



Original Article

IMPACT OF ARTIFICIAL INTELLIGENCE AND SOCIAL MEDIA ON E-COMMERCE

Miss. Mrunmayee Milind Bendke

Research Student,

Department of Commerce and Management, Shivaji University, Kolhapur

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Corresponding Author:
Miss. Mrunmayee Milind Bendke

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Abstract:

In the today's digital economy, rapid technological progress has significantly altered the structure of retail markets. Artificial Intelligence (AI) and social media have emerged as the most influential factors driving the growth of e-commerce among these developments. This paper explores the role of AI and social media as interconnected technologies. Artificial Intelligence (AI) and social media enhance online retail operations and consumer engagement. AI enables automation, predictive decision-making and personalized customer experiences, while a social media platform provides real-time interaction and social commerce.

This paper shows how the AI integrated with social media improves market efficiency. They reshape online purchasing behaviour of consumers. The findings indicate increased sales performance and customer satisfaction. They also highlight increasing crucial concerns related to data privacy, algorithmic transparency, and ethics to be followed in use of consumer information

Keywords: *Artificial Intelligence, Social Media, E-Commerce, Consumer Behaviour, Digital Marketing, Predictive Analytics:*

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Introduction:

Technological advancement gave birth to the modern business environment. Once E-commerce was limited to simple online transactions. Now it has evolved into an essential part of day -

today's life. In recent years, the focus of online retail has shifted from mere product availability to the creating the meaningful and personalized shopping experiences. By 2026, e-commerce has evolved into an experience-driven ecosystem. It is



largely influenced by Artificial Intelligence and social media platforms.

Artificial Intelligence has developed beyond basic recommendation systems. It is advanced as model capable of generating customized shopping experiences in real time. On the other hand, social media platforms have transformed into integrated commercial spaces. On social media consumers can discover, evaluate, and purchase their favourite products without leaving the application. This has helped significantly to reduce the gap between product discovery and purchase.

The present study investigates how businesses utilize AI within social media space to simplify and accelerate the online shopping process.

Research Objectives:

The objectives of the study are as follows:

- To study the role of Artificial Intelligence in enhancing various stages of the e-commerce supply chain.
- To analyse the influence of social media platforms on contemporary consumer decision-making.
- To identify privacy and ethical issues arising from the integration of AI and social media technologies.
- To offer practical recommendations for businesses aiming to adopt these technologies responsibly.

Methodology:

The study is based on a comprehensive review of academic literature, industry reports, and market data published between 2021 and 2026. Secondary data were collected from available sources such as Gartner, Statista, and e-commerce platforms.

Industry reports indicate that the global AI-driven e-commerce market is projected to reach

approximately USD 22.6 billion by 2032. In addition, case studies of social commerce platforms such as Instagram and Facebook Shops were analysed to understand the operational application of AI.

Analysis and Findings:

Personalization is one of the most significant contributions of AI to e-commerce. Studies show that a majority of consumers prefer brands that offer personalized recommendations. Advanced AI systems analyse user behaviour, preferences, location, and contextual factors. It suggests relevant products to the consumers. Retailers also employ AI-based forecasting tools to forecast requirements with high accuracy. It helps them to reduce overstocking and operational waste. Virtual try-on of AI-powered technology is introduced. It has significantly lowered return rates in the fashion industry.

Social media has also redefined the purchasing environment. It transformed digital platforms into active marketplaces. Social commerce is expanding at a faster than traditional e-commerce models. AI assists brands are identifying suitable influencers by analysing engagement quality rather than follower numbers alone. Additionally, live-stream shopping has emerged as a highly effective sales strategy. It enables real-time interaction between sellers and consumers. When combined, AI and social media algorithms curate content visibility, enhance brand engagement, and influence purchasing decisions, resulting in measurable growth in consumer interaction and sales.

Recommendations for Industry:

- **Transparency in Data Usage:** As consumer awareness of AI bias and data misuse increases, companies must clearly communicate how customer data is collected and used.



- **Adoption of AI-Driven Agents:** Businesses should consider implementing AI agents capable of handling customer queries, managing returns, and offering personalized assistance.
- **Consistency across Platforms:** The quality of the shopping experience on social media platforms should match that of the company's primary website to ensure customer trust and satisfaction.

Conclusion

Artificial Intelligence and social media are not merely enhancing existing e-commerce practices; they are fundamentally redefining the retail landscape. AI enables personalized, data-driven interactions, while social media provides a dynamic environment for consumer engagement. Together, these technologies are moving e-commerce towards a zero-friction model where purchasing becomes seamless and intuitive. However, the long-term success of this

transformation depends on the ethical and transparent use of technology. Businesses must prioritize consumer trust alongside innovation to ensure sustainable growth in the digital marketplace.

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