

Personalization versus Privacy: Exploring Consumer Responses to AI-Driven Marketing Strategies in Digital Commerce

¹Dr. Anjaly H, ²Dr. Karthika M, ³Arathy A

¹Assistant Professor, Department of MBA, TKM Institute of Management, Karuvelil, Kollam, Kerala

²Assistant Professor, Department of MBA, TKM Institute of Management, Karuvelil, Kollam, Kerala

³Assistant Professor, Department of MBA, TKM institute of Management, Karuvelil, Kollam, Kerala

Abstract

The digital commerce landscape has been transformed by Artificial Intelligence (AI), and it has had a significant impact on how businesses connect with their customers. AI-powered marketing tactics enable companies to analyze vast quantities of customer details, predict purchasing patterns, and deliver customized suggestions. While personalisation can provide a better and more efficient customer experience and enhance business performance, it also presents customer privacy concerns, data security risks and ethical data usage issues. The article was limited to the contradictory aspects of personalization and privacy in AI-driven marketing for digital commerce finance. It explores consumer perceptions and behavioural reactions, the nature of trust, regulatory aspects and implications for companies' strategies. This study examines consumer responses to AI-driven marketing strategies, focusing on the relationship between personalization benefits, privacy concerns, consumer trust, and purchase intentions. A quantitative research design was employed using a structured questionnaire administered to 200 respondents selected through convenience sampling. Descriptive statistics and Analysis of Variance (ANOVA) were used to analyze the data. The study concludes that while AI-powered personalization enhances consumer engagement and purchase intentions, privacy protection and data security remain critical for building trust. Organizations should adopt transparent and ethical AI practices that balance personalized services with robust privacy safeguards to achieve sustainable consumer relationships in digital commerce finance.

Keywords: Artificial Intelligence, Personalized Marketing, Privacy Concerns, Consumer Trust, Digital Commerce Finance, Purchase Intention and Predictive Analytics.

Introduction

The shift to digital commerce has sped up the use of AI in marketing. AI technologies have gained traction in marketing careers during the digital revolution of business. AI systems analyze consumer behavior and browsing patterns, as well as demographic profiles, to tailor the marketing experience for each user. The monetary aspect of digital commerce adds to the importance of AI. Smart algorithms are employed in online payment solutions, digital wallets, e-commerce platforms, and fintech tools to offer customised financial services and products. These innovations provide the convenience and engage customers in a better way. They also need a lot of data gathering and processing, and consumer privacy is an issue. It's a complex environment today—and consumers want things to be convenient and personalized, with often the sacrifice of their personal information. Although many users appreciate the recommendations and offers they are able to use, they are cautious on how an organization collects, stores and uses the data. The challenge is then to build consumer trust in AI when businesses can make the best of AI technologies. The article explores how consumers are reacting to AI-powered marketing tactics in digital commerce finance, delving into the tension between personalisation and privacy issues.

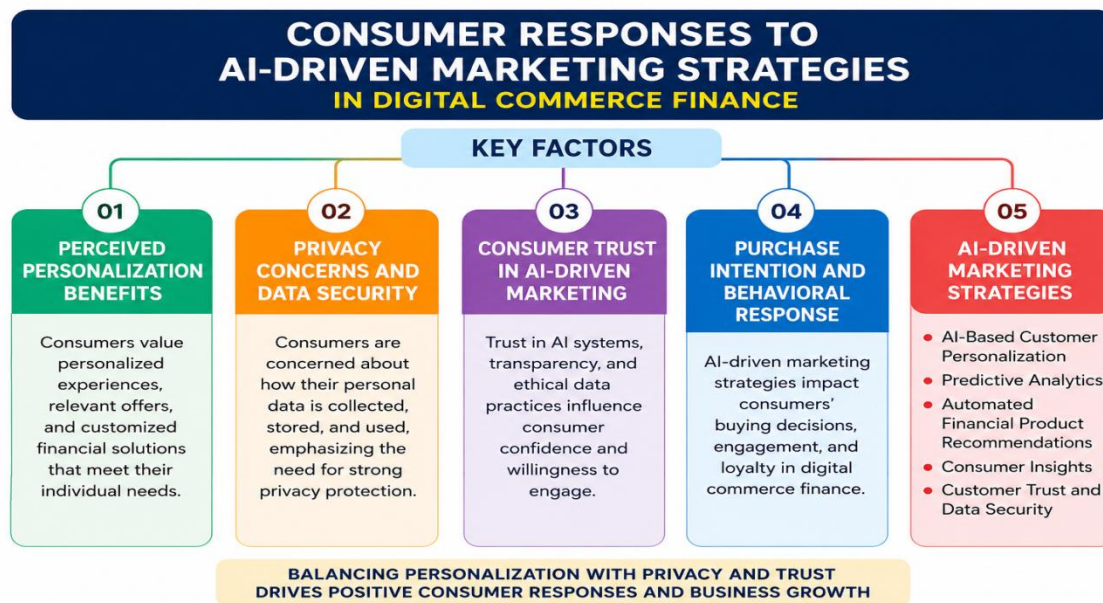


Figure: 1

AI-Driven Personalization in Digital Commerce

1. **Product Recommendations:** One of the most significant approaches in digital marketing that is driven by AI is product recommendations. One of the most ground-breaking personalisation strategies for digital commerce is the application of AI product suggestions. Artificial Intelligence can also predict products that would be most relevant to individual customers, by analyzing their purchase history, browsing behavior, search patterns, and preferences. However, these systems learn by changing their algorithms as time goes on, becoming more intelligent the more they're used and consequently making more accurate recommendations and customer satisfaction over time. Recommendations allow different consumers to discover items that are more aligned with their interests and may heighten their chances of finding items via their searches and enhance the shopping experience. The businesses benefit from increased sales volume, higher customer retention and customer average order value (AOV). Additionally, the suggestions provided by AI will enhance the shopping experience by providing a more personalized and customer-oriented approach, which will lead to increased brand loyalty. As digital commerce continues to grow, intelligent recommendation systems are becoming more important as a means to significantly enable the performance and satisfaction of the businesses.

2. **Targeted Advertising:** An AI-powered advertising platform automatically fine-tunes ad placement, content and timing for the highest engagement and conversion rate. Businesses are able to achieve improved ROI, reduced advertising spend, and improved marketing effectiveness. Moreover, the customers also get advertisements that are relevant to them as opposed to random ones. Moreover, predictive analytics can help companies anticipate customer needs and develop proactive marketing campaigns. As the e-Commerce landscape evolves, AI-powered targeted advertising is reshaping the brand's ability to attract, retain and engage customers. Digital commerce is becoming more competitive and AI-based targeted marketing is a crucial tool for brands to attract, engage and retain customers.

3. **Dynamic Pricing:** Dynamic pricing is a good technique that ecommerce companies employ to adjust the prices in a timely manner as per the changes in the demands and preferences of the customers. For example, if the demand for goods and services is higher, the online retailers can hike the prices while in the event that there is a low demand the online retailers can reduce the price. AI systems are always on the lookout for market conditions and automatically adjust prices when necessary. The customers may also get tailored discounts, offers and competitive pricing benefits. This results in higher businesses profit, better inventory management, and better responsiveness to the markets. There must be a level of transparency and fairness to establish trust

with the customer. Dynamic pricing tools powered by AI can be leveraged responsibly to enhance both the business and customer interest in the eCommerce industry.

4. Customer Support Automation: Automated support enables to address basic customer questions, such as order tracking, account administration, product inquiries, and troubleshooting, while relieving the workload of human support representatives. This enhances the efficiency and ensures uniformity in customer service. AI can also gauge customers' sentiment, and prioritize complicated issues that necessitate human intervention. An interaction that is customized results in greater customer satisfaction, as the right and proper information is offered to the customer at the right time. This results in the satisfaction of the customers, quick response time and reduced service cost, leading to increased customer retention. Furthermore, the majority of AI systems are trained on a continuous basis as they engage with its users, ensuring that they can constantly improve and render better service. With the growth of digital commerce, automation of customer support is a vital part of delivering personalized customer experiences.

Research Gap

In the digital commerce and financial services industry, Artificial Intelligence (AI) has revolutionised the way products and services are delivered to consumers, delivering a personalised experience through data-driven decision making, predictive analytics and personalisation. AI in financial services and digital commerce is a transformative technology; it can be leveraged to optimise personalisation for customers in marketing and recommendations and boost customer engagement. While a number of studies have examined various aspects of the role of AI in business performance and its impact, few studies have tried to measure consumer perceptions of AI marketing strategies in the digital commerce and finance integrated world. Previous research tends to examine either personalisation or privacy issues separately, neglecting to take account of how personalisation and privacy might interact to contribute to consumer trust, purchase intention and behavioural reactions. Moreover, no empirical data is available concerning the relative importance of AI-based customer personalisation, predictive analytics, automated financial product recommendations, consumer trust and data security, and consumer insights to consumers' acceptance. AI technologies have also rapidly evolved, leading to novel challenges with transparency and ethical data manipulation and privacy protection not fully explored in consumer behavior research. Literature on the trade-off between personalisation and privacy is scarce in India, especially among the various user groups of the digital.

Statement of the Problem

Artificial Intelligence (AI) has become a key part of the digital commerce and financial service industry, revolutionising marketing methodologies with its ability to create personalised customer interactions, predictive analytics, and automated product recommendations. These developments have several advantages with respect to efficiency, convenience and interaction with the customer though they also pose privacy and data security concerns, transparency and consumer trust issues. Many users like the idea of an AI system making experiences and services more personalized for them, but they may not want to give their personal data up, for fear that it will be misused, accessed by others, or over-monitored. For businesses, it's a hurdle to ensure they're using AI marketing strategies effectively without losing customer trust and credibility. To businesses, it's a challenge to leverage artificial intelligence (AI) marketing strategies effectively while maintaining trust and credibility with their customers. These consumer perceptions vary can affect their buying choices, engagement, and overall acceptance of AI-powered marketing tactics. Despite all these developments, there is still a shortage of studies that empirically explore these aspects, from consumers' perspectives. Thus, the current study aims to explore how AI marketing tactics affect consumer behavior and to determine the main factors affecting trust, privacy perceptions, and behavioral outcomes, which can guide organizations in the implementation of effective and responsible marketing strategies with AI tools.

Analysis, findings and Results

Businesses would find the outcome of this research useful, as it will provide data on consumer perceptions of personalization capabilities, predictive insights, AI-driven financial advice and security protocols. The outcomes will help digital commerce services, financial institutions and marketers develop AI strategies focused on customers that align with customer expectations and privacy requirements. The research also aids in knowledge creation, which can inform adoption decisions by providing a description of factors that affect the decision to purchase, and the corresponding behaviour. Additionally, given increased awareness on data privacy and the ethics of AI use, the study offers valuable counsel to companies seeking to leverage AI to apply personalization and keep to ethical concerns.

Table 1: Personalization versus Privacy

Factors	Mean	SD	F	P
Perceived Personalization Benefits	29.1774	7.47570	5.739	.000
Privacy Concerns and Data Security	33.7632	3.57494		
Consumer Trust in AI-Driven Marketing	33.6415	7.09576		
Purchase Intention and Behavioral Response	34.7391	5.97888		

The mean scores indicate that Purchase Intention and Behavioral Response recorded the highest mean value (Mean = 34.7391, SD = 5.97888), followed by Privacy Concerns and Data Security (Mean = 33.7632, SD = 3.57494), Consumer Trust in AI-Driven Marketing (Mean = 33.6415, SD = 7.09576), and Perceived Personalization Benefits (Mean = 29.1774, SD = 7.47570). The ANOVA result shows a statistically significant difference among the factors ($F = 5.739$, $p = 0.000$), indicating that consumers perceive these dimensions of AI-driven marketing differently. The findings suggest that consumers' purchase intentions and behavioral responses are most strongly influenced by AI-driven marketing strategies, highlighting the effectiveness of AI in shaping buying decisions. At the same time, privacy concerns and data security remain important considerations, reflecting consumers' awareness of how their personal data is collected and used. The significant F-value and p-value indicate that the impact of personalization, privacy concerns, trust, and purchase behavior varies considerably among consumers. Therefore, organizations implementing AI-driven marketing should balance personalized experiences with robust privacy protection measures to enhance consumer trust and encourage positive behavioral responses.

Table 2: AI-Driven Marketing Strategies

Factors	Mean	SD	F	P
AI-Based Customer Personalization	31.8333	3.93056	3.239	0.013
Predictive Analytics	33.5556	8.21974		
Automated Financial Product Recommendations	29.0000	6.94468		
Customer Trust and Data Security	33.8214	4.16381		
Consumer Insights	33.1059	7.02211		

The mean score analysis reveals that Customer Trust and Data Security obtained the highest mean value (Mean = 33.8214, SD = 4.16381), followed by Predictive Analytics (Mean = 33.5556, SD = 8.21974), Consumer

Insights (Mean = 33.1059, SD = 7.02211), AI-Based Customer Personalization (Mean = 31.8333, SD = 3.93056), and Automated Financial Product Recommendations (Mean = 29.0000, SD = 6.94468). The ANOVA result indicates a statistically significant difference among the factors ($F = 3.239$, $p = 0.013$), showing that respondents perceive the influence of various AI-driven marketing strategies differently. The results indicate that Customer Trust and Data Security is the most influential factor in AI-driven marketing strategies within digital commerce and finance. This suggests that consumers place significant importance on the security of their financial information and trustworthiness of AI systems. Predictive Analytics and Consumer Insights also received high mean scores, implying that consumers recognize the value of AI in understanding their preferences and forecasting their needs. Conversely, Automated Financial Product Recommendations recorded the lowest mean score, suggesting relatively lower acceptance or perceived effectiveness of fully automated recommendations. The significant F-value and p-value confirm that the impact of these AI-driven marketing dimensions differs significantly across respondents, emphasizing the need for organizations to strengthen trust, security, and analytical capabilities while improving the relevance and transparency of automated recommendations.

Implications of the Study

The findings of this study provide important theoretical and practical implications for digital commerce finance organizations utilizing AI-driven marketing strategies. The study highlights that AI-powered personalization significantly influences consumer purchase intentions and behavioral responses, demonstrating the effectiveness of intelligent marketing technologies in enhancing customer engagement and business performance. However, the results also emphasize that privacy concerns and data security remain critical issues that directly affect consumer trust. These findings suggest that organizations should not focus solely on personalization but must also prioritize transparent data management practices and robust cybersecurity measures. From a managerial perspective, the study offers valuable insights for marketers, financial institutions, and digital commerce platforms in designing customer-centric AI applications that balance personalization with privacy protection. The research further contributes to the growing body of knowledge on AI adoption in marketing by identifying the interconnected roles of trust, privacy, predictive analytics, and consumer insights in shaping customer behavior. Policymakers and regulatory authorities may also benefit from these findings by developing guidelines that encourage ethical AI implementation while safeguarding consumer data. Overall, the study underscores the necessity of integrating technological innovation with ethical and privacy-focused practices to foster sustainable consumer relationships and long-term organizational success.

Recommendations and Suggestions

Based on the findings of the study, several recommendations can be made to improve the effectiveness of AI-driven marketing strategies in digital commerce finance. First, organizations should strengthen data privacy and security frameworks by implementing advanced encryption technologies, secure data storage systems, and transparent privacy policies to enhance consumer confidence. Second, marketers should ensure that AI-based personalization is conducted ethically and transparently, providing consumers with greater control over their personal information and preferences. Third, financial institutions and digital commerce platforms should invest in explainable AI systems that clearly communicate how recommendations and personalized offers are generated, thereby improving trust and acceptance among consumers. Fourth, continuous monitoring and evaluation of AI algorithms should be undertaken to minimize bias, ensure fairness, and maintain accuracy in customer targeting and financial product recommendations. Organizations should also conduct regular consumer awareness programs to educate customers about the benefits and safeguards associated with AI-driven services. Future researchers are encouraged to examine additional factors such as consumer demographics, cultural influences, and technological literacy that may affect responses to AI-driven marketing. Longitudinal and cross-country studies may further provide deeper insights into evolving consumer attitudes toward AI applications in digital commerce finance.

Conclusion

Consumers enjoy highly personalised experience, and AI-driven marketing is reshaping the digital commerce finance space. Personalisations of recommendations and recommendations for financial services and predictive analytics have tremendous potential for the consumer as well as the business sectors. But at the same time these advantages come with a host of privacy issues regarding data collection, surveillance, security and control. Consumer perception of benefits, privacy concerns, and consumer trust are all factors that impact the acceptance of AI-powered marketing strategies. Consumers appreciate tailored services and desire that there should be no invasion of their privacy, including ensuring that the organisation's activity is transparent with regard to privacy. Sometimes consumers do not act in a privacy-considerate manner: this is demonstrated by the privacy paradox. The study examined consumer responses to AI-driven marketing strategies in digital commerce finance by focusing on personalization benefits, privacy concerns, consumer trust, purchase intentions, and key AI-based marketing practices. The findings reveal that AI-driven marketing significantly influences consumer purchase intentions and behavioral responses, demonstrating its effectiveness in enhancing customer engagement and decision-making. At the same time, consumers exhibit considerable concern regarding privacy and data security, highlighting the importance of responsible data management practices.

The analysis further indicates that customer trust and data security, predictive analytics, and consumer insights play critical roles in shaping positive consumer perceptions toward AI-driven marketing. The significant differences observed among the studied factors suggest that consumers evaluate personalization benefits, trust, privacy concerns, and marketing strategies differently. These variations emphasize the need for organizations to adopt a balanced approach that delivers personalized experiences while ensuring transparency, security, and ethical use of consumer data.

Overall, the study concludes that the success of AI-driven marketing in digital commerce finance depends not only on technological capabilities but also on maintaining consumer trust through robust privacy protection measures. Organizations that effectively balance personalization with privacy and security are more likely to strengthen customer relationships, improve purchase intentions, and achieve long-term competitive advantage in the digital marketplace.

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