

ARTIFICIAL INTELLIGENCE TRANSFORMING E-COMMERCE

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nileshchotiya14@gmail.com***Abstract**

Artificial intelligence (AI) is all about computer science specifically focused on creating machines that can work like human intelligence. As humans work on the basis of logics and learning, Artificial intelligence making machines to work like humans. It operates on vast amount of data to identify task pattern and to respond over it. The term Artificial Intelligence (AI) was first coined in 1956, but AI has become more popular today because of increased data volumes and storage, advanced algorithms and improvements in computing power and technology. The most common terms associated with AI are deep learning; generative AI and natural language processing will be discussed in this research paper to identify how AI is transforming the E-Commerce. Artificial Intelligence technology is providing upgraded assistance through variety of applications and websites which are benefitting the E-Commerce. AI is influencing greatly the E-Commerce, as it providing advantages to its users. The AI technology is assisting its users as per their requirements with a very ease and handy solutions with accurate results. The most powerful feature of the AI is that it can identify the areas of interests of the users and provide best suitable alternatives.

Keywords: Artificial Intelligence (AI), Deep Learning, Generative AI, Natural Language Processing(NLP).

Introduction

Artificial intelligence (AI) is all about computer science specifically focused on creating machines that can work like human intelligence. As humans work on the basis of logics and learning, Artificial intelligence making machines to work like humans. It operates on vast amount of data to identify task pattern and to respond over it. Information Technology (IT) and Information and Communication Technology (ICT) has already transformed the working pattern of human being in last two decades. Now, the latest Artificial Technology (AI) is transforming human intelligence into machines that can work like humans. The most common terms associated with AI are deep learning, generative AI and natural language processing will be discussed in this research paper to identify how AI is transforming the E-Commerce.

Beginning of Artificial Intelligence (AI) :

The term Artificial Intelligence (AI) was first coined in 1956, but AI has become more popular today because of increased data volumes and storage, advanced algorithms and improvements in computing power and technology. Early AI research in the 1950s explored topics like problem solving and symbolic methods. In the 1960s, the US Department of Defence took interest in this type of work and began training computers to mimic basic human reasoning. For example, the Defense Advanced Research Projects Agency (DARPA) completed street mapping projects in the 1970s. DARPA produced intelligent personal assistants in 2003, long before Siri, Alexa or Cortana were

household names. This early work paved the way for the automation and formal reasoning that we see in computers today, including decision support systems and smart search systems that can be designed to complement and augment human abilities. AI has evolved to provide many specific benefits in every industry.¹

Commonly Associate Terms with AI :

Deep Learning : Deep learning is a subset of machine learning that uses multilayered neural networks, called deep neural networks, to simulate the complex decision-making power of the human brain. Deep learning is an aspect of data science that drives many applications and services that improve automation, performing analytical and physical tasks without human intervention.

Generative AI : sometimes called gen AI, is artificial intelligence (AI) that can create original content such as text, images, video, audio or software code in response to a user's prompt or request. Generative AI relies on sophisticated machine learning models called deep learning models algorithms that simulate the learning and decision-making processes of the human brain.

Natural Language Processing (NLP) : It enables computers to understand, process, and generate spoken and written human language. It combines computer science, linguistics, and machine learning to analyze vast amount of text and speech data, making human-computer interaction seamlessly with the machine.²

All these associated terms with AI making machines to work like human being.

Artificial Intelligence Transforming The E-Commerce :

The term E-Commerce simply refers the buying and selling of goods and services by using internet or any other electronic network. It has evolved rapidly in past few years. E-commerce further leads the technologies such as M-Commerce (Mobile Commerce), Electronic Funds Transfer, Online Marketing, Supply Chain Marketing, Online Transaction Processing, Electronic Data Interchange, Automated Data Collection, Inventory Management System etc.

E-Commerce is a business supported by electronic network. It allows sellers and consumers for online sale and purchase through internet. It widened the scope of business at global level. Service sector is also benefitted at large by the E-Commerce. It covers almost all the sectors like finance, banking, insurance, education, healthcare, hospitality, transportation, communication, entertainment etc. Now with the advancement in technology, AI is transforming E-Commerce in the following ways.

1. Advance and Easy Searching -

Every transaction or activity is start with the search. The search results should be fast, relevant and must be according to the keywords. The text-based searches return a list of items that include those keywords in the title name and the description. This may not produce the accurate results. Artificial intelligence techniques allow users to upload the images and discover the most relevant or exact search result.

2. Identification and Recommendation Systems -

AI with machine learning algorithms predicts the buying behavior of consumer. It identifies the interest of consumers by analyzing the past data of previous searches, choice and frequent past transactions. AI analysis of past data of searches makes its identification and recommendation system more accurate and fast. That is why, we experienced the E-Commerce websites frequently suggest the relevant products or services. It also stimulates the demand.

3. Inventory Management -

The machine learning technology improves the predictive analysis of future demand. It now becomes easier for inventory management. The continuity of predictive analysis now transformed the inventory management system which results in the more efficient supply chain management. Now the suppliers can update themselves with real time inventory requirements.

4. Appropriate Buying Pattern Analysis –

The techniques formerly used in E-Commerce like customer calling, email marketing, counter advertisement etc. are now replaced with the readily available buying pattern of the customers. AI generates appropriate buying pattern through structured data analysis and deep learning which results in targeted sales promotion.

5. Natural Language Processing (NLP) leads to Analytical Feedback System –

AI and NLP generate perfect analysis of the customers' perception about product or brand. NLP can analyse the feedback of customers like their reviews, likes, comments and complaints. Through this, supplier can analyse the positive, negative or neutral feedback of their customers. It helps them to rectify and respond accordingly to improve sales.

Objectives of the study : The study is based on the following objectives.

1. To study the current Artificial Intelligence Technology.
2. To study the terms associated with Artificial Intelligence.
3. To analyse how the Artificial Intelligence (AI) transforming E-Commerce.

Research Methodology:

In this study descriptive methodology is used. The study is based on the review of secondary data. Recent articles available on internet have been studied to analyse the Artificial Intelligence and E-Commerce. It is interesting, to go through the recent developments in E-Commerce where the world is utilizing the potentials of upcoming technology like AI.

Findings of the Study :

1. Artificial Intelligence technology is providing upgraded assistance through variety of applications and websites which are benefitting the E-Commerce.
2. The AI technology influencing greatly the E-Commerce, as it providing advantages to its users (Supplier and Buyer).
3. The most powerful feature of the AI is that it can identify the areas of interests of the users and provide best suitable alternatives.
4. Online threats like hacking and financial frauds are the subject of discussion.
5. The accessibility, attraction and addiction of general masses to the AI technology may give another scope of study in this field.

Conclusion -

The topic of this research has a very wide scope to learn all the aspects in which AI is helping E-Commerce to expand and improve its services. But due to limitation of time and resources some of the important aspects are covered to understand how AI is transforming E-Commerce with better experience. With the above mentioned advance technology, E-Commerce witnessing more effective access to target segment. AI is also improving after sales service, better decision

making of buyer and seller and ready references to improve further.

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