce entrepreneurs in Northeastern Thailand. Consistent with dynamic capability theory, the overall findings indicate that strategic orientations are associated with marketing performance partly through the capability to integrate market knowledge and digital resources, while the persistence of significant direct effects confirms that digital marketing capability constitutes only part of the mechanism linking strategic orientation with marketing performance.

Implications and Directions for Future Research

1. Research Contributions

This study provides context-specific evidence on how entrepreneurial orientation, market orientation, and digital marketing capability are associated with marketing performance among e-commerce entrepreneurs in Northeastern Thailand. The findings reveal distinct patterns across the two strategic orientations: entrepreneurial orientation showed small effects on digital marketing capability and marketing performance, whereas market orientation was more strongly associated with digital marketing capability and had a larger direct relationship with marketing performance. Digital marketing capability showed the largest direct relationship with marketing performance. Its significant indirect effects, together with the remaining significant direct effects of both strategic orientations, indicate partial rather than full mediation. Digital marketing capability can therefore be viewed as one mechanism linking entrepreneurial and market orientations with marketing performance, consistent with the

dynamic capability perspective on the integration and reconfiguration of organizational resources and knowledge (Teece, 2007, 1319–1350).

The model's explained variance further illustrates the contribution of digital marketing capability. Entrepreneurial orientation and market orientation explained 42.2% of the variance in digital marketing capability ($R^2 = 0.422$) and 50.2% of the variance in marketing performance when the mediator was excluded ($R^2 = 0.502$). With digital marketing capability included, the explained variance in marketing performance increased to 65.8% ($R^2 = 0.658$), an increase of 15.6 percentage points. This increase indicates that digital marketing capability adds explanatory value to the model within the e-commerce context examined.

2. Managerial Implications

The findings suggest that digital marketing capability deserves particular managerial attention because it showed the largest direct relationship with marketing performance in the model. Market orientation was also showed a larger standardized association with marketing capability than entrepreneurial orientation, indicating that the development of digital marketing capability may depend not only on entrepreneurial initiative but also on systematic attention to customers, competitors, interfunctional coordination, and market intelligence generation. For e-commerce entrepreneurs, this implies that entrepreneurial behavior may be more useful when accompanied by structured market knowledge and processes that support the application of digital marketing activities.

Managerial attention to marketing capability may be organized around the five dimensions examined in this study. Innovation ecosystem readiness concerns the extent to which organizational resources and existing digital arrangements are prepared to support digital marketing activities. Digital marketing technology adoption involves the selection and use of technologies that fit the firm's marketing activities and customer interactions. Digital transformation relates to the integration of digital processes into ongoing marketing operations. Digital market intelligence and analytics concerns the systematic use of customer, competitor, and market information in marketing decisions. Digital communication and customer value creation focuses on the use of digital channels to communicate value and respond to customer needs. These dimensions provide a more specific basis for managerial action than broad recommendations to increase digitalization in general.

Entrepreneurial orientation nevertheless remains relevant to the model. Its positive but relatively small effects suggest that innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness may complement market orientation and digital marketing capability rather than substitute for them. For e-commerce entrepreneurs in Northeastern Thailand, the overall findings point to the potential value of combining entrepreneurial initiative with systematic market understanding and the organizational capability to apply digital technologies and market knowledge through coordinated marketing activities. These implications are intentionally limited to the constructs examined in the study and should not be extended to broader outcomes, such as long-term sustainability or competitive advantage, which were not directly assessed.

3. Directions for Future Research

The findings should be interpreted within the context of registered e-commerce entrepreneurs in Northeastern Thailand. Future research could examine whether the relationships among entrepreneurial orientation, market orientation, digital marketing capability, and marketing performance are comparable across other regions, industries, or forms of e-commerce business. Because digital marketing capability was modeled as a multidimensional construct, subsequent studies may also assess the five dimensions separately to determine whether particular capabilities are more closely associated with specific marketing performance outcomes.

The partial mediation results suggest that digital marketing capability captures only part of the relationships linking entrepreneurial orientation and market orientation to marketing performance. Further research could therefore investigate other theoretically grounded mediating mechanisms and examine whether contextual conditions, such as technological turbulence, competitive intensity, or environmental dynamism, alter these relationships. Longitudinal or multi-informant designs would also provide a useful basis for assessing their stability over time while reducing reliance on data obtained from a single respondent.

Conclusion

This study examined the relationships of entrepreneurial orientation and market orientation with digital marketing capability and marketing performance among 374

e-commerce entrepreneurs in Northeastern Thailand, with particular attention to the mediating role of digital marketing capability. The findings showed that entrepreneurial orientation was positively related to both digital marketing capability and marketing performance, although the effects were small, whereas market orientation had a comparatively larger relationship with digital marketing capability and a larger direct relationship with marketing performance. Digital marketing capability showed the largest direct effect on marketing performance and partially mediated both the entrepreneurial orientation–marketing performance and market orientation–marketing performance relationships. Thus, entrepreneurial orientation and market orientation were associated with marketing performance both directly and indirectly through digital marketing capability.

The model explained 65.8% of the variance in marketing performance when digital marketing capability was included, compared with 50.2% in the model without the mediator, representing an increase of 15.6 percentage points in explained variance. These findings suggest that digital marketing capability provides an important explanatory mechanism within the proposed model, while the persistence of significant direct effects indicates that it does not fully account for the relationships of entrepreneurial orientation and market orientation with marketing performance. For e-commerce entrepreneurs in Northeastern Thailand, the results point to the value of combining entrepreneurial initiative and systematic market orientation with the development of digital marketing capability across innovation ecosystem readiness, digital marketing technology adoption, digital transformation, digital market intelligence and analytics, and digital communication and customer value creation. Future research could examine these relationships across other regions or industries, investigate the individual dimensions of digital marketing capability, and consider additional mediating or moderating mechanisms under different market and technological conditions.

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