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Artificial Intelligence in E-Commerce

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INTRODUCTION

Artificial intelligence is to develop intelligence in the machines or software and provide them the ability to think as humans John McCarthy is known as the father of Artificial Intelligence. Artificial intelligence is based on various disciplines of a science and technology such as Biology Computer Science, Psychology, Linguistics, Mathematics, and Engineering. Companies can use the AI machines algorithms to identify patterns and insights into the huge amount of data. AI can help them take decisions faster and improve their position in the competitive business world. Gartner said that more than 79% of customer interactions will be managed without a human by 2020.

Artificial intelligence is two types:

1. Weak AI.
2. Strong AI.

1. Weak Artificial intelligence:-

In weak artificial intelligence, machines behave like an intelligent human. Machines with weak artificial intelligence have all abilities like thinking, moving, talking but are programmed to do so. In the chess game, the machine has the ability to play but it does not possess any thinking ability like humans. The machine is programmed to play chess and make smart moves to compete with other players.

2. Strong Artificial intelligence:-

In strong AI, machines actual ability is like humans. It is based on the concept that machines can be programmed like the human mind. They can think, make decisions, and have perceptions and beliefs. E.g. the artificial intellectual supercomputer "WATSON‟ invented by IBM. Strong AI does not currently exist. It is estimated by some experts that it may be developed by 2030 or 2045.

AI adoption has been observed at many areas.

Some examples are following:

1) Gaming: Machines can now compete with humans in games with artificial intelligence.AI implementation can be seen in many strategic games such as poker, chess, tic-tac-toe, etc. Machines are empowered with ability to think of many positions based on heuristic knowledge. Deep Blue was the first a chess-playing computer developed by IBM. Other example is of Google's AlphaGo.AI Go player has defeated KeJie, Go world champion .

2) Banking: AI application also lies in Anti-money laundering (AML). Money launderers hide their actions to increase their illegal money. This illegal is documented so well so as to give the illusion of legally earned money. Banking Industry across the world is shifting from traditional detection of AML to artificial intelligence based systems .AML AI detection system can recognize patterns to detect defaulters.

3) Expert Systems – the expert systems are the developed to solve complex problems in a particular domain, with the artificial intelligence. The purpose of expert systems is to advise, predict results, suggest alternative solution and assist human in decision making.

4) Healthcare: AI application in healthcare lies in Diabetic Retinopathy Treatment, Medical Diagnosis, Risk Prediction and Automating Drug Discovery. For example, In Skin Cancer Treatment Sebastian Thrun‟s lab at Stanford released an AI algorithm which detects Skin Cancer with very high accuracy.

5) Vision Systems: Vision systems can understand, interpret, and comprehend visual input on the computer. For example-Medical experts use such system to diagnose diseases. Investigation experts also use the vision system to recognize the face of criminal with stored photograph given by the forensic artist.

6) Music and Movie Recommendation Services: AI based apps like Spotify, Pandora, and Netflix recommend music and movies based on the interests of users and their past choices. This data collected is then fed into AI learning algorithm to suggest recommendations.

E-COMMERCE

Electronic commerce, or e-commerce, can be described as the buying and selling of goods and services on the Internet. E-Business is another term sometimes used in place of e-commerce. Examples of e-commerce sites are flip kart, eBay, infibeam.com etc. E-Commerce provides unique features of non-cash payment, 24x7 Service availability and improved sales. Following are some e-commerce models:

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1.Business-to- Business (B2B)
2.Business-to- Consumer (B2C)
3.Consumer-to- Business (C2B)
4.Consumer-to-Consumer (C2C)
5.Government-to- Business (G2B)
6.Government-to- Citizen (G2C)

AI IN E-COMMERCE

AI helping e-commerce businesses get closer to their customers. With the facilities of AI, e-commerce platforms today are able to utilize large datasets regarding customer behaviour and usage patterns. Artificial intelligence self-learning algorithms can create personalized shopping experiences for online buyers.

Following are highlights on AI powered ecommerce:.

1) AI based hiring processes HR departments can use AI technology in many ways. For example, the task of screening applications, reaching out, scheduling face-to-face interviews, and finding matches can be automated through Restless Bandit, software as a service product. This reduces the work of HR by providing the potential candidate for the job.

2) Voice Powered Search Voice is slowly replacing text based search in online shopping. Voice recognition accuracy is improved than before. Almost 72% of requests are natural or made in a conversational language with Google assistant. Some smart devices with voice-controlled personal assistants are Apple‟sHomePod powered by Siri. Another example is Amazon‟s Echo powered by Alexa.Alexa voice based search can be used to place an order to be shipped from Amazon. According to study by ComScore, 53% of the searches will be based on voice searches by 2020.

3) Assortment Intelligence ToolAssortment planning allows the retailer to provide a pleasant shopping experience and most profitable product mix to the consumer. Customer changes their buying taste frequently. Retailers should focus on their pricing strategies and which product to advertise more or drop the product. Retailers have to upgrade their pricing strategies in order to retain their customer and to keep them coming back to their online website. Assortment Intelligence tool can assist retailers to have 24/7 visibility and insights into their market competitor and change their pricing accordingly to compete in the market. Retailers can analyze their competitor's product mix and prices by the tool. Some examples of assortment tools are Market Track, Competitive Intelligence Services, Aqute intelligence and wiser. Another example is Upstream Commerce. It is based on artificial intelligence, data mining, semantic analysis and image recognition. Data from retail websites is gathered and analyzed using product-data extractor and site-crawler. The data is then analyzed by matching engine and analytics engine.

4) Conversational commerce Chat software can help the shoppers make purchases in a conversational text format using natural language processing. Chatbots are already being used to facilitate online transactions for the big brands, with TacoBot (Slack) and H&M (Kik). Famous brands like Tommy Hilfiger launched a Facebook Messenger Fashion Chatbot during the New York Fashion Week 2016. It was the first brand to sell their collection through Facebook Messenger.

5) Customer Service AI can influence customer service through the use of chatbots. Chatbots are computer program developed for conversational commerce. Chatbots interact in natural human language to give the customer a personal and satisfied customer service. Chatbots give marketers the ability to interact with the customer in real time and learn about the customer needs and deliver specific prescriptive guidance and results. The idea of bots has been introduced around the 50s and 70s when Alan Turing and Joseph Weizenbaum invented the first "chatterbot" program, named Eliza. Examples India are chatbots in the Eva, HDFC is AI-based banking chatbot in India. It can answer customer queries across multiple channels within no time. Yatra company facebook messenger chatbot in the Indian online travel sector is another example of better customer service. This intelligent chatbot helps the customers search for flights and book their flights directly from their facebook messenger.

6) Virtual personal shoppers Virtual personal shopper can assist the people in making the smart decision about their shopping, for example Flipkart launched a messaging service called Ping. Ping has worked as a shopping assistant until shutdown on 2016. It was powered by artificial intelligence to assist customers to quickly discover the items they were looking for. Amazon‟s home assistant, Alexa is also artificial intelligence enabled virtual personal shopper assistant. It provides the customer modern shopping experience and only needs to verify your voice pattern to process the order. Other example of the

shopping assistant is Mona. Mona is an Artificial Intelligence powered mobile shopping assistant provides the customer an expert assistant. Mona learns from the styles customer likes, his ideal shopping point and his favorite brands.

7) Virtual Assistant E-commerce virtual assistant is a software agent skilled in business support services and technical services. It can also perform tasks or services for an individual. The term "ChatBot" can also be used to refer to the virtual assistant. Recently Lenovo has also announced its virtual assistant to compete with Google now and Cortana. CAVA assistant is based on AI-powered deep learning .It has the face and voice-recognition features that assist in managing data and other events. Some ecommerce tasks that virtual assistant performs are:

1.Good customer service
2.Order processing
3.Exchanges /Return
4.Order processing
5.Website maintenance

CONCLUSION

According to Forrester, India is the fastest-growing ecommerce market. AI will have a significant effect on the way e-commerce businesses attract and retain customers. AI revolution in e-commerce will create plenty of new data science, machine learning and engineering.AI based e-commerce will also generate IT jobs to develop and maintain the systems and software that will be running those AI algorithms. But the confluence of AI and e-commerce may impact people lacking in-demand skill set face unemployment in coming years.

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