

## The Application of Artificial Intelligence in Electronic Commerce

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**Abstract:** With the exponential growth of science and technology and economic society, a tremendous transition has been witnessed in recent years. When applied in the electronic-commerce sector, AI proves with its great results. It has also been the force behind electronic-commerce growth. The growth of AI has a tremendous effect on our work and lifestyle. In addition, this paper tells the success of electronic-commerce development and AI technology with each other. This paper analyses the impact of the today's situation of the application of AI technology in the field of e-commerce, such as fields like Assistant of AI, auto recommendation feature and optimal pricing for the customers using AI in e-commerce research.

**Keywords:** Artificial Intelligence, E-Commerce, Machine Learning

### 1. Introduction

Artificial Intelligence has the potential to collect and interpret vast quantities of data and to make action choices. Massive numbers of e-commerce firms have begun to introduce multiple types of AI to better understand their clients, so that they can provide their customers with a better experience.

Artificial Intelligence is the engineering and science of making intelligent machines and intelligent computer programs.

It's now more than 60 years now to AI and which results we can see in our economy and also in our society, and its tremendous achievements.

E-commerce has made tremendous and unforgettable progress in recent years. Customers love the ease of e-commerce, and often have higher and higher standards for it. For e-commerce growth, AI opens new ideas and trends.

### 2. Literature Review

#### 2.1. Impact of Artificial Intelligence in Electronic Commerce

AI helps electronic-commerce firms to get closer to their clients. E-commerce sites today can use vast databases of user activity and usage habits with the facilities offered by AI. For online shoppers, its self-learning algorithms may construct customized shopping experiences.

E-commerce has grown strongly in recent years. Between them, the internet retail sales of physical products were 9.76 trillion yuan, with a rise of 14.9 percent from a year ago. The quick rise in e-commerce gives comfort to customers. The electronic commerce network is constantly finding innovative ways to satisfy more customer needs to increase operating performance and enhance service quality. The impact of artificial intelligence for the advancement of electronic-commerce and its patterns has opened brilliant ideas and patterns. For the electronic trading sector, this value is omni-directional.

#### 2.2. Electronic Commerce

Today it is possible to buy anything from Electronic Commerce with 2-3 steps. There are different websites for e-commerce, such as Flipkart, eBay, Amazon, Myntra, etc. For some form of business process management or knowledge sharing, it uses the internet and modern communication technologies.

It bans all types of business operations, not only just the externally focused business processes like network marketing, UPI transaction, wallet payment, logistics and delivery, but also it bans up the internal business. EDI (Electronic Data Exchange), Internet, Intranet, E-mail, database, Software creation technologies, etc. are the core technology pillars of e-commerce.

#### 2.3. Artificial Intelligence

A modern technical science is Artificial Intelligence (AI). It establishes approaches and implementations of theoretical methods to recover and expand human knowledge.

AI is a scientific topic that, through the reconstruction and expansion of human intelligence, can understand the autonomous process of mental work. Intelligent technology is the centre of artificial intelligence technology and intelligent devices are close to human being mentality, such as robots, speech environments, image visualization, etc., are built on this basis.. The standard of contemporary science and technology is continuously improving, artificial intelligence is interested in a wider area. The advancement of technologies in the field of AI and information are interdependent, with shared influence and popular development. Today, popular artificial intelligence research is largely interested in machine learning and immersive learning.

## 2.4 Application of Artificial Intelligence

Intelligence technology is emerging very fast with the advancement of science and technology and is transforming the human being daily lifestyle, mainly in e-commerce sector. The use of artificial intelligence application in the e-commerce area can be seen in the following aspects:

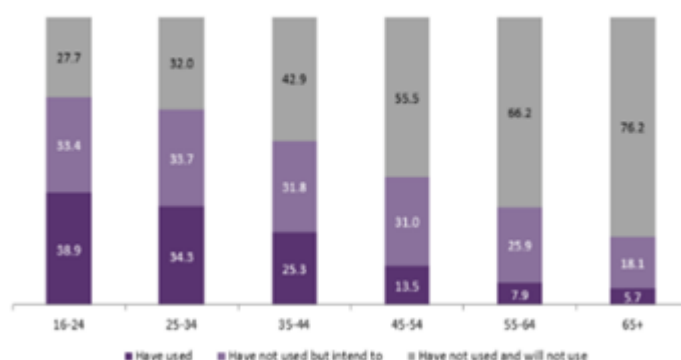
### Real-time product targeting E-Commerce.

From a long time in this competition of firms each and every companies seek to provide their clients with the best online shopping experience by supplying customers with a hassle-free way to find the items they are looking for. Machine learning can continue to provide online shoppers with product reviews, discounts and deals to be customized.

### Visual search of Related Images

Instead of text, AI can help visitors to e-commerce websites search by image and compare related items to unique images. Pinterest's visual search, which requires users to pick an object in every photograph online, is an example of visual search and then requests Pinterest to view related objects using image recognition tools.

Online shoppers' usage of visual search tools, by age group



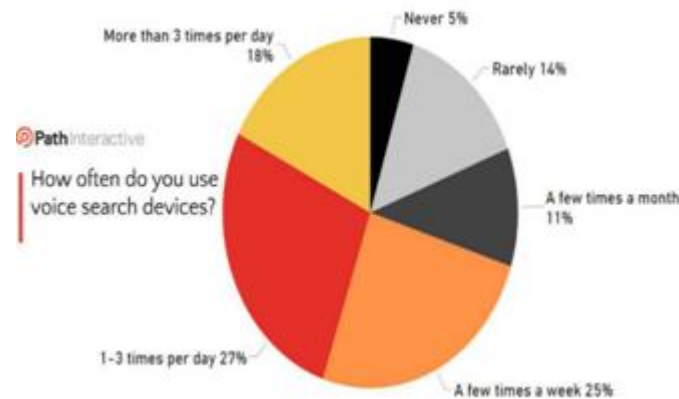
(<https://www.retail-insight-network.com/comment/rise-of-visual-search-2019/>)

### Voice Searching Application

In online marketing, Voice Search is increasingly replacing text-based search. The precision of speech recognition is enhanced than ever. Almost 70% of applications are natural or are rendered for Google Assistant in a conversational language. Some mobile devices with voice-controlled personal assistants are the Siri-powered Apple Home-Pod. A further example is Amazon's Alexa-powered Echo. Voice-based Alexa search can be used to position an order from Amazon to be delivered.

The key feature of the AI assistant chatbot server is to respond to consumer requests automatically, address basic voice commands, and use a native language processing system to provide product recommendations. Machine learning skills for group chats on commercial platforms and mobile

(<https://searchengineland.com/how-much-should-we-care-about-voice-search-it-depends-on-our-target-audience-318752>)



pages designed to connect with consumers in a personal way. Chatbots may assist customers in identifying the best goods, determining the state of product distribution, comparing multiple products, and eventually helping consumers pay for them.

A chatbot may also assist clients to communicate with compatible support personnel if there are any concerns or queries. To talk to their robots, buyers can use text, voice, and photographs. In March 2017, Alibaba introduced Taobao vendor speak, the Xiaomi Shop, an artificial utility robot. Bargaining can adjust other consumer facilities after authorization and correction mistake with suppliers, easily minimize personnel expenses, enhance user experience.

### Optimal Pricing Recommendation

The e-Commerce industry is thriving today. The topic of automated pricing of a huge number of goods has practically been addressed by AI technologies that can handle big data easily. The final detailed ranking results will be influenced based on product rating, logistics, price, and service quality. If anyone is a merchant, optimum pricing is hard for them, and using AI will solve it well.

### 3. Problem Solved And Result

E-commerce portals are open 24/7, so to be online all day, you don't need a shop assistant. There are potential applications for chatbots by AI that can do that. Simple questions will be answered immediately, and more difficult ones will be submitted to the correct expert and time will be given, but some responses are already obtained by the client.

There is an updated list of six amazing ways to use AI in e-commerce.

#### Personalized recommendation to User

AI will compile knowledge about past orders from consumers, customer service contacts, on-site customer experiences, and more. All these will add to a customized user service and keep the customers happier. Furthermore, it would increase the revenue. It's a win-win case, is it not?

Many of these firms are among the early adopters of a customized communications approach focused on AI. Since introducing the suggestion framework, a 29 percent rise in Amazon revenue. Netflix says that 80% of their consumers' content is based on algorithmic feedback.

#### Responding to queries

Some requests can be managed on their own by Chatbots and AI applications: If the message is too simple, the device produces a customer response. The bot would find the best expert to address it and forward the message there if the problem is not fixed by chatbots. This helps speed up the process of addressing customer questions and encourages clients to demand real 24/7 customer support.

#### Creating product descriptions

To write product descriptions, website workers need a copywriter, right? You would think so, but if there are hundreds of thousands of items on the website, this results in a very costly and time-consuming operation.

The text itself needs to be important and tailored for SEO, and it's not something about writing any material. AI will examine the main characteristics of each individual.

### Filtering fake reviews of individual

The influence of feedback should never be overlooked by websites, especially if they are negative. More than 90 percent people depend upon feedback of the product, while more than 86 percent people say their purchases are affected by fake reviews. Not all reviews are true, some may be false, haters and rivals both are responsible to this. To counteract those reviews, Amazon and big firms use Artificial intelligence and its algorithm increases the weight of checked fake user reviews, allowing more users discover helpful and up-to-date reviews.

### Analytics & predicting sales.

Predictive analytics also occurs. While it might sound like a sort of magic, the measurement is much more than just saying luck; this is science; it analyses past evidence and possible result programs. To make a decision, Artificial Intelligence requires evidence and needs information, does not rely on gut instincts and is not positive or negative. In its estimations, it is precise.

### 4. Conclusion

India is the fastest-growing e-commerce region, according to Forrester. AI would have a huge influence on the way clients are drawn and retained by e-commerce firms. AI in Electronic Commerce brings new innovations. It also helps in IT sector employment to build and manage the applications and technologies that will control such AI algorithms.

E-commerce giants are currently focusing aggressively on artificial intelligence technologies and optimizing their trading channels to improve competition. Intelligent robot support campaign from Alibaba and Amazon. E-commerce giants have established their own goods in the hardware market as well. Artificial intelligence strategies have joined this fast-paced course, with mature technologies, by being more commonly used, having a rising effect on variables such as user engagement and e-commerce sales satisfaction for consumers.

As time goes by, the driving force behind the e-commerce transformation would be artificial intelligence. E-commerce will have a greater hope for success with the help of artificial intelligence technologies, consistent with the establishment of improved control of consumer relationships and sales marketing, narrowing the gap between customization and privacy.

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