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AI-Driven Marketing Analytics Capability and Business Performance: The Mediating Roles of Marketing Agility and Customer Experience

Budi Raharjo[*1], Rahayu Nugraheni[2], Rachmat Setiawan[3], Budi Santoso[4]
[1,2,3,4]Universitas Sains dan Teknologi Komputer
Jl. Diponegoro No. 3-5, Kuncen, Ungaran Barat, Kabupaten Semarang, Jawa Tengah
E-mail: budi.raharjo@stekom.ac.id; rahayu@stekom.ac.id; rachmat@stekom.ac.id; budisantoso@stekom.ac.id

KEYWORDS

AI-Driven Marketing Analytics Capability; Business Performance; Customer Experience; Marketing Agility; PLS-SEM

ABSTRACT

This study examines the relationship between AI-Driven Marketing Analytics Capability and Business Performance, with Marketing Agility and Customer Experience as mediating variables. The study adopts a quantitative explanatory design and applies Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4. A simulated dataset of 180 observations was used to demonstrate the proposed model and hypothesis-testing procedures. The measurement model was assessed through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, while the structural model was evaluated using R^2, Adjusted R^2, Q^2. Bootstrapping with 10,000 subsamples was used to test direct and indirect effects. Within the simulated model, AI-Driven Marketing Analytics Capability shows positive and statistically significant modeled relationships with Business Performance, Marketing Agility, and Customer Experience. Marketing Agility and Customer Experience also show positive and statistically significant modeled relationships with Business Performance. Furthermore, both variables show statistically significant indirect relationships in the simulated model, indicating complementary mediation through organizational responsiveness and customer-oriented value creation. Within the simulated framework, these results illustrate how AI-driven marketing analytics may contribute to business performance when analytical insights are translated into agile marketing actions and improved customer experiences. Because the study uses simulated data, the findings should be considered methodological evidence rather than empirical evidence from actual organizations. Future research should validate the proposed relationships using primary data from real organizational settings.

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ABSTRAK

Penelitian ini mengkaji hubungan antara *AI-Driven Marketing Analytics Capability* dan *Business Performance, dengan Marketing Agility dan Customer Experience* sebagai variabel mediasi. Penelitian ini menggunakan desain kuantitatif eksplanatori dan menerapkan *Partial Least Squares Structural Equation Modeling* (PLS-SEM) menggunakan SmartPLS 4. Dataset simulasi yang terdiri dari 180 observasi digunakan untuk mendemonstrasikan model penelitian dan prosedur pengujian hipotesis. Model pengukuran dievaluasi melalui reliabilitas indikator, reliabilitas konsistensi internal, validitas konvergen, dan validitas diskriminan, sedangkan model struktural dievaluasi menggunakan R^2, Adjusted R^2, Q^2, dan ukuran efek. Bootstrapping dengan 10.000 subsampel digunakan untuk menguji pengaruh langsung dan tidak langsung. Dalam model simulasi, *AI-Driven Marketing Analytics Capability menunjukkan hubungan positif dan signifikan secara statistik dengan Business Performance, Marketing Agility, dan Customer Experience. Marketing* Agility dan

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Customer Experience juga menunjukkan hubungan positif dan signifikan secara statistik dengan Business Performance dalam model simulasi. Selanjutnya, kedua variabel tersebut menunjukkan hubungan tidak langsung yang signifikan dalam model simulasi, yang mengilustrasikan mediasi komplementer melalui responsivitas organisasi dan penciptaan nilai yang berorientasi pada pelanggan. Dalam kerangka simulasi, hasil ini mengilustrasikan bahwa analitik pemasaran berbasis AI dapat berkontribusi pada Business Performance ketika wawasan analitis diterjemahkan menjadi tindakan pemasaran yang lincah dan peningkatan pengalaman pelanggan. Karena penelitian ini menggunakan data simulasi, temuan harus dipandang sebagai bukti metodologis, bukan sebagai bukti empiris dari organisasi nyata. Penelitian selanjutnya perlu memvalidasi hubungan yang diusulkan menggunakan data primer dari lingkungan organisasi yang sebenarnya.
Kata Kunci: *AI-Driven Marketing Analytics Capability; Business Performance; Customer Experience; Marketing Agility; PLS-SEM*

1. INTRODUCTION

The rapid development of Artificial Intelligence (AI) and digital technologies has transformed the way firms collect, analyze, and utilize marketing data to support business decision-making. The increasing volume and variety of customer data require firms to develop stronger AI-Driven Marketing Analytics Capability so that marketing information can be processed into timely and relevant insights. Marketing analytics enables firms to understand customer preferences, identify market patterns, and support more personalized marketing strategies (Na et al., 2025). The integration of AI can further strengthen these capabilities by supporting data-driven segmentation, marketing strategy optimization, campaign evaluation, and more personalized customer interactions (Owusu-Mensah et al., 2025).

In a dynamic business environment, the effective use of marketing analytics is also important for enabling firms to respond more quickly to changing customer needs and market conditions, thereby strengthening Marketing Agility. At the same time, the ability to transform customer data into relevant and personalized interactions can improve Customer Experience, as AI-based marketing applications allow firms to provide faster, more accurate, and more tailored services (Owusu-Mensah et al., 2025; Susanto & Khaq, 2024). These capabilities are increasingly important because firms need to combine data-driven decision-making, organizational responsiveness, and customer-oriented strategies to achieve stronger and more sustainable Business Performance.

The rapid adoption of Artificial Intelligence (AI), advanced analytics, and digital technologies is changing how firms understand customers, respond to market changes, and manage marketing activities. Companies are increasingly using AI-supported analytics to process customer and market data, identify emerging trends, personalize interactions, and improve marketing decisions in increasingly dynamic business environments. Recent evidence shows that marketing analytics can strengthen customer agility, particularly when firms face high levels of market turbulence, demonstrating the growing importance of data-driven capabilities for responding quickly to changing customer needs (Agag et al., 2024). At the same time, the use of AI in marketing is increasingly associated with more personalized customer interactions and improved customer experiences, as AI technologies can support customer engagement, segmentation, and marketing strategy optimization (Peruchini et al., 2024).

Recent research also indicates that marketing analytics can contribute to firm performance through marketing agility, showing that the value of analytics depends not only on the availability of data and technology but also on the firm's ability to respond rapidly to market opportunities and changes (Agag, Yousaf, Mishra, et al., 2025). These developments indicate that AI-driven marketing analytics is becoming an increasingly important business capability because firms need to combine data-driven marketing decisions, rapid market responsiveness, and positive customer experiences to maintain and improve business performance.

AI-Driven Marketing Analytics Capability refers to a firm's ability to integrate artificial intelligence and analytics resources to collect, process, interpret, and transform marketing data into actionable insights for managerial decision-making. In data-intensive markets, this capability enables firms to identify customer

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needs, recognize market opportunities, and improve the speed and quality of marketing decisions. (Liang et al., 2022) found that marketing analytics positively influences market agility and subsequently contributes to firm performance, indicating that the value of analytics depends on the firm's ability to translate information into responsive market actions.

Similarly, (Vesterinen et al., 2025) explain that big data analytics capability can provide firms with information about market opportunities and threats, supporting faster marketing responses and improved firm outcomes. (Alghamdi & Agag, 2024) further demonstrate that marketing analytics can generate greater value when firms possess the ability to respond rapidly to changing market conditions through marketing agility. The development of artificial intelligence further expands this capability by allowing firms to process complex customer and market information and support more effective marketing activities.

(Mu & Zhang, 2025) provide empirical evidence that AI marketing usage is positively associated with firm profitability, customer satisfaction, and customer acquisition. In addition, recent research on AI competencies suggests that firms can use AI-related capabilities together with marketing capabilities to strengthen marketing performance (Utama et al., 2025). These findings indicate that AI-driven marketing analytics should be understood not merely as a technological tool but as a strategic capability that enables firms to transform marketing data into timely decisions and valuable business outcomes.

Marketing Agility and Customer Experience represent two important mechanisms through which analytics-driven marketing capabilities can generate business value. Marketing agility reflects a firm's ability to rapidly sense changes in customer needs, market conditions, and competitive environments and to adjust marketing actions accordingly. Recent evidence confirms that marketing agility can contribute to firm performance, particularly when firms are able to convert market information into flexible marketing implementation. (Agag, Yousaf, Mishra, et al., 2025) found that marketing agility is positively associated with long-term firm profitability and customer satisfaction, while marketing agility can also generate customer-related benefits that contribute to firm outcomes.

Research on marketing agility during periods of uncertainty similarly shows that firms with greater marketing agility can achieve stronger performance when responding to environmental changes. At the same time, Customer Experience reflects customers' overall perceptions and responses resulting from their interactions with a firm's products, services, employees, communication, and digital technologies. The increasing application of AI in marketing has strengthened firms' ability to personalize interactions, provide responsive services, and improve customer journeys. (Peruchini et al., 2024) highlight the growing relationship between AI and customer experience, while (Sahut & Laroche, 2025) emphasize the role of AI in personalization, dynamic communication, and customer-oriented marketing strategies.

(Mu & Zhang, 2025) also show that AI marketing usage is associated with customer satisfaction and customer acquisition, suggesting that AI-enabled marketing capabilities can generate both customer and firm-level benefits. Taken together, the literature indicates that AI-driven marketing analytics can provide firms with the information required to respond more rapidly to market changes and understand customers more effectively, while Marketing Agility and Customer Experience can help translate these capabilities into stronger Business Performance.

Recent studies have established that marketing analytics can contribute to firm performance by enabling firms to respond more effectively to market changes (Agag, Yousaf, & Adiguzel, 2025; Vesterinen et al., 2025; Mu & Zhang, 2025). For example, found that marketing analytics significantly improves financial and market performance, with Marketing Agility mediating the relationship between analytics use and financial performance. Similarly, highlight the strategic role of analytics capability in developing Marketing Agility and improving firm performance. At the same time, research on artificial intelligence marketing has demonstrated that AI marketing usage can improve firm profitability, customer satisfaction, and customer acquisition.

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However, these streams of research remain largely separated: analytics research primarily emphasizes organizational responsiveness and performance, whereas AI marketing research increasingly focuses on customer and business outcomes. Consequently, there is still limited understanding of how an integrated AI-Driven Marketing Analytics Capability creates Business Performance through both an organizational mechanism, represented by Marketing Agility, and a customer-oriented mechanism, represented by Customer Experience. This gap is particularly important because analytics capability provides firms with information, but information alone does not guarantee performance unless it is converted into rapid marketing responses and valuable customer interactions.

Therefore, this study aims to examine the effect of AI-Driven Marketing Analytics Capability on Business Performance and to test whether Marketing Agility and Customer Experience mediate this relationship. The study contributes by integrating two theoretically distinct but complementary mechanisms: Marketing Agility as an organizational responsiveness mechanism and Customer Experience as a customer-oriented value mechanism. This dual-pathway view extends prior research that has often examined analytics, agility, customer outcomes, or performance in separate relationships by showing how the same analytics capability can be translated through both internal response and customer-facing value creation. Accordingly, the research question is: How does AI-Driven Marketing Analytics Capability influence Business Performance, and how do Marketing Agility and Customer Experience mediate this relationship?

2. LITERATURE REVIEW

2.1 AI-Driven Marketing Analytics Capability

AI-Driven Marketing Analytics Capability refers to a firm's ability to integrate artificial intelligence, marketing data, analytical technologies, and managerial knowledge to transform data into actionable marketing insights. This capability enables firms to identify customer needs, detect market changes, and support data-driven marketing decisions. Recent research shows that AI-enabled marketing can strengthen marketing capabilities and improve the effectiveness of marketing activities by supporting more efficient information processing and decision-making (Sullivan & Fosso Wamba, 2024). AI can therefore function not only as a technological tool but also as an organizational capability that helps firms convert complex market information into useful business intelligence. For conceptual clarity, AI capability and marketing analytics capability are not treated as interchangeable constructs in this study. AI capability broadly concerns an organization's ability to deploy and leverage AI resources, whereas AI-Driven Marketing Analytics Capability is narrower: it specifically concerns the integration of AI with marketing data and analytics processes to generate actionable marketing insights. The proposed construct therefore represents an application-specific capability rather than a general AI capability.

2.2 Marketing Agility

Marketing Agility refers to a firm's ability to rapidly identify changes in customers, competitors, and market conditions and adjust its marketing activities accordingly. Data analytics provides information about market conditions, while agility enables firms to translate that information into timely marketing actions. (Tarn & Wang, 2023) demonstrate that data analytics can strengthen marketing agility by improving firms' ability to generate market knowledge and respond to marketplace changes. Thus, Marketing Agility represents an organizational mechanism through which AI-Driven Marketing Analytics Capability can be translated into faster and more adaptive marketing actions.

2.3 Customer Experience

Customer Experience refers to the customer's overall perceptions and responses resulting from interactions with a firm across products, services, communication, and digital channels. AI enables firms to analyze customer information and support more personalized and responsive interactions. (Hardcastle et al., 2025) show that AI-driven personalization can influence customer experiences throughout the customer journey, while (Beyari & Hashem, 2025; Kim Ik-Su et al., 2024) demonstrate that AI technologies such as chatbots, virtual influencers, and augmented reality can influence customer experience in social media environments.

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Therefore, Customer Experience represents a customer-oriented mechanism through which AI-driven analytics can create value by improving the relevance and quality of customer interactions.

2.4 Business Performance

Business Performance represents the outcomes achieved through the effective use of organizational resources, capabilities, and strategies. In AI-enabled marketing, performance can include improvements in financial outcomes, customer-related outcomes, marketing effectiveness, and organizational efficiency. (Wu & Monfort, 2023) find that AI marketing strategy, marketing capabilities, customer value co-creation, and market orientation are associated with higher firm performance. These findings indicate that the value of AI depends not only on technological adoption but also on the firm's ability to develop complementary capabilities and translate AI-supported information into effective marketing activities.

2.5 Theoretical Foundation and Relationships Among the Constructs

(Sullivan & Fosso Wamba, 2024)(Hardcastle et al., 2025)This study is grounded in the Dynamic Capabilities perspective, which emphasizes a firm's ability to sense changes, seize opportunities, and adapt its resources and activities in dynamic environments. AI-Driven Marketing Analytics Capability corresponds primarily to the sensing dimension of Dynamic Capabilities because it enables firms to identify and interpret customer and market information. Marketing Agility represents the seizing and reconfiguring side by translating those insights into timely marketing actions and adjustments. Customer Experience is positioned as the customer-facing value mechanism through which sensed information and organizational responses are reflected in the quality and relevance of customer interactions, rather than as a substitute for an internal dynamic capability. Recent research also shows that AI-enabled capabilities can strengthen firms' adaptive responses to changing markets. At the customer level, AI-driven insights can support personalization and improve interactions throughout the customer journey. Accordingly, this study positions Marketing Agility and Customer Experience as two complementary mechanisms linking AI-Driven Marketing Analytics Capability to Business Performance: Marketing Agility represents the organizational response mechanism, whereas Customer Experience represents the customer-oriented value mechanism.

3. RESEARCH METHOD

3.1 Research Design

This study employs a quantitative simulation-based research design to examine the relationships among AI-Driven Marketing Analytics Capability, Marketing Agility, Customer Experience, and Business Performance. The study focuses on how AI and marketing analytics can support business performance through organizational responsiveness and customer-oriented outcomes. A quantitative approach is appropriate for testing relationships among latent constructs using numerical data. PLS-SEM is used to estimate the proposed model and examine both direct and indirect relationships, as it is suitable for analyzing complex relationships among latent constructs in marketing research (Sarstedt & Liu, 2023). The analysis is conducted using SmartPLS 4, which supports PLS-SEM estimation and related model assessment procedures (Sarstedt et al., 2024).

3.2 Research Model and Constructs

The proposed research model consists of four constructs: AI-Driven Marketing Analytics Capability, Marketing Agility, Customer Experience, and Business Performance. AI-Driven Marketing Analytics Capability is the independent variable, Marketing Agility and Customer Experience are the mediators, and Business Performance is the dependent variable. Previous studies indicate that analytics and digital marketing capabilities can generate actionable insights, enhance marketing responsiveness, and improve firm performance (Homburg & Wielgos, 2022; Liang et al., 2022; Tarn & Wang, 2023). The roles and conceptual definitions of the constructs are presented in Table 1. The research model examines the direct relationship between AI-Driven Marketing Analytics Capability and Business Performance and its indirect relationships through Marketing Agility and Customer Experience. These two mediating variables represent organizational

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and customer-oriented mechanisms through which AI-driven marketing analytics may contribute to business performance.

Table 1. Constructs and Conceptual Definitions

Construct	Role	Conceptual Definition
AI-Driven Marketing Analytics Capability (X)	Independent Variable	The firm's capability to integrate AI and marketing analytics to collect, process, analyze, and transform marketing data into actionable insights for decision-making (Liang et al., 2022; Tarn & Wang, 2023).
Marketing Agility (M1)	Mediating Variable	The firm's ability to rapidly sense and respond to changes in customer needs, market conditions, and competitive environments through timely marketing actions (Agag, Yousaf, & Adiguzel, 2025; Liang et al., 2022).
Customer Experience (M2)	Mediating Variable	Customers' perceptions and responses resulting from their interactions with the firm, its products or services, and digital channels (Artusi et al., 2025).
Business Performance (Y)	Dependent Variable	The outcomes achieved by the firm through the effective use of its resources, capabilities, and marketing activities (Agag, Yousaf, & Adiguzel, 2025; Homburg & Wielgos, 2022).

3.3 Data and Dataset

This study uses a simulated dataset of 180 observations for PLS-SEM analysis and hypothesis testing. The observations are structured to represent organizations that use digital technologies, marketing analytics, or data-driven marketing, with a focus on marketing, digital operations, customer management, data analytics, and business decision-making. The dataset is used solely for methodological practice and does not represent actual respondents or empirical field data. The available manuscript documentation does not specify the software or AI generator, random seed, distributional parameters, target correlation matrix, or randomization procedure used to create the 180 observations. Therefore, these parameters cannot be presented as verified features of the simulation. The dataset was described as being generated according to the predefined measurement structure; accordingly, the hypothesized relationships may be partly reflected in the data-generating assumptions and the resulting coefficients should not be interpreted as independent evidence of actual organizational behavior.

3.4 Measurement Instrument and Operationalization

The measurement indicators were developed based on the conceptual definitions and prior studies on AI-driven marketing analytics, marketing agility, customer experience, and business performance. Each construct was measured reflectively using four indicators on a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The indicators and their supporting references are presented in Table 2. For the simulated dataset, responses were generated according to the predefined measurement structure. The manuscript does not contain a documented item-level generation protocol, distribution specification, correlation matrix, or randomization seed; therefore, the exact data-generation parameters cannot be independently reproduced from the current dataset documentation.

The indicators were designed to represent the core dimensions of each construct and were subsequently evaluated through the measurement model. This approach is consistent with reflective PLS-SEM assessment, which evaluates indicator reliability, internal consistency, convergent validity, and discriminant validity. Because Customer Experience is conventionally discussed at the customer level, the present study explicitly treats it as a firm-level customer experience capability: the organizational ability to design and deliver interactions that are relevant, personalized, responsive, and convenient. This operationalization aligns the construct with the firm-level unit of analysis used for Marketing Agility and Business Performance. The indicators therefore capture the firm's capability to provide customer experiences rather than directly measuring customers' individual perceptions.

3.4. Data Analysis Using PLS-SEM

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The data are analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. PLS-SEM is used to examine the relationships among the latent constructs and assess the direct and mediation effects in the proposed model. The analysis includes measurement model assessment to evaluate construct reliability and validity and structural model assessment to examine the hypothesized relationships. Bootstrapping with 10,000 subsamples is applied to assess the significance of the direct and indirect effects.

Table 2. Measurement Indicators and Operationalization

Construct	Code	Measurement Indicator	Supporting References
AI-Driven Marketing Analytics Capability	AMAC1	Our firm uses AI and marketing analytics to process marketing data.	(Liang et al., 2022; Tarn & Wang, 2023)
	AMAC2	Our firm analyzes marketing data to identify customer and market information.	(Liang et al., 2022; Vesterinen et al., 2025)
	AMAC3	Our firm transforms marketing data into useful insights for decision-making.	(Liang et al., 2022; Tarn & Wang, 2023)
	AMAC4	Our firm uses AI-driven analytical insights to support marketing decisions.	(Sullivan & Fosso Wamba, 2024; Wu & Monfort, 2023)
Marketing Agility	MA1	Our firm quickly identifies changes in customer needs.	(Agag, Yousaf, & Adiguzel, 2025; Tarn & Wang, 2023)
	MA2	Our firm responds quickly to changes in market conditions.	(Tarn & Wang, 2023; Vesterinen et al., 2025)
	MA3	Our firm rapidly adjusts its marketing strategies when conditions change.	(Agag, Yousaf, Mishra, et al., 2025; Vesterinen et al., 2025)
	MA4	Our firm quickly implements marketing actions in response to market opportunities.	(Agag, Yousaf, & Adiguzel, 2025)
Customer Experience	CE1	Our firm provides interactions that are relevant to customer needs and preferences.	(Artusi et al., 2025; Hardcastle et al., 2025)
	CE2	Our firm provides personalized experiences through marketing and digital channels.	(Peruchini et al., 2024; Sahut & Laroche, 2025)
	CE3	Our firm provides responsive and convenient customer interactions.	(Artusi et al., 2025; Sahut & Laroche, 2025)
	CE4	Our digital interactions contribute to a positive customer experience.	(Hardcastle et al., 2025; Peruchini et al., 2024)
Business Performance	BP1	Our firm has improved operational efficiency through effective marketing activities.	(Homburg & Wielgos, 2022; Wu & Monfort, 2023)
	BP2	Our firm has improved the effectiveness of its marketing activities.	(Agag, Yousaf, & Adiguzel, 2025; Wu & Monfort, 2023)
	BP3	Our firm has achieved better business outcomes through effective marketing capabilities.	(Agag, Yousaf, & Adiguzel, 2025; Homburg & Wielgos, 2022)
	BP4	Our firm has improved overall business performance through data-driven marketing activities.	(Homburg & Wielgos, 2022; Liang et al., 2022)

3.5 Measurement Model Assessment

The measurement model is assessed based on indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability is evaluated using outer loadings, with values of 0.70 or higher considered acceptable. Internal consistency reliability is assessed using Cronbach's Alpha, rho_A, and Composite Reliability, with values of 0.70 or higher indicating satisfactory reliability. Convergent validity is assessed using the Average Variance Extracted (AVE), with a minimum value of 0.50**.** Discriminant validity is evaluated using the Heterotrait-Monotrait ratio (HTMT) to confirm that the constructs are empirically distinct. These criteria ensure that the measurement indicators adequately represent their respective constructs before the structural model is evaluated.

3.6 Structural Model Assessment

After the measurement model meets the required reliability and validity criteria, the structural model is assessed using path coefficients (β), coefficient of determination (R^2), and predictive relevance (Q^2). Path

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coefficients indicate the direction and strength of the hypothesized relationships, while R^2 indicates the variance in endogenous constructs explained by their predictors.

The significance of the hypothesized relationships is tested using bootstrapping with 10,000 subsamples. t-statistics, p-values, and confidence intervals are used to determine statistical significance. A relationship is considered significant when the p-value meets the selected significance level and the confidence interval does not include zero.

3.7 Mediation Analysis

Mediation analysis is conducted to examine whether Marketing Agility and Customer Experience mediate the relationship between AI-Driven Marketing Analytics Capability and Business Performance. Two indirect paths are tested: AI-Driven Marketing Analytics Capability → Marketing Agility → Business Performance and AI-Driven Marketing Analytics Capability → Customer Experience → Business Performance**.** The significance of each indirect effect is assessed using bootstrapping with 10,000 subsamples, with mediation considered significant when the bootstrapped confidence interval does not include zero. The mediation type is determined by considering the indirect and corresponding direct effects to identify whether the mediation is complementary, indirect-only, or unsupported.

4. RESULTS AND DISCUSSION

4.1 Measurement Model Assessment

The measurement model was first assessed to examine the reliability and convergent validity of the constructs using SmartPLS 4 and 180 simulated observations. The assessment included outer loadings, Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE). The results are presented in Table 3.

Table 3. Measurement Model Results

Construct	Indicator Loading Range	Cronbach's Alpha	rho_A	Composite Reliability	AVE
AI-Driven Marketing Analytics Capability	0.746–0.881	0.884	0.889	0.919	0.694
Marketing Agility	0.758–0.873	0.861	0.866	0.906	0.659
Customer Experience	0.741–0.889	0.891	0.895	0.921	0.700
Business Performance	0.752–0.876	0.875	0.881	0.914	0.682

The results indicate that all indicator loadings exceed 0.70, demonstrating adequate indicator reliability. Cronbach's Alpha, rho_A, and Composite Reliability values are also above 0.70 for all constructs, indicating satisfactory internal consistency. Furthermore, all AVE values exceed 0.50, confirming adequate convergent validity. Overall, the constructs meet the required reliability and convergent validity criteria and are suitable for further structural model assessment. Discriminant validity is assessed separately using the HTMT criterion.

4.2 Discriminant Validity

Discriminant validity was assessed using the Heterotrait-Monotrait (HTMT) ratio. The results are presented in Table 4.

Table 4. HTMT Results

Construct	AI-Driven Marketing Analytics Capability	Marketing Agility	Customer Experience	Business Performance
AI-Driven Marketing Analytics Capability	—	0.781	0.748	0.762
Marketing Agility	0.781	—	0.806	0.823
Customer Experience	0.748	0.806	—	0.817
Business Performance	0.762	0.823	0.817	—

All HTMT values are below the 0.90 threshold, indicating adequate discriminant validity among the constructs. The results confirm that AI-Driven Marketing Analytics Capability, Marketing Agility, Customer

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Experience, and Business Performance are empirically distinguishable constructs. Therefore, the measurement model meets the required discriminant validity criterion and is suitable for subsequent structural model assessment.

4.3 Structural Model Assessment

After confirming the reliability and validity of the measurement model, the structural model was assessed using R^2, Adjusted R^2, and Q^2. The results are presented in Table 5.

Table 5. Structural Model Results

Endogenous Construct	R^2	Adjusted R^2	Q^2
Marketing Agility	0.586	0.583	0.421
Customer Experience	0.548	0.545	0.387
Business Performance	0.671	0.665	0.462

Within the simulated model, AI-Driven Marketing Analytics Capability explains 58.6% of the variance in Marketing Agility and 54.8% of the variance in Customer Experience. Within the simulated model, AI-Driven Marketing Analytics Capability, Marketing Agility, and Customer Experience jointly explain 67.1% of the variance in Business Performance. The Q^2 values are greater than zero for all endogenous constructs, indicating that the model has predictive relevance.

4.4 Hypothesis Testing

Hypothesis testing was conducted using bootstrapping with 10,000 subsamples. The direct effects were evaluated based on path coefficients (β), t-statistics, and p-values. The results are presented in Table 6.

Table 6. Direct Effect Results

Hypothesis	Relationship	β	t-value	p-value	Decision
H1	AI-Driven Marketing Analytics Capability → Business Performance	0.286	4.327	<0.001	Supported
H2	AI-Driven Marketing Analytics Capability → Marketing Agility	0.766	17.842	<0.001	Supported
H3	AI-Driven Marketing Analytics Capability → Customer Experience	0.740	15.936	<0.001	Supported
H4	Marketing Agility → Business Performance	0.354	5.218	<0.001	Supported
H5	Customer Experience → Business Performance	0.397	5.847	<0.001	Supported

All five hypothesized direct relationships are positive and statistically significant ($p < 0.001$). AI-Driven Marketing Analytics Capability has positive effects on Business Performance, Marketing Agility, and Customer Experience, while both Marketing Agility and Customer Experience positively contribute to Business Performance. Therefore, H1–H5 are supported.

4.5 Mediation Analysis

Mediation analysis was conducted using bootstrapping with 10,000 subsamples to examine the indirect effects of AI-Driven Marketing Analytics Capability on Business Performance through Marketing Agility and Customer Experience. The results are presented in Table 7.

Table 7. Mediation Results

Hypothesis	Indirect Relationship	Indirect Effect (β)	t-value	p-value	95% Confidence Interval	Decision
H6	AI-Driven Marketing Analytics Capability → Marketing Agility → Business Performance	0.271	4.918	<0.001	[0.165, 0.381]	Supported
H7	AI-Driven Marketing Analytics Capability → Customer Experience → Business Performance	0.294	5.102	<0.001	[0.181, 0.406]	Supported

Both indirect effects are positive and statistically significant ($p < 0.001$), and their 95% confidence intervals do not include zero. This indicates that Marketing Agility and Customer Experience both significantly

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mediate the relationship between AI-Driven Marketing Analytics Capability and Business Performance. Because the direct effect of AI-Driven Marketing Analytics Capability on Business Performance also remains positive and significant, the results indicate complementary (partial) mediation through both mediating pathways. Overall, the findings suggest that AI-Driven Marketing Analytics Capability contributes to Business Performance through two complementary mechanisms: organizational responsiveness through Marketing Agility and customer-oriented value through Customer Experience.

4.6 Discussion

The findings show that AI-Driven Marketing Analytics Capability has a positive and significant effect on Business Performance. In the simulated model, this pattern is consistent with the proposition that integrating AI, marketing data, and analytical capabilities into decision-making and marketing processes may support business outcomes; this interpretation requires validation using actual organizational data. Recent research (Zhang & Agnihotri, 2025; Utama et al., 2025) shows that cognitive analytics capability can strengthen AI-powered marketing communication capabilities, which subsequently improve marketing effectiveness and efficiency. Similarly, find that AI competencies and marketing capabilities contribute to marketing performance. These findings support the view that AI-Driven Marketing Analytics Capability is not merely a technological resource but an organizational capability that helps firms transform marketing information into business value.

The positive effect of AI-Driven Marketing Analytics Capability on Marketing Agility indicates that analytical capability helps firms identify market and customer changes and respond more rapidly. AI-supported information can improve the firm's ability to recognize changes and adjust marketing activities in dynamic environments. (Beyari & Hashem, 2025) find that AI-based stakeholder engagement positively influences Marketing Agility, which subsequently improves firm performance. Their findings support the present result by showing that AI-enabled capabilities can strengthen organizational responsiveness. Within the proposed model, AI-driven marketing analytics may reduce the gap between market sensing and marketing action by providing timely information for faster and more adaptive responses; this remains a modeled interpretation rather than observed organizational evidence.

The positive relationship between AI-Driven Marketing Analytics Capability and Customer Experience indicates that analytical capability can help firms understand customer needs, preferences, and behavior and use this information to improve customer interactions. AI-enabled marketing capabilities can support more targeted and relevant customer activities by improving the firm's ability to use customer information. Recent research on AI-supported marketing capabilities also shows positive effects on customer-related agility and marketing outcomes, indicating that AI and analytics can extend their value beyond internal decision-making to customer-oriented activities. This supports the role of Customer Experience as a customer-oriented mechanism in the proposed model.

The findings also show that Marketing Agility positively affects Business Performance. Marketing Agility enables firms to respond more effectively to changes in customers, competitors, and market conditions. (N. Tehrani & Roy, 2026) show that Marketing Agility contributes to firm performance after AI-based stakeholder engagement strengthens the firm's ability to respond to technological disruption. (Bekos et al., 2025) similarly demonstrate that organizational agility can contribute to firm performance, although its effect depends on complementary marketing capabilities, particularly marketing implementation capability. These findings indicate that agility alone is not sufficient; firms need appropriate marketing capabilities to convert rapid responses into effective business outcomes.

The positive effect of Customer Experience on Business Performance indicates that customer-oriented activities can contribute to broader organizational outcomes. When firms use analytical information to provide relevant, responsive, and consistent customer interactions, they can create greater customer value and support business outcomes. Recent research on AI marketing also indicates that AI-enabled capabilities can influence customer-related outcomes such as satisfaction and acquisition, demonstrating the importance of customer-oriented mechanisms in realizing the value of AI. Thus, Customer Experience represents a

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customer-oriented pathway through which analytical capabilities may contribute to Business Performance within the simulated framework.

Finally, the mediation results indicate that Marketing Agility and Customer Experience are complementary pathways linking AI-Driven Marketing Analytics Capability to Business Performance. Marketing Agility represents the organizational pathway through which analytical insights are translated into faster and more adaptive marketing actions, whereas Customer Experience represents the customer-oriented pathway through which customer information is translated into more relevant interactions. The simulated findings therefore illustrate a possible mechanism in which AI-driven marketing analytics may be linked to business value through direct decision-making and through organizational responsiveness and customer-oriented value creation. Together, these mechanisms provide a broader conceptual explanation of how AI-Driven Marketing Analytics Capability may contribute to Business Performance, subject to empirical validation.

The indirect effect through Customer Experience ($\beta = 0.294$) is slightly larger than the indirect effect through Marketing Agility ($\beta = 0.271$), a difference of 0.023. Conceptually, this small difference may indicate that, within the simulated parameter structure, the customer-facing pathway carries marginally more of the modeled relationship than the organizational responsiveness pathway. However, the difference should not be interpreted as evidence that Customer Experience is inherently more important than Marketing Agility, because both effects originate from synthetic data and were not observed across actual firms or customers.

This study has several limitations. First, the 180 observations are simulated and therefore cannot establish whether the reported relationships occur in actual organizations. Second, the simulation depends on assumptions embedded in the predefined measurement and structural model, which may influence the magnitude and significance of the estimated relationships. Third, Customer Experience is operationalized as a firm-level customer experience capability rather than direct customer perceptions, so the findings do not represent independently observed customer-level responses. Finally, the current manuscript does not contain verified software, random seed, distributional parameters, or target correlation settings for the data-generation process. These limitations mean that the results should be treated as methodological and conceptual illustrations requiring validation with real organizational and customer data.

5. CONCLUSION AND RECOMMENDATIONS

Within the simulated model, AI-Driven Marketing Analytics Capability is positively related to Business Performance both directly and through Marketing Agility and Customer Experience. The simulated findings illustrate that AI-driven marketing analytics may be associated with business value when analytical insights are translated into rapid marketing responses and relevant customer interactions. Marketing Agility represents the organizational mechanism for responding to changing market conditions, while Customer Experience represents the customer-oriented mechanism for creating value from customer insights. However, this study is limited by the use of a simulated dataset of 180 observations, which is intended for methodological practice and does not represent actual organizational respondents. Therefore, the results should be interpreted as a methodological demonstration of the proposed PLS-SEM relationships rather than empirical evidence that can be generalized to real organizations.

Future research should validate the proposed model using primary data from actual organizations and respondents with relevant knowledge of marketing analytics and business decision-making. Further studies may use larger and more diverse samples, different industries, and longitudinal designs to examine whether the relationships among AI-Driven Marketing Analytics Capability, Marketing Agility, Customer Experience, and Business Performance remain consistent across organizational contexts. These efforts would provide stronger empirical evidence and improve the generalizability of the proposed model.

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