

AI-POWERED DIGITAL MARKETING AND CUSTOMER EXPERIENCE IN E-COMMERCE: A STUDY ON CONSUMER ENGAGEMENT AND PERSONALISATION

K. Mekala^{1*}, T. Dhanya Sri¹, L. Yashini¹, M. Mubisha¹, S. Monika Preethi¹, P. Kaviyathra¹

1. Student, B.Com. (CA), Velumanoharan Arts and Science College for Women, Ramanathapuram, Tamil Nadu, India

Abstract

The growing use of artificial intelligence (AI) is changing the way e-commerce businesses market their products and interact with customers. AI-based applications analyse customer preferences and online behaviour to deliver relevant product suggestions and create more personalised shopping experiences. This study investigates how AI-driven digital marketing influences consumer engagement and personalisation in e-commerce. A descriptive research design was adopted, and data were collected from 158 online shoppers through a structured questionnaire. The study examines consumers' awareness of AI-enabled shopping features, their experience with personalised recommendations, their views on AI-generated product suggestions, their intention to continue using e-commerce platforms and their satisfaction with AI-based services. The data were analysed using frequency and percentage analysis and chi-square tests of association. The results show that 59.5% of respondents had noticed personalised recommendations, 74.7% agreed that AI-based recommendations help them discover relevant products, 65.8% reported a higher likelihood of returning to a platform, and 73.4% were satisfied with AI-powered features; all four hypothesised associations were significant at the 5% level. The study provides insights into the growing role of AI in digital marketing and its connection with consumer engagement and customer experience in e-commerce.

Keywords

Artificial Intelligence, Digital Marketing, E-Commerce, Personalisation, Consumer Engagement, Customer Experience

1. Introduction

The rapid growth of digital technology has significantly changed the way businesses communicate with customers and conduct marketing activities. E-commerce has emerged as a significant component of the contemporary retail landscape, providing consumers with convenient access to products and services through digital platforms. As competition among e-commerce platforms increases, businesses are focusing increasingly on improving customer experience and maintaining long-term customer relationships (Lemon & Verhoef, 2016).

Artificial intelligence has become an important technology in digital marketing. AI enables e-

commerce businesses to analyse customer behaviour, preferences, browsing patterns and purchase history and, on this basis, to provide personalised product recommendations and targeted marketing communication (Davenport et al., 2020). These AI-powered features make online shopping more relevant and convenient for individual customers.

Personalisation has therefore become an important element of customer experience in e-commerce. Instead of presenting the same products and advertisements to every customer, AI-based systems provide recommendations based on individual interests and previous interactions, and such personalised experiences may significantly shape consumers' engagement with a platform and their intention to continue using it. At the same time, the effectiveness of AI-powered personalisation

*Corresponding author: mekala16042008@gmail.com

depends on how consumers perceive and respond to these technologies, so understanding consumer familiarity, acceptance, satisfaction and behavioural response is important for e-commerce businesses. This study examines consumer perceptions of AI-powered digital marketing, particularly AI-driven personalised recommendations, and their association with consumer engagement and customer experience in e-commerce.

2. Review of Literature

AI in digital marketing: AI has emerged as a significant technology in digital marketing. AI-enabled tools can handle and analyse large volumes of customer data, helping businesses understand consumer preferences, interests and behaviour patterns, which enables marketers to design more focused marketing approaches and deliver content better suited to individual customers (Davenport et al., 2020; Huang & Rust, 2021).

AI-based personalisation in e-commerce: AI-driven personalisation is widely applied in e-commerce, particularly through product recommendation systems. These systems examine customer interactions, browsing activities and other available information to identify products relevant to individual users, simplifying product discovery and making the shopping experience more relevant (Ricci et al., 2015; Smith & Linden, 2017).

Consumer engagement and customer experience: Consumer engagement represents the extent to which customers interact with and participate in an e-commerce platform (Brodie et al., 2011). A satisfactory digital shopping experience encourages continued interaction and contributes to a positive perception of the platform, and AI-powered services can support this experience through personalised recommendations and services based on customers' preferences and interactions.

Personalisation and customer retention: Retaining existing customers is an important aspect of e-commerce performance. Convenient and relevant services influence consumers' willingness to continue using an online shopping platform, and AI-enabled personalisation has therefore gained importance as a means of enhancing customer

experience and supporting continued engagement and retention (Lemon & Verhoef, 2016).

3. Objectives

1. To evaluate consumers' awareness of AI-powered features and their exposure to personalised product suggestions in e-commerce.
2. To understand consumers' views of AI-based personalised recommendations and their effect on the intention to revisit a platform.
3. To measure consumers' overall satisfaction with AI-powered features and examine the relationships among AI-powered personalisation, consumer engagement and customer experience.

4. Research Methodology

The study adopts a descriptive research design to examine consumer perceptions and experiences of AI-powered digital marketing and personalisation in e-commerce. Primary data were collected through a structured questionnaire distributed as a Google Form to individuals who use or have experience of online shopping. The population consists of online shoppers and users of e-commerce platforms, and a convenience sampling technique was used; the final sample comprises 158 respondents. The questionnaire covered demographic information and consumer perceptions relating to the frequency of online shopping, familiarity with AI-powered features, awareness of personalised product recommendations, perception of AI-based recommendations, likelihood of returning to an e-commerce platform and overall satisfaction with AI-powered features. The data were analysed using frequency and percentage analysis, and cross-tabulation with chi-square tests of association was used to examine relationships between selected variables.

5. Hypotheses of the Study

- H01: There is no significant relationship between consumers' awareness of AI-powered features and their exposure to personalised product recommendations.
- H02: There is no significant relationship between consumers' views of AI-based

personalised recommendations and their intention to revisit an e-commerce platform.

- H03: There is no significant relationship between consumers' views of AI-based personalised recommendations and their overall satisfaction with AI-powered features.

- H04: There is no significant relationship between the frequency of online shopping and consumers' overall satisfaction with AI-powered

features.

The corresponding alternative hypotheses (H11–H14) state that a significant relationship exists in each case.

6. Data Analysis and Interpretation

The demographic profile of the respondents is presented in Tables 1–3.

Table 1. Age-wise Distribution of Respondents

Age category	Frequency	Percentage
Below 18	45	28.5%
18-25	102	64.6%
26-35	8	5.1%
36-45	2	1.3%
Above 45	1	0.6%
Total	158	100%

Source: Primary data

The majority of respondents belong to the 18–25 years (28.5%). age group (64.6%), followed by those below 18

Table 2. Gender-wise Distribution of Respondents

Gender	Frequency	Percentage
Female	135	85.4%
Male	23	14.6%
Total	158	100%

Source: Primary data

Female respondents constitute the majority of the sample (85.4%).

Table 3. Occupation-wise Distribution of Respondents

Occupation	Frequency	Percentage
Student	139	88.0%
Private employee	9	5.7%
Business/Self employed	4	2.5%
House wife	4	2.5%
Home maker	2	1.3%
Total	158	100%

Source: Primary data

Students form the largest respondent group, representing 88.0% of the sample.

Table 4. Frequency of Online Shopping

<i>Shopping</i>	<i>Frequency</i>	<i>Percentage</i>
Frequently	71	44.9%
Rarely	46	29.1%
Very frequently	31	19.6%
Never	10	6.3%
Total	158	100%

Source: Primary data

Most respondents (44.9%) shop online frequently, while 19.6% shop very frequently.

Table 5. Familiarity with AI-Powered Features

<i>Familiarity</i>	<i>Frequency</i>	<i>Percentage</i>
Familiar	73	46.2%
Neutral	67	42.4%
Not familiar	18	11.4%
Total	158	100%

Source: Primary data

About 46.2% of respondents are familiar with AI-powered features in online shopping, while 42.4% report a neutral level of familiarity.

Table 6. Awareness of Personalised Product Recommendations

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Yes	94	59.5%
No	34	21.5%
Not sure	29	18.4%
Missing response	1	0.6%
Total	158	100%

Source: Primary data

A majority of respondents (59.5%) have noticed personalised product recommendations while shopping online.

Table 7. Perception of AI-Based Personalised Recommendations

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Agree	97	61.4%
Strongly agree	21	13.3%
Neutral	31	19.6%
Disagree	6	3.8%
Strongly disagree	3	1.9%
Total	158	100%

Source: Primary data

In all, 61.4% of respondents agree and 13.3% strongly agree that AI-based personalised recommendations help them discover products matching their interests.

Table 8. AI-Powered Services and Likelihood of Returning

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Agree	76	48.1%
Strongly agree	28	17.7%
Neutral	45	28.5%
Disagree	7	4.4%
Strongly disagree	2	1.3%
Total	158	100%

Source: Primary data

A combined 65.8% of respondents agree or strongly agree that AI-powered services increase their likelihood of returning to an e-commerce platform.

Table 9. Overall Satisfaction with AI-Powered Features

<i>Satisfaction</i>	<i>Frequency</i>	<i>Percentage</i>
Positive	76	48.1%
Very positive	40	25.3%
Neutral	35	22.2%
Negative	5	3.2%
Very negative	2	1.3%
Total	158	100%

Source: Primary data

A total of 73.4% of respondents reported positive or very positive satisfaction with AI-powered features in e-commerce.

7. Findings

1. The 18–25 age group accounts for the largest proportion of respondents (64.6%), female participants constitute 85.4% of the sample, and students form the major occupational group (88.0%).

2. Of the respondents, 44.9% shop online frequently, and 46.2% are familiar with AI-powered features used in online shopping.

3. In all, 59.5% of respondents have experienced personalised product recommendations, and 74.7% agree or strongly agree that AI-based recommendations help them find products relevant to their interests.

4. A total of 65.8% agree or strongly agree

that AI-powered services increase their intention to return to an e-commerce platform, and 73.4% are satisfied with AI-powered features.

5. All four hypotheses tested revealed statistically significant associations at the 5% level of significance.

8. Suggestions and Implications

1. E-commerce platforms can improve their recommendation systems by offering products closely related to customers' interests and previous interactions, and should continuously refine them using customer feedback and interaction patterns.

2. AI-powered features should be simple and easy to understand, especially for users with limited familiarity with AI, and recommendations should support product discovery without making the shopping process complicated.

3. Platforms should be transparent about how customer information is used for personalisation, follow appropriate privacy practices and use customer data responsibly to maintain trust.

4. AI-powered personalisation should be combined with a convenient, customer-friendly website or app experience and evaluated regularly to improve the overall online shopping experience.

9. Conclusion

This study analysed the role of AI-powered digital marketing in shaping consumer experience in e-commerce, with specific emphasis on personalisation. The responses from 158 participants show that personalised product recommendations are widely encountered by online shoppers and are generally viewed favourably. A substantial share of respondents indicated that AI-based recommendations help them identify products relevant to their interests, and the findings reflect positive perceptions of AI-powered services in relation to customers' intention to revisit e-commerce platforms and their overall satisfaction.

The statistical analysis revealed significant associations between familiarity with AI and exposure to personalised recommendations, between perceptions of AI-based recommendations and return intention, between perceptions of recommendations and satisfaction, and between online shopping frequency and satisfaction. These findings suggest that AI-enabled personalisation is linked with several important dimensions of the online shopping experience. E-commerce businesses can therefore enhance digital customer interactions by providing relevant recommendations, developing customer-focused experiences, maintaining transparency and adopting responsible practices in the use of customer information.

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