

# **ARTIFICIAL INTELLIGENCE IN E-COMMERCE: RETAIL GIANTS-CASE STUDY**

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## **Abstract**

*Artificial Intelligence has been undergoing rapid technological advancements, implications of which can be felt in multiple domains ranging from finance to healthcare. Contrary to the common notion that AI is here to replace the human interference, AI actually enhances the user experience by simplifying the interaction of human- machine interactions and assisting humans. AI has aided E-commerce in by making the process of retailing, logistics and consumer end product usage hassle free. This research paper seeks to contribute to the domain of E-commerce by assessing applications of AI in electronic commerce and analyze the AI tools used by online retail giants in the present day scenario.*

Keywords: Artificial intelligence, E-Commerce

## **INTRODUCTION**

Artificial Intelligence forms the backbone of the E-commerce in today's digital era. With growth and increasing sales in e-commerce annually the scope of AI applications is also on rise. The AI scientists and researchers have to update themselves regularly as the e-commerce sector faces new challenges everyday and also to enhance customer shopping experience and customer satisfaction while ensuring complete security and privacy of consumers.

## **OBJECTIVES**

The major objectives of the research work are to:

- Assess the applications of artificial intelligence in e-commerce in the present.
- Machine learning Techniques and AI tools utilized by online retail giants in India, Amazon, Flipkart, Alibaba.

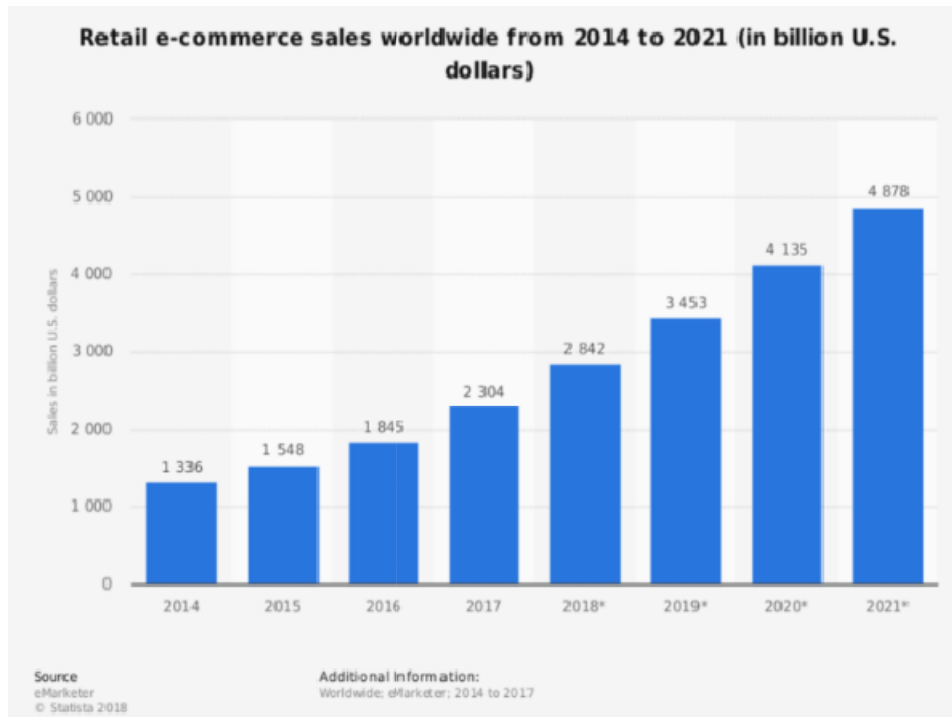
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## **MAJOR CONCEPTS**

### **1) E-COMMERCE – CONCEPT AND STATISTICS**

E-commerce is the process of buying and selling goods by electronic means such as by mobile apps and the Internet. E-commerce refers to both online trade as well as electronic transaction. With the enlarged amount of personal mobile phones and added internet accessibility retail and e-commerce sales have flourished.

Sales from India were 121% on rise on annual basis, according to the Global Seller Index report from Payoneer, a leading cross-border payment platform. The Indian e-commerce industry has been on an increasing growth path and is expected to exceed the US to become the second major e-commerce marketplace on the globe by 2034. The e-commerce market is expected to attain US\$ 64 billion by 2020 and US\$ 200 billion by 2026 from US\$ 38.5 billion as of 2017. With emergent internet penetration, internet consumers in India are anticipated to increase from 481 million as of December 2017 to 829 million by 2021. Rising internet penetration is expected to lead to growth in e-commerce. India's internet economy is expected to double from US\$125 billion as of April 2017 to US\$ 250 billion by 2020, majorly backed by e-commerce.



## 2) ARTIFICIAL INTELLIGENCE

Artificial intelligence in this global era finds extensive applications in several domains, ranging from healthcare to industries. Artificial intelligence is concerned with the advancement of computers capable to engage in human-like thought processes such as learning, reasoning, and self-correction. In the dynamic world, it is an innovation which is constant. With changes occurring in the world we observe Artificial Intelligence in the business world like never before. The retailers, manufacturers and even the e-start-ups are in regular contest to reach out to the consumers. Industry 4.0 also referred to as industrial revolution 4.0 encompasses the use of latest techniques like Internet of things (IOT), cloud computing, cyber-physical systems and artificial intelligence.

### E-COMMERCE COMPANIES AND MLT & AI TOOLS

It has been projected that by 2020, 85 percent of the consumer interactions will be handled without any human being. Several e-commerce businesses are using AI to recognize their consumers in an enhanced way to create new leads and offer a flawless consumer experience.

AI for virtual modeling of products for example- lakme provides try-on options for lipsticks or lenskart for spectacles frames.

Search options have been personalized for users.

The buyers are provided a personalized shopping experience by suggesting products of requirements referring to the cookies or searches.

Buyers can compare the products and choose the ones that suit them the best.

**[A] Visual and voice search:** The searching and organization of data pattern keeps on changing daily. A study has been conducted by Slyce, a visual search company that has spent years designing image recognition technology that solves real-world problems for the some of the world's largest retail businesses. A study has been conducted by Comscore, an American media measurement and analytics company providing marketing data and analytics to enterprises. They claim that image and voice search may make up to 50 percent of all searches by 2020. It is predicted that by 2021, due to the popularity Voice search e-commerce revenue will increase by 30 percent.

**[B] AI assistants and chat bots:** It assists in answering consumers as per their inquiries. Virtual assistant is also popular in this segment. It also provides good ideas to the referred problems. It is also used in product recommendations systems through NLP. Alibaba and eBay are the good examples.

**[C] Smart logistics:** AI helps to administer online warehouse operations and delivery process. Amazon.com, JD.com is the good examples.

**[D] Recommendation engines:**

Artificial intelligence and Machine learning has potential of analyzing consumer behavior on websites. It uses training data set based on searching pattern and algorithms to forecast what products may be liked by consumers and provide recommendations. Amazon, Flipkart can be a brilliant example.

## AI IN ECOMMERCE: CASE STUDIES

### 1) AMAZON

The application of AI and machine learning enhances the sale of Amazon considerably. Among most famous AI product Alexa is on the top. It helps to collect the training data sets for the algorithms are essential to Amazon's targeted marketing strategy. Recommendation system of Amazon uses AI to reveal the product in demand based on customer searches. Amazon's recommendation engine enhances the total sales by 35%.

### 2) FLIPKART

The data scientist in Flipkart developed unique machine learning solution which classifies and identifies India addresses and resolves inconsistencies, with a 98% accuracy rate. Since incorrect addresses led to deferred shipment and abortive deliveries also adversely impact returns and customer satisfaction. The innovative machine learning solution also helps detect fraud, reversing revenue setbacks.

### 3) ALIBABA

The founder of Alibaba believes that AI takes his work and commitment at utmost level. Alibaba doesn't left any stone un-turned as it has a list of AI services which include Tmall Genie, chatbot and Ali Assistant. Its chatbot processes 95 percent of consumer inquiries, both written and spoken ones. According to Alibaba AI algorithms is very helpful in finding the best delivery route, which offers 30% reduction in travel distances and 10% reduction in vehicle.

## CONCLUSION

The e-commerce industry is gradually expanding their horizons with the use of AI, which predicts the consumer behavior and inventory required. AI is on a rise in the e-commerce industry. AI has expanded into many domains. AI holds a lot of future potential in e-commerce.

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