***Naivigyan Journal of Multidisciplinary Research* (NJMR)**
Volume 2, Issue 4, October 2026, Pages: 1-7
Original Article | ISSN (O): 3108-1487

AI-Driven Personalisation in Digital Marketing and Consumer Purchase Intention

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Abstract

AI has shifted digital marketing from generalised broadcast campaigns to individualised consumer journeys. Using predictive analytics, natural language processing, machine learning, and real-time behavioural tracking, marketers now deliver dynamic recommendations, tailored advertisements, customised messaging, and personalised pricing. This descriptive study examines how AI-driven personalisation shapes consumer purchase intention across digital retail channels, synthesising secondary data from academic journals, industry reports, e-commerce analytics white papers, and consumer trust surveys published between 2018 and 2026. The findings show that AI personalisation enhances purchase intention by reducing cognitive search costs, simplifying navigation, easing decision fatigue, and offering immediate support through conversational virtual assistants. When recommendations accurately anticipate consumer needs, satisfaction and purchase likelihood rise markedly. However, a notable paradox emerges: when consumers perceive personalisation as intrusive, coercive, or reliant on unconsented data tracking, it triggers psychological reactance, weakening brand trust and increasing cart abandonment and ad avoidance. The study also identifies brand trust as a key moderator that determines whether consumers see recommendations as valuable service or invasive surveillance. Brands with transparent data practices, clear opt-in mechanisms, and strong privacy safeguards reduce consumer anxiety and convert personalised engagement into measurable sales. The paper concludes that sustainable personalisation requires balancing algorithmic accuracy, user utility, transparency, and strict data privacy compliance.

Keywords: AI personalisation, Purchase intention, Brand trust, Psychological reactance, Digital marketing, Data privacy

Introduction

The modern digital marketplace is defined by extreme content saturation, fierce commercial competition, and heightened consumer expectations. In the traditional e-commerce environment, consumers routinely encountered standardised commercial messaging, static web catalogues, and generic display advertising that often failed to align with their preferences, active search contexts, or immediate buying habits. Consequently, high search friction, overwhelming choice abundance, and irrelevant advertising contributed to widespread digital fatigue and reduced conversion efficiency across retail platforms. When faced with thousands of homogeneous product choices, buyers frequently experienced decision paralysis, leading to high bounce rates and systematic cart

abandonment. The rapid evolution and integration of Artificial Intelligence (AI) have completely transformed this landscape. AI-driven personalisation refers to the automated, real-time tailoring of content, marketing communications, user interface elements, dynamic pricing strategies, and product recommendations to fit the unique characteristics and behavioral patterns of individual users. By processing massive volumes of structured and unstructured consumer data—such as web browsing pathways, search histories, geographic location markers, item dwell times, click-through rates, and past purchase records—AI systems build detailed predictive user profiles. These profiles let digital marketers engage consumers with surgical precision, delivering the right message for the right product through the right channel at the moment of decision.

Advances in machine learning, neural networks, natural language processing, and predictive analytics have enabled e-commerce platforms to shift from reactive marketing models to proactive customer engagement frameworks. Rather than waiting for a consumer to search for a specific item, modern marketing algorithms predict latent consumer desires and surface tailored options before the user explicitly formulates a query. This hyper-personalised environment redefines digital interaction, turning routine transactions into curated commercial experiences. While marketers' operational advantages of AI personalisation are unquestioned, its ultimate effectiveness hinges on its ability to positively influence consumer purchase intention. Purchase intention is a critical pre-behavioural psychological state that reflects a consumer's likelihood, willingness, and plan to buy a specific product or service from a digital retailer. Understanding how algorithmic recommendations and automated interactions shape this psychological state is vital to modern brand strategy. High purchase intention correlates directly with higher conversion rates, greater customer lifetime value, and expanded market share.

Furthermore, the growth of AI marketing has triggered intense scrutiny regarding individual consumer rights, data governance, and psychological autonomy. As AI algorithms become increasingly sophisticated and can accurately infer personal emotional states, lifestyle habits, and financial capabilities, consumers face an inherent tension between convenience and privacy. When personalised marketing shifts from helpful utility to invasive surveillance, it often backfires, eroding consumer trust and reducing purchase intention. Therefore, this paper provides a comprehensive, descriptive analysis of secondary research to evaluate both the positive drivers and negative barriers associated with AI-driven personalisation in digital marketing.

Materials and Methods

This study employs a structured, descriptive research methodology focused exclusively on the secondary analysis of existing qualitative and quantitative data. Descriptive research is ideal for systematic literature synthesis because it presents an accurate, comprehensive profile of dynamic market phenomena, behavioural patterns, and consumer perception frameworks without manipulating underlying operational variables. By aggregating diverse empirical datasets, this approach offers a broad, multidimensional evaluation of AI marketing dynamics. To ensure scientific rigour, data validity, and contemporary relevance, we systematically searched, filtered, and selected secondary sources based on strict academic and professional criteria: Publication Timeline, Literature Sources, Industry Reports, and Empirical Focus.

All selected research literature, market reports, and secondary datasets were published between 2018 and 2026. This period captures the major evolution of marketing AI from basic rule-based recommendation engines to advanced generative AI models, predictive deep learning networks,

and automated conversational assistants. The study harvested academic literature from leading peer-reviewed marketing, business, and technology journals indexed in major databases such as Web of Science, Scopus, IEEE Xplore, and ScienceDirect. Source journals include the Journal of Marketing, Journal of Interactive Marketing, Journal of Retailing, Journal of Business Research, and Computers in Human Behaviour. To complement theoretical models with empirical market data, we included verified white papers and industry benchmarks from leading global advisory firms and analytics organisations, including McKinsey & Company, Gartner, Forrester Research, Harvard Business Review, and Salesforce. The study selected secondary studies based on an explicit methodological focus on AI marketing tools (such as dynamic recommendations, targeted digital ads, dynamic pricing, and interactive chatbots) and measurable consumer behavioural outcomes (such as purchase intention, platform engagement, brand trust, and cart conversion rates).

The study systematically evaluated each identified source to verify empirical reliability, methodological validity, and contextual applicability. The study prioritised studies using rigorous quantitative modelling, structural equation modelling (SEM), field experiments, randomised controlled trials, or large-scale consumer surveys, and assessed secondary qualitative studies based on thematic clarity and conceptual robustness. The secondary data synthesis followed a two-step analytical procedure: descriptive mapping and thematic content analysis (categorisation of AI Tools and Thematic Coding of Consumer Responses). The study mapped secondary data to core functional applications in digital marketing and evaluated each application's direct empirical impact on user experience and purchase intent. The study synthesised qualitative and empirical findings across the literature into core thematic drivers (facilitators) and barriers (inhibitors) of purchase intention. Key codes included perceived utility, cognitive effort reduction, platform trust, perceived surveillance, algorithmic reactance, and privacy risk.

Results and Discussions

Synthesising secondary data from multiple empirical studies shows that AI-driven personalisation is a multidimensional construct that directly shapes consumer decision-making. The results show that while personalised AI features consistently increase purchase intent by optimising the user experience, adverse psychological reactions emerge when digital tracking violates consumers' privacy boundaries.

Major AI Personalisation Applications and Their Impact on Purchase Intention

A synthesis of secondary market studies identifies five principal AI personalisation mechanisms used in modern e-commerce environments, each affecting consumer purchase intention differently: Automated Product Recommendation Systems, Programmatic Targeted Advertising, Dynamic Email and Push Content Personalisation, Conversational Virtual Assistants and Chatbots, and Algorithmic Dynamic Pricing and Customised Offers. Powered by collaborative filtering and deep neural networks, recommendation engines evaluate historical buying patterns and real-time browsing behaviours to present tailored item listings. Secondary evidence shows that personalised recommendations strongly affect purchase intention. They streamline product discovery, cut catalogue search time by over 50%, and present consumers with items aligned with their preferences, directly stimulating impulse purchases and increasing order values.

AI algorithms analyse cross-platform user signals, online activity history, and demographic profiles to serve dynamic digital display and social media advertisements. These ads feature products

users recently viewed or are statistically likely to purchase. Results show a moderate-to-high impact on purchase intention, as retargeting keeps products top-of-mind and draws interested traffic back into the sales funnel. Moving far beyond simple customer name insertion, modern AI systems generate individualised email subject lines, optimal dispatch times, and dynamic body content based on predictive engagement modelling. Secondary data show a moderate, sustained positive impact on purchase intention, helping maintain customer lifetime value, re-engage inactive shoppers, and encourage repeat orders through personalised promotional incentives.

Generative AI and Natural Language Processing (NLP) power interactive shopping assistants that deliver real-time product recommendations, reduce inquiry bottlenecks, and guide consumers through complex purchasing decisions. The synthesis indicates a high impact on purchase intent, especially in technical, high-involvement retail categories where immediate clarification reduces sales friction and cart abandonment. AI models continuously analyse real-time market demand, inventory levels, competitor pricing, customer price sensitivity, and purchase urgency to present individualised discount codes or price adjustments. Research shows a high immediate impact on purchase intention among price-conscious consumer segments, though it carries substantial long-term brand equity risks if customers perceive price discrimination.

Positive Consumer Drivers Elevating Purchase Intention

Secondary findings highlight four distinct psychological and functional drivers that explain why consumers respond favourably to AI personalisation: reduced search time and cognitive overhead; enhanced perceived relevance and value match; a Frictionless Customer Journey and platform convenience; and Instant Decision Support and Problem Resolution. Digital consumers operate in high-information environments where evaluating endless options leads to decision fatigue. AI personalisation acts as a contextual filter, presenting relevant options quickly and enabling effortless purchasing decisions. When AI algorithms accurately predict personal aesthetic, functional, or financial preferences, consumers see high utility in the suggested products, which directly reinforces positive attitudes toward buying. Tailored navigation paths, pre-filled checkout parameters based on predictive modelling, and context-aware messaging create an intuitive shopping experience that reduces shopping friction. AI-powered conversational tools offer continuous assistance during the evaluation stage, answering specific questions regarding product specifications, shipping, and return policies.

Negative Consumer Barriers Depressing Purchase Intention

Conversely, the secondary analysis highlights severe negative psychological mechanisms that impair purchase intention when AI systems breach consumer comfort thresholds: Privacy Risk and Data Exploitation Anxiety, Perceived Surveillance and Creepiness (Psychological Reactance), Lack of Algorithmic Transparency and Control, and Perceived Price Injustice and Manipulation. Secondary surveys reveal that a majority of online consumers worry about how their personal data is harvested, stored, and commercialized. Fear of security breaches or unethical data monetization causes consumers to withhold personal data and abandon purchasing journeys. When personalisation becomes overly precise—such as showing an ad for an item mentioned verbally or viewed moments earlier on a different device—consumers experience a loss of autonomy. This sense of being monitored triggers psychological reactance, causing users to reject recommendations and avoid the advertising brand. Consumers frequently feel powerlessness when they cannot understand why

specific ads appear or how their behavioral data is profiled. The lack of simple opt-out controls or privacy dashboards erodes trust in the platform. When consumers discover that AI dynamic pricing tools offer different prices to different users for identical products based on tracking data, perceived fairness drops sharply, destroying brand trust and driving customers to competitors.

This study's synthesis of secondary data shows that AI-driven personalisation is one of the most powerful catalysts of consumer purchase intention in contemporary digital marketing. However, its effectiveness is governed by a nuanced psychological trade-off frequently referred to in business literature as the Personalisation-Privacy Paradox. This paradox describes a dual reality: consumers demand tailored, context-aware shopping experiences, yet reject the extensive behavioural surveillance required to power them. At the core of this paradox is the balance between perceived utility and perceived risk. When an AI feature's functional utility—such as saving time, discovering a relevant product, or receiving a timely discount—outweighs the perceived privacy risk, consumer purchase intention increases significantly. In this state, personalisation acts as a value-adding service. Conversely, when the invasive nature of tracking becomes obvious or feels unearned, the perceived risk eclipses perceived utility. In response, consumers adopt protective behaviours, including blocking ads, entering false data, or leaving the online storefront entirely.

The discussion also highlights the crucial role of brand trust as a moderating variable. Secondary evidence indicates that established, highly trusted brands enjoy greater leniency from consumers regarding data collection. When a trusted brand uses AI to personalise recommendations, consumers see the initiative as excellent customer service. In contrast, when an unfamiliar or low-trust brand uses the same AI tracking techniques, consumers see it as aggressive surveillance, triggering immediate psychological reactance. To capitalise on AI personalisation without alienating target audiences, modern digital marketers must implement ethical AI frameworks. Marketers must transition from stealth data collection to explicit, permission-based engagement models. By offering clear data-management options, transparent privacy notices, and explicit control over recommendation preferences, brands can build mutual trust. In this ecosystem, AI personalisation can drive purchase intention while safeguarding brand reputation and user trust.

The discussion also highlights the growing importance of algorithmic explainability in e-commerce. Modern online shoppers are becoming increasingly tech-savvy and aware of algorithmic profiling. When e-commerce platforms provide concise explanations for why a specific product is recommended (for instance, 'Recommended based on your recent interest in outdoor gear'), consumer uncertainty declines. Algorithmic transparency validates the system's utility, framing it as a helpful assistant rather than a hidden tracker and converting user interest into active purchase intention. Finally, digital marketing managers must evaluate the cross-cultural dimensions of AI personalisation. Secondary findings show that consumer tolerance for data tracking varies significantly across jurisdictions, shaped by local regulatory frameworks like the GDPR and societal norms around digital privacy. In markets with stringent data privacy standards, aggressive personalisation techniques generate higher levels of reactance compared to markets where automated commercial personalisation is widely accepted. Therefore, global digital marketing strategies must adapt AI personalisation algorithms to local cultural expectations and regulatory requirements.

Conclusion

AI-driven personalisation has permanently reshaped digital marketing by replacing standardised customer outreach with adaptive, real-time consumer experiences. As this secondary

data descriptive study shows, AI personalisation capabilities—from automated recommendation engines and programmatic dynamic ads to generative conversational assistants—strongly and positively influence consumer purchase intention by minimising search costs, mitigating choice overload, and increasing overall shopping satisfaction. However, the commercial benefits of AI personalisation are not unconditional. Research shows that unsustainable tracking practices, opaque data collection, invasive retargeting, and perceived price manipulation generate strong consumer resistance, reducing trust and lost sales conversions. The success of AI personalisation depends on striking a deliberate, transparent balance between computational accuracy and consumer privacy rights. Ultimately, AI personalisation should not be viewed merely as an aggressive sales extraction tool, but rather as a collaborative service mechanism designed to add genuine value to the customer experience. Digital marketers who adopt ethical AI standards, offer clear user control over personal data, and prioritise consumer trust will achieve higher purchase intent, stronger brand loyalty, and sustained competitive advantage in an increasingly automated global market.

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Abbreviations Used

AI: Artificial Intelligence

ML: Machine Learning

NLP: Natural Language Processing

B2C: Business-to-Consumer

CTR: Click-Through Rate

GDPR: General Data Protection Regulation

CRO: Conversion Rate Optimization

CLV: Customer Lifetime Value

UI / UX: User Interface / User Experience