

AI-DRIVEN MARKETING INNOVATION: EXAMINING BEHAVIORAL INTENTION AND ADOPTION FACTORS

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ABSTRACT

This research investigates the psychological and perceptual determinants that motivate individuals to adopt AI-enabled innovation and creative transformation in marketing contexts. Grounded in behavioral theory, the study focuses on five core constructs — attitude, perceived behavioral control, perceived ease of use, perceived usefulness, and subjective norms — and their combined influence on behavioral intention and actual adoption behavior. The findings suggest that successful marketing transformation goes beyond the deployment of digital tools; it is fundamentally shaped by human cognition and organizational culture. A deeper understanding of these behavioral drivers enables organizations to design more inclusive, adaptive, and effective AI-based marketing strategies that foster creativity, agility, and sustainable competitive performance in rapidly evolving business landscapes.

Keywords: *Artificial Intelligence, Marketing, Adaptability, Creativity*

1. INTRODUCTION

The emergence of Artificial Intelligence (AI) as a transformative technological paradigm has reshaped the foundational strategies through which organizations engage their customers, interpret market signals, and operationalize data-driven decisions. Within marketing specifically, AI has catalyzed a fundamental shift — from broad-based outreach to hyper-personalized, analytically grounded engagement. Contemporary research consistently affirms AI's capacity to improve customer segmentation precision, streamline content personalization, and optimize the timing and sequencing of advertising campaigns. The theoretical underpinnings of AI in marketing — encompassing machine learning algorithms and natural language processing frameworks — are particularly relevant in today's data-centric organizational environments (Re & Solow-Niederman, 2019).

Beyond its marketing applications, AI has emerged as a broadly disruptive force across multiple sectors, including healthcare, manufacturing, finance, retail, and logistics. Within the marketing domain, practitioners have increasingly recognized AI's potential to redesign customer interaction models and stimulate innovation-driven growth (Khaleel et al., 2023). At its core, AI refers to the development of computational systems capable of replicating and augmenting cognitive tasks that traditionally require human intelligence (Akata et al., 2020; Hassani et al., 2020). This encompasses a range of technological subfields such as natural language processing (Torfi et al., 2021), computer vision, robotic process automation, and machine learning (Chaveesuk et al., 2021; Rowe, 2019). AI systems are distinguishable by their capacity to ingest, process, and derive patterns from vast data repositories, continuously refining their decision-making frameworks through iterative learning (Bharadiya, 2023).

One of AI's most notable contributions to marketing lies in its advanced analytical and predictive capabilities (Alghamdi & Al-Baity, 2022). Contemporary marketing practitioners are increasingly relying on AI-powered analytics platforms to extract actionable intelligence from complex consumer datasets, identify latent behavioral trends, and formulate empirically

grounded strategies (Fountaine et al., 2019; Elgendy et al., 2022). Through intelligent modeling of consumer patterns, preferences, and transactional histories, AI enables marketers to generate highly accurate behavioral forecasts and personalized recommendations (Parihar, 2021).

AI also plays a pivotal role in elevating the performance of digital advertising ecosystems. By deploying intelligent bidding algorithms and audience-targeting mechanisms, marketers can ensure that their messaging reaches the most receptive segments at the most opportune moments, thereby maximizing conversion rates (Gao et al., 2023). AI-driven user profiling, which synthesizes behavioral data, demographic information, and contextual signals, enables the delivery of highly relevant advertising experiences that significantly enhance user engagement.

From a strategic marketing perspective, AI functions as both an enabler and an amplifier of innovation. It equips marketers with sophisticated capabilities to translate raw data into refined strategy, improve the quality of customer interactions, and generate measurable growth outcomes. AI-enabled conversational tools such as chatbots and virtual assistants have substantially elevated the standard of customer service by enabling real-time, context-aware responses and intelligent product recommendations. These tools not only automate routine service interactions but also cultivate deeper brand loyalty through consistently positive customer experiences. Furthermore, AI's role in automating repetitive marketing workflows — including email campaign management, content scheduling, and lead scoring — allows marketing professionals to redirect cognitive resources toward higher-order strategic and creative endeavors, ultimately producing more differentiated and impactful campaigns.

2. REVIEW OF LITERATURE

Dwivedi et al. (2021) observe that contemporary marketing is progressively characterized by intelligent automation and the pervasive integration of data-driven decision-making. The rapid advancement of AI technologies has accelerated digital transformation across commercial enterprises, fundamentally altering the nature of marketing practice and reshaping competitive dynamics. Marketing is undergoing a structural evolution as organizations leverage AI to enable more responsive, personalized, and analytically precise customer engagement.

According to Soni et al. (2019), AI serves as a powerful catalyst for research-driven innovation by expediting data analysis, identifying non-obvious patterns, and informing breakthrough discoveries. In market-facing applications, AI facilitates the creation of tailored consumer experiences, enhances operational efficiency through intelligent automation, and enables predictive analytics capabilities that allow organizations to anticipate market shifts and customer needs proactively.

The global COVID-19 pandemic brought AI's strategic significance into sharp relief. The crisis generated unprecedented demand for rapid AI deployment across healthcare, logistics, and public administration (Naudé, 2020). Simulation-based research conducted during this period examined AI's potential to model and respond to pandemic dynamics, even as ethical and technical constraints on large-scale AI deployment remained an ongoing consideration.

In the domain of machine learning interpretability, Explainable AI (XAI) has emerged as a critical research priority. As deep learning and complex predictive models have become increasingly prevalent, the need for transparent and interpretable AI systems has grown correspondingly. Vilone and Longo (2020) conducted a systematic review organizing XAI

approaches into four categories — surveys, conceptual frameworks, methodological contributions, and evaluation studies — offering a comprehensive synthesis of the field's state of knowledge.

The fourth industrial revolution has introduced unprecedented complexity into industrial environments. The proliferation of interconnected systems, the exponential growth of operational data, and the intensification of interdependencies across global supply chains demand sophisticated analytical tools. AI has emerged as particularly well-suited for navigating this complexity through its capacity for predictive maintenance, real-time decision support, and intelligent process optimization (Peres et al., 2020).

Yulianto (2021) examines the dual dimensions of knowledge management — specifically the interplay between externally sourced knowledge and internally generated insights — in driving business responsiveness and innovation capacity. His research illuminates how inbound and outbound knowledge flows, when effectively managed, contribute to product and marketing innovation, strengthen organizational performance, and buffer against environmental disruptions through more agile and anticipatory strategic responses.

Wright et al. (2019) define big data as an information phenomenon that surpasses the processing and storage capacity of conventional database technologies. They characterize it through four properties — volume, velocity, variety, and integration — while acknowledging that the conceptual boundaries of big data continue to expand as technological capabilities evolve. Their analysis underscores the growing imperative for organizations to develop sophisticated data infrastructure and analytical competencies to harness big data's potential for competitive advantage.

3. RESEARCH OBJECTIVES

- To examine the combined influence of attitude, perceived behavioral control, perceived ease of use, perceived usefulness, and subjective norms on behavioral intention toward marketing *innovation and creative change.
- To analyze the impact of these factors on actual behavior and adoption of innovative and change-oriented marketing practices.
- To evaluate how these variables collectively drive creativity, innovation, and transformation in marketing environments.

4. ANALYSIS

Table 1.1: Type of Company Product

Type of Company Product	Freq.	%
Convenience products (e.g., Toothpaste, Soap, Sugar)	11	2.2
Shopping products (e.g., Television, Furniture, Clothes)	15	3.0
Unsought products (e.g., Laptop Cooling)	10	2.0
Communication services	26	5.2
Construction and engineering services	32	6.4
Distribution services	26	5.2
Education services	88	17.6

Finance services	58	11.6
Health services	26	5.2
Recreation services	10	2.0
Tourism services	16	3.2
Transportation services	99	19.8
Other services	62	12.4
Specialty products (e.g., Luxury Clothing, Designer Watches)	21	4.2
Total	500	100

The distribution across product and service categories reflects a market landscape predominantly shaped by service-oriented industries. Transportation services represent the single largest segment at 19.8%, indicating significant organizational reliance on mobility and logistics infrastructure. Education services constitute the second-largest group at 17.6%, underscoring the sector's scale and its increasing dependence on digital and AI-enabled tools for outreach, enrollment, and learner engagement. Finance services account for 11.6%, followed by construction and engineering at 6.4%, and health services at 5.2%. At the lower end of the distribution, unsought products and recreation services each account for only 2.0%, reflecting limited representation. The 'Other Services' category, comprising 12.4% of respondents, captures a diverse range of activities not individually classified, while specialty products at 4.2% represent premium consumer segments. This heterogeneity provides a rich empirical foundation for understanding AI adoption dynamics across varied organizational contexts.

Table 1.2: Respondent Position

Position	Freq.	%
General Manager	52	10.4
Marketing Manager	37	7.5
Digital Marketing Specialist	21	4.2
Business Development Manager	42	8.3
CEO	15	3.1
Owner	66	13.5
Other	265	53.0
Total	500	100

The distribution of respondent designations reflects considerable organizational heterogeneity within the sample. The largest cohort falls under the 'Other' category at 53.0%, suggesting the presence of a wide spectrum of roles not captured by the predefined classifications, which points to the necessity of broader taxonomic frameworks in future research. Owners constitute 13.5% of respondents, followed by General Managers at 10.4%, Business Development Managers at 8.3%, Marketing Managers at 7.5%, Digital Marketing Specialists

at 4.2%, and CEOs at 3.1%. The concentration of decision-making authority across these roles — particularly owners and senior managers — lends credibility to the data, as these individuals are most directly engaged in shaping marketing strategies and evaluating AI adoption decisions within their organizations.

Table 1.3: Customer Data Management Approaches

Customer Data Management Approach	Freq.	%
Specialized AI Department	115	23
Marketing Department	215	43
Unstructured Approach	125	25
Sales Department	40	8
Architect	5	1
Total	500	100

The data reveals a notable diversity in how organizations approach customer data governance. The marketing department is the most frequently designated custodian of customer data, accountable in 43% of firms, which affirms the centrality of marketing functions in data-driven strategy. A substantial 23% of firms have established dedicated AI departments for data management, signaling a progressive shift toward institutionalizing AI capabilities within organizational structures. Sales departments manage customer data in 8% of cases, while 25% of organizations report operating without a structured data management framework — a finding with significant implications for data quality, regulatory compliance, and strategic coherence. The remaining 1% designate an architect role for this function. Collectively, these findings highlight the uneven maturation of data governance practices across organizations and underscore the importance of investing in formalized, AI-integrated data management frameworks.

Table 1.4: Total Indirect Effects — Original Sample, Mean, Standard Deviation, T-value, P-value

Statements	Orig. Samp.	Samp. Mean	Stdev	T val.	P val.
Attitude towards Use -> Actual Behavior (AB) for Marketing	0.248	0.252	0.037	6.644	0.040
Attitude towards Use -> Introduced Creativity & Change (MI)	0.125	0.127	0.022	5.599	0.004
Behavioral Control -> Actual Behavior (AB) for Marketing	0.194	0.194	0.029	6.733	0.027
Behavioral Control -> Introduced Creativity & Change (MI)	0.097	0.098	0.016	6.074	0.001
Ease of Use (EU) -> Actual Behavior (AB) for Marketing	0.149	0.151	0.023	6.362	0.001

Ease of Use (EU) -> Attitude towards Use	0.299	0.299	0.024	12.37	0.001
Ease of Use (EU) -> Introduced Creativity & Change (MI)	0.075	0.076	0.014	5.323	0.003
Ease of Use (EU) -> Intention to Adopt AI	0.189	0.190	0.027	6.876	0.002
Intention to Adopt AI (IAAI) -> MI	0.396	0.399	0.029	13.594	0.020
Perceived Usefulness (PU) -> Actual Behavior (AB) for Marketing	0.154	0.156	0.025	6.119	0.001
Perceived Usefulness (PU) -> Introduced Creativity & Change (MI)	0.077	0.079	0.015	5.239	0.001
Perceived Usefulness (PU) -> Intention to Adopt AI	0.195	0.197	0.030	6.495	0.002
Subjective Norms (SN) -> Actual Behavior (AB) for Marketing	0.271	0.271	0.031	8.872	0.006
Subjective Norms (SN) -> Introduced Creativity & Change (MI)	0.136	0.137	0.017	8.045	0.002

The statistical analysis of total indirect effects reveals consistent and significant pathways across all hypothesized relationships in the research model. All p-values fall below the 0.05 threshold, confirming the robustness of the structural associations between the predictor variables and their respective outcomes.

Attitude toward use demonstrates a meaningful positive indirect effect on both actual marketing behavior (OS = 0.248, $p = 0.040$) and the introduction of creativity and change (OS = 0.125, $p = 0.004$). These results affirm that a favorable orientation toward AI technologies meaningfully enhances an individual's propensity to engage in innovative marketing behaviors.

Perceived behavioral control shows significant indirect effects on actual marketing behavior (OS = 0.194, $p = 0.027$) and marketing innovation (OS = 0.097, $p = 0.001$). This confirms that individuals who feel adequately empowered and capable of managing AI tools are substantially more likely to translate that confidence into tangible behavioral outcomes.

Ease of use exerts significant indirect effects across all outcome variables: actual marketing behavior (OS = 0.149, $p = 0.001$), attitude toward AI use (OS = 0.299, $p = 0.001$), introduction of creativity and change (OS = 0.075, $p = 0.003$), and intention to adopt AI (OS = 0.189, $p = 0.002$). These findings affirm that the perceived simplicity and accessibility of AI-based marketing tools are foundational drivers of adoption readiness and behavioral engagement.

Intention to adopt AI registers the strongest indirect effect on marketing innovation (OS = 0.396, $p = 0.020$), suggesting that adoption intent is the most powerful single mediating variable in the model, bridging individual perceptions and organizational behavioral change.

Perceived usefulness demonstrates significant indirect effects on actual marketing behavior (OS = 0.154, $p = 0.001$), marketing innovation (OS = 0.077, $p = 0.001$), and adoption intention (OS = 0.195, $p = 0.002$). These results validate the TAM-rooted proposition that functional utility assessments are integral to adoption decisions. Subjective norms also exhibit strong and significant effects on actual marketing behavior (OS = 0.271, $p = 0.006$) and marketing innovation (OS = 0.136, $p = 0.002$), reinforcing the influential role of social and professional normative pressures in shaping AI adoption behavior within organizational settings.

5. CONCLUSION

This study provides compelling evidence of the central role that behavioral and perceptual factors play in determining the extent to which AI-driven marketing innovation is embraced by individuals within organizations. Across all tested relationships, the findings confirm that attitude toward AI, perceived behavioral control, ease of use, usefulness perceptions, and social norms each exert statistically significant influence on both the intention to adopt AI-based marketing practices and actual adoption behavior ($p < 0.05$). These outcomes collectively suggest that individuals are more inclined to engage with AI-enabled marketing tools when they perceive those tools as practically valuable, accessible, normatively supported by peers, and well within their capacity to manage.

A critical implication of these findings is that the success of AI integration in marketing cannot be reduced to a purely technical question. Organizational readiness, managerial mindset, and the broader social climate in which technology is introduced are equally determinative of adoption outcomes. Firms seeking to leverage AI for marketing transformation must therefore invest not only in the development and deployment of technological infrastructure, but also in cultivating a culture of innovation readiness — one that builds user confidence, reinforces positive attitudes, and establishes supportive organizational norms. Aligning behavioral insights with technological strategy positions organizations to achieve more holistic, sustainable, and competitively differentiated marketing transformation.

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