

Impact of Artificial Intelligence in Digital Marketing on Consumer Buying Behaviour

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Abstract

The rapid integration of artificial intelligence (AI) into digital marketing has transformed how brands interact with consumers across online platforms. This study examines the impact of AI-powered digital marketing tools — including personalized advertisements, product recommendation systems, and AI chatbots — on consumer buying behaviour. A primary research approach was adopted, using a structured questionnaire distributed among 35 respondents across different age groups. The survey captured consumer awareness of AI-driven personalization, trust in data usage, perceived intrusiveness of targeted ads, and their overall influence on purchase decisions. The findings reveal that while the majority of consumers notice and are influenced by AI-based recommendations — with over 60% reporting they buy more than planned due to online suggestions — a significant proportion also express uncertainty or distrust regarding how their personal data is used, and many report discomfort with overly targeted ads. The study concludes that AI-powered marketing tools meaningfully influence consumer buying behaviour, but their effectiveness is moderated by consumer trust and comfort levels, highlighting the need for brands to balance personalization with transparency.

Keywords: Artificial Intelligence, Digital Marketing, Consumer Buying Behaviour, Personalization, Consumer Trust.

Introduction of Study

In today's digital era, artificial intelligence (AI) has become a central force reshaping how businesses market their products and services online. From personalized advertisements on social media platforms to intelligent product recommendation systems on e-commerce websites, AI enables brands to understand consumer preferences and tailor marketing messages with a level of precision that was previously unattainable through traditional marketing methods. Platforms such as Instagram, YouTube, and Amazon now routinely use AI algorithms to analyze browsing history, purchase patterns, and user behaviour to deliver individualized content and product suggestions.

For consumers, this shift has changed the shopping experience significantly — recommendations appear more relevant, chatbots assist with queries instantly, and ads increasingly reflect personal interests. However, this same personalization has also raised concerns among consumers regarding data privacy and the extent to which their personal information is being used. As AI-driven marketing becomes more sophisticated, it becomes increasingly important to understand how it actually influences consumer buying behaviour — not just in terms of increasing sales, but also in shaping trust, comfort, and long-term brand relationships.

This study aims to explore how AI-powered digital marketing tools influence consumer buying behaviour, using primary data collected directly from consumers through a structured survey.

Objectives of Study

1. To study the extent to which consumers notice and engage with AI-powered personalized advertisements and recommendations.
2. To examine the influence of AI-driven marketing tools on consumer purchase decisions and impulse buying behaviour.
3. To assess consumer trust and perceived intrusiveness regarding the use of personal data in AI-based marketing.

Research Methodology

The study adopts a **descriptive research design** based on **primary data** collected through a structured online questionnaire. The survey was designed using Google Forms and distributed among consumers through social media and personal networks, targeting individuals who engage in online shopping. A total of **35 valid responses** were collected. The questionnaire consisted of demographic questions (age, gender) and closed-ended questions covering shopping frequency, awareness of AI-personalization, perceived usefulness of recommendations, trust in data usage, chatbot experience, and impulse buying behaviour, along with one open-ended question capturing respondents' personal opinions. The collected data was analyzed using frequency distribution and percentage analysis to identify patterns in consumer buying behaviour influenced by AI-powered digital marketing.

Review of Literature

Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020) studied how artificial intelligence is transforming marketing practices. The research found that AI enables real-time personalization and predictive targeting, significantly improving marketing efficiency, though it also raises concerns around consumer data privacy.¹

Aguirre, E., Mahr, D., Grewal, D., de Ruyter, K., & Wetzels, M. (2015) examined the "personalization paradox," where consumers desire personalized advertisements but simultaneously feel uneasy about the data collection practices required to enable such personalization. The study concluded that trust plays a critical mediating role in determining whether personalization leads to positive or negative consumer responses.²

Tucker, C. E. (2014) studied the effect of personalized advertising on consumer response, finding that personalization increases ad effectiveness only when consumers feel they have control over their data, otherwise it can backfire and reduce engagement.³

Priporas, C. V., Stylos, N., & Fotiadis, A. K. (2017) explored the expectations of digitally native consumers in smart retail environments, noting that younger consumers expect seamless, technology-driven personalization but are quick to disengage when interactions feel inauthentic or overly automated.⁴

Kotler, P., & Keller, K. L. (2016) provided the foundational framework of the consumer buying decision process, identifying stages such as need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour — a structure widely used to understand how external marketing stimuli, including AI tools, influence purchase outcomes.⁵

Analysis and Findings

Based on the 35 responses collected through the survey, the following analysis presents consumer patterns regarding AI-powered digital marketing and its influence on buying behaviour.

Table 1: Demographic Profile of Respondents

Category	Frequency	Percentage
Age: 18–24	16	45.7%
Age: 25–34	5	14.3%
Age: 35 and above	11	31.4%
Age: Under 18	3	8.6%
Gender: Male	20	57.1%
Gender: Female	15	42.9%

(Source: Primary data collected by researcher, 2026)

The majority of respondents (45.7%) belonged to the 18–24 age group, indicating strong representation from young, digitally active consumers, followed by the 35-and-above group (31.4%).

Table 2: Online Shopping Frequency

Response	Frequency	Percentage
Rarely	15	42.9%
Monthly	9	25.7%
Weekly	7	20.0%
Daily	4	11.4%

(Source: Primary data collected by researcher, 2026)

Table 3: Awareness of AI-Powered Ad Personalization

Response	Frequency	Percentage
Sometimes notice targeted ads	19	54.3%
Always notice	13	37.1%
Rarely notice	3	8.6%

(Source: Primary data collected by researcher, 2026)

The data indicates that **91.4%** of respondents (Sometimes + Always) do notice that online advertisements reflect their past searches or browsing behaviour, confirming a high level of AI-personalization visibility among consumers.

Table 4: Usefulness of AI-Based Recommendations

Response	Frequency	Percentage
Yes, useful	17	48.6%

Response	Frequency	Percentage
Don't notice these	13	37.1%
No, not useful	5	14.3%

(Source: Primary data collected by researcher, 2026)

Table 5: Influence of AI Recommendations on Purchases

Response	Frequency	Percentage
Sometimes bought due to recommendation	17	48.6%
Never	13	37.1%
Frequently	5	14.3%

(Source: Primary data collected by researcher, 2026)

Nearly **63%** of respondents (Sometimes + Frequently) reported making at least occasional purchases based on AI-driven recommendations rather than active search, demonstrating AI's direct role in shaping purchase decisions.

Table 6: Perceived Intrusiveness of Personalized Ads

Response	Frequency	Percentage
Sometimes felt ads "know too much"	20	57.1%
Often	9	25.7%
Never	6	17.1%

(Source: Primary data collected by researcher, 2026)

A significant majority (**82.8%**, Sometimes + Often) reported feeling that personalized ads knew more about them than expected, indicating a widespread perception of intrusiveness.

Table 7: Trust in Data Usage by Apps/Sites

Response	Frequency	Percentage
Not sure	19	54.3%
No	8	22.9%
Yes	8	22.9%

(Source: Primary data collected by researcher, 2026)

Only **22.9%** of respondents expressed clear trust in how their data is used for advertising purposes, while the majority remain uncertain — reflecting the "personalization paradox" discussed by Aguirre et al. (2015).

Table 8: Chatbot Usage While Shopping

Response	Frequency	Percentage
No, never used one	17	48.6%
Yes, it helped	15	42.9%

Response	Frequency	Percentage
Yes, but didn't help	3	8.6%

(Source: Primary data collected by researcher, 2026)

Table 9: Impulse Buying Due to Online Recommendations

Response	Frequency	Percentage
Sometimes buy more than planned	22	62.9%
Frequently	7	20.0%
Never	6	17.1%

(Source: Primary data collected by researcher, 2026)

Notably, **82.9%** of respondents (Sometimes + Frequently) admitted that online recommendations lead them to buy more than they originally planned, strongly supporting the influence of AI-driven marketing on impulse buying behaviour.

Qualitative Insights (Open-Ended Responses)

Analysis of open-ended responses revealed several recurring themes:

- **Convenience and relevance:** Many respondents noted that AI recommendations help them "find relevant products quickly" and "save time."
- **Privacy concern:** A number of respondents expressed unease that personalized ads use their data "at a high risk," reflecting the trust gap identified in Table 7.
- **Ad fatigue:** Some respondents described AI-driven ads as "repetitive" and "irritating," particularly on video platforms.
- **Mixed sentiment:** A considerable share of respondents felt the impact was "sometimes better, sometimes worse," depending on how relevant the recommendation felt.

Conclusion

This study examined the impact of artificial intelligence in digital marketing on consumer buying behaviour, based on primary data collected from 35 respondents. The findings reveal that AI-powered personalization is widely noticed by consumers, with over 90% recognizing that online advertisements reflect their past behaviour, and nearly 63% admitting to having purchased products based on AI-driven recommendations rather than active searching. Furthermore, a striking 82.9% of respondents reported buying more than originally planned due to online recommendations, confirming that AI-powered marketing tools meaningfully drive impulse buying behaviour.

However, the study also highlights a significant trust gap — only 22.9% of respondents expressed clear trust in how their personal data is used for advertising, while the majority remain uncertain, and over 80% reported feeling that ads "know too much" about them. This reflects the personalization paradox identified in existing literature, where consumers value relevant recommendations but remain wary of the data practices behind them.

Overall, the study concludes that AI-powered digital marketing tools have a strong positive influence on consumer buying behaviour, but this influence is moderated by consumer trust and comfort with data usage. Brands seeking to leverage AI-driven personalization should prioritize transparency in data

practices to strengthen consumer trust, while being mindful of the risk of ad fatigue and perceived intrusiveness diminishing long-term engagement.

Limitations:

This study is based on a relatively small sample size (35 respondents) using convenience sampling, which limits the generalizability of findings. Future research could expand the sample size and explore differences in AI marketing perception across specific demographic segments.

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