



## Benefits and Role of Artificial Intelligence (AI) in E-Commerce

**Dr. Amol J. Veer**

*Assistant Professor, Department of Commerce,  
Mahatma Phule Mahavidyalaya, Pimpri, Pune.*

*Corresponding Author – Dr. Amol J. Veer*

**DOI - 10.5281/zenodo.17986787**

### **Abstract:**

*Artificial Intelligence (AI) is now a widely recognized concept, steadily gaining significance and application across all aspects of life, including healthcare, biology, technology, and business. We frequently interact with AI in our daily routines, often without realizing it. E.g. Include using facial recognition (face ID) to unlock phones, predictive text, and autocorrect based on typing patterns. AI's practical applications are visible both domestically and publicly, as seen in driverless cars, voice recognition, recommendation engines, and automated robots. Another concept in article is e-commerce. E-commerce is the online platform of buying and selling goods and services by internet. It involves the exchange of products, commodities through online. This study is helpful to describing the role of AI in E-commerce. So, researcher has select this research topic.*

**Keywords:** *AI, E-Commerce, Online Platforms.*

### **Introduction:**

The whole world has now become one big market, with various platforms available for buying and selling commodities. E-commerce is one of the most widely used platforms globally. India is a growing country, and therefore the use of online commerce platforms has reached a significantly high number. At the same time, AI is also playing a vital role in trading. The use of AI technology in e-commerce is increasing day by day. AI can sometimes act as a substitute for human effort, which is why many companies incorporate AI tools into their production and sales processes. Nowadays, the use of AI has become an essential element in commerce. There is a strong correlation between AI and e-commerce. Both are important elements in

the global market, and together they contribute significantly to increasing revenue.

**A) Artificial Intelligence (AI):** Artificial Intelligence (AI) is the set of technologies that process the data and making predictions or decisions based on findings. AI uses the data from various sources which linked with internet to make decision. Artificial Intelligence is the science and engineering of creating intelligent machines that can perform tasks that normally require human intelligence. These tasks including-understanding natural languages like speech and text, recognizing images or sounds, learning from data and experience, solving problems and making decisions. Nowadays AI is very important tools for accessing data and interpreting various problems.

**B) E-Commerce:** E-Commerce means electronic commerce. E-Commerce plays a very crucial role in the buying and selling commodities through online platform. E-commerce accounts for a total of 19.5% to 20.5 % of sales in all over world.

#### **Review of Literature:**

Artificial intelligence (AI) is transforming e-commerce by analyzing data and applying insights to accomplish specific objectives through intelligent decision-making (Akter et al., 2021; Kaplan & Haenlein, 2019)

Dr. S. Shanmugapriya & S. Pavithra published their article in (India 2.0: Vision for India 2047 - Digital Ecosystem & Harnessing Artificial Intelligence in 2024), they conclude that artificial intelligence is playing a major role in advancing innovative solutions and enhancing customer experiences in e-commerce. Some of the leading applications of AI in this sector include personalized shopping, product recommendations, and inventory management.

Linh Nguyen, (2023) has written thesis on 'Artificial Intelligence in E-commerce: Progressive AI application as a solution to improve customer experience in E-commerce', he explained the use of AI in e-commerce offers numerous benefits for both businesses and customers, such as improved customer service, reduced operational costs, and more efficient supply chain management. AI-powered tools can analyze customer data to deliver personalized recommendations and offers, while also optimizing inventory management, ultimately enhancing the overall customer experience.

#### **Objectives of the Study:**

1. To evaluate the benefits of AI in E-commerce.
2. To conclude Role of AI in E-commerce.

#### **Research Methodology:**

This study based on secondary data collection method. The secondary data collected from various journals, references, online websites, books on AI, books on E-Commerce. The study involved analyzing and interpreting secondary data through the descriptive method. The study provides an overview of how AI influences and enhances e-commerce.

#### **Benefits of AI in E-Commerce:**

**1) Enhanced Customer Service:** On online platforms, AI facilitates customers by showcasing product, imagery, specifications such as color, price, size and customer reviews. AI also enables the availability of chatbots and voice assistants, allowing customers to receive support at any time of the day. It delivers a better customer experience and elevates customer service.

**2) Assists in Comparing Different Products:** AI can identify differences between products across various e-commerce platforms and provide customers with the best purchase recommendations. It also compares prices, brands, and available substitutes to help users make informed decisions. AI can also identify different customer segments for a business based on the analysis of their buying behavior on an e-commerce platform.

**3) Fraud Control:** AI actively monitors potentially unsecured and fraudulent transactions on e-commerce platforms, ensuring the security of customers' financial activities. There are many risks such as hacking, fraudulent activities, and financial misappropriation. AI monitors these threats and helps ensure security for both buyers and sellers.

**4) AI-Driven Product Recommendations:** AI recommends products to customers based on their preferences by analyzing click-through behavior, abandoned carts, and browsing history, then suggesting better and more relevant product options.

**5) Insightful Analytics:** AI is an advanced form of data collection that gathers information from multiple sources with a single click. It helps businesses uncover customer buying frequency, identify rising or declining products, detect hidden behavior patterns, and understand seasonal trends.

#### **Role of AI in E-Commerce:**

AI plays a crucial role in modern businesses. Today, adopting AI is essential for improving operations and growth. AI helps generate demand, manage inventory, optimize marketing strategies, and develop new business ideas. It also assists customers with a single click and provides valuable information to both buyers and sellers. In today's technological era, it is essential for businesses to understand AI and its features. AI also provides significant benefits to customers, offering multiple choices and

personalized assistance. Therefore, AI is important both for customers, to enhance their experience, and for businesses, to increase revenue. AI examines data to generate actionable insights, enabling businesses to make decisions and plan strategies efficiently.

#### **Conclusion:**

Artificial intelligence is an essential tool for enhancing business productivity and revenue. It assists customers in identifying the best products from an extensive selection and is broadly adopted across multiple sectors. Therefore, AI provides significant advantages to both businesses and consumers. It has become imperative for all industries to incorporate AI into their business processes.

#### **Bibliography:**

1. Daniel M. Wagner (2024,) Harnessing the Power of AI in eCommerce: Innovation, Efficiency, and the Future of Customer Experience.
2. Linh Nguyen (2023), Artificial Intelligence in E-commerce Progressive AI application as a solution to improve customer experience in the E-commerce industry.
3. DEEPA M (2024), AI in E-commerce: Applications, Benefits, and Challenges, IJIRT | Volume 11 Issue 4.
4. AI ML Coding, IoT, 3D printing & with Roboticks, Rayat Shikshan Sanstha's, Simusoft Publication, 2025.