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Abstract

Now we have all been aware of e-commerce for more than a decade. But nothing revolutionised the face of e-commerce like AI has in these past years. Hearing about AI gives us the first impression of robotics and all the sci-fi things. But thinking about applications of AI in e-commerce is something different that has not been explored much and its implications are never ending. AI has embedded in our lives and in our ways of doing work like Alexa is Amazon's virtual assistant.

What is AI

Artificial Intelligence, as the name suggests is nothing but mimicking human intelligence through machine learning and presenting to the world a new way of processing data and understanding these data trends. The computer learns how to respond to a certain stimuli, and then uses algorithms and historical data to create a propensity model. The Propensity model then starts making predictions according to a person's searches and interests.

We all know that knowledge is power and power is money. In context of e-commerce also knowledge about customer preferences, their likes and dislikes presents you the opportunity to sell the right product to the right person with minimum efforts; as AI studies their search results and shows them the products of their interest. Applications like Amazon, Google maps, Snapchat, Facebook, Flipkart, Lenskart all are using AI in one way or the other to increase their revenue. Through AI, e-Commerce sites create personalized online experiences and recommend products to the prospective buyers as per their interests. Personalized marketing used by early adopters of AI technology like Amazon and Netflix have proved to be very useful to them. Despite heightened interest, integrating artificial intelligence (AI) into businesses still remains a challenging task.

“Artificial Intelligence was once seen as mimicking human intelligence. But the last

decade has introduced the world to a fourth paradigm of AI, which is immeasurably advanced. It is extremely important for our new generation to build new deep tech businesses that can have a larger and deeper impact. And they can. Because Indian entrepreneurs and researchers have immense talent which hasn't gone unnoticed by the world,” (Agarwal)

Impact of COVID-19

COVID-19 has boosted the e-commerce industry in India and around the world. Customers in India were progressively shifting toward online purchases, but Covid-19 accelerated the process and altered people's lifestyles in a variety of ways, one of which was clearly transacting through e-commerce. Though COVID-19 initially resulted in lower economic expenditure, it eventually spurred an increase in e-commerce transactions as people felt protected and comfortable while purchasing online, and it gradually became a part of their lifestyle. India's innovation initiatives have been accelerated thanks to Covid-19. Artificial intelligence (AI) and other emerging technologies have driven us to re-imagine our organisations and make them more agile, flexible, and responsive. While the globe is battling the epidemic, the time has come to focus squarely on AI and how it will change the post-Covid world's reality. Data and Artificial Intelligence (AI) could potentially add \$450-500 billion to India's gross domestic product

(GDP) by 2025, according to a NASSCOM analysis, and fuel India's economic growth.

Data to support the heightened use of e-commerce in India

“According to Forrester Research, in 2020 Indian e-commerce sales increased by ~7-8%. The Indian online grocery market is estimated to reach US\$ 18.2 billion in 2024 from US \$1.9 billion in 2019, expanding at a CAGR of 57%.” (E-commerce in India: Industry Overview, Market Size & Growth| IBEF, 2021). Daily use products like groceries, toiletries, households saw rapid spurt and are likely to see a continued accelerated growth post-pandemic. The habit-forming product categories, having a high share of repeated online purchases are also benefited from a concerted push to accelerate digital sales through leading brands that were not as invested in previous to Covid-19. “The Indian e-retail market saw a 25 per cent growth in FY21 despite the two-month national lockdown and multiple prolonged disruptions in regional pockets over the year” (By Arpan Sheth, 2021), as per a report by Bain and Flipkart. “According to NASSCOM, despite COVID-19 challenges/disruptions, India's e-commerce market continues to grow at 5%, with expected sales of US\$ 56.6 billion in 2021.” (E-commerce in India: Industry Overview, Market Size & Growth| IBEF, 2021)

According to a Payoneer analysis, India's e-commerce sector is ranked 9th in the world for cross-border growth. By 2025, e-commerce in India is expected to grow from 4% of total food and groceries, fashion, and consumer electronics retail sales in 2020 to 8%. In the fourth quarter of 2020, India's e-commerce orders volume climbed by 36%, with the personal care, beauty, and wellness (PCB&W) market benefiting the most. In India, e-commerce sales are expected to grow by only 7-8 percent in 2020, compared to 20 percent in China and the United States. On the back of solid expansion in the Indian organised retail sector, the e-commerce market is predicted to reach US\$ 84 billion in 2021.

The Indian e-commerce market has grown as more Indians have begun to shop online rather

than going outside their homes. From October 15 to November 15, 2020, India's e-commerce festive sale season generated gross sales of Rs. 58,000 crore (US\$ 8.3 billion), up 65 percent from Rs. 35,000 crore (US\$ 5 billion) last year.

Government Initiatives

“Since 2014, the Government of India has announced various initiatives, namely Digital India, Make in India, Start-up India, Skill India and Innovation Fund. The timely and effective implementation of such programs will likely support growth of E-commerce in the country. Some of the major initiatives taken by the Government to promote E-commerce in India are as follows:

- As of November 2, 2021, the Government e-Marketplace (GeM) portal served 7.96 million orders worth Rs. 152,315 crore (US\$ 20.40 billion) to 55,433 buyers from 3.06 million registered sellers and service providers.
- As of October 11, 2021, the Government e-Marketplace (GeM) portal served 7.78 million orders worth Rs. 145,583 crore (US\$ 19.29 billion) to 54,962 buyers from 2.92 million registered sellers and service providers.
- In a bid to systematise the on boarding process of retailers on e-commerce platforms, the Department for Promotion of Industry and Internal Trade (DPIIT) is reportedly planning to utilise the Open Network for Digital Commerce (ONDC) to set protocols for cataloguing, vendor discovery and price discovery. The department aims to provide equal opportunities to all marketplace players to make optimum use of the e-commerce ecosystem in the larger interest of the country and its citizen.
- National Retail Policy: The government had identified five areas in its proposed national retail policy—ease of doing business, rationalisation of the licence process, digitisation of retail, focus on reforms and an open network for digital commerce—stating

that offline retail and e-commerce need to be administered in an integral manner.

- The Consumer Protection (e-commerce) Rules 2020 notified by the Consumer Affairs Ministry in July directed e-commerce companies to display the country of origin alongside the product listings. In addition, the companies will also have to reveal parameters that go behind determining product listings on their platforms.
- Government e-Marketplace (GeM) signed a Memorandum of Understanding (MoU) with Union Bank of India to facilitate a cashless, paperless and transparent payment system for an array of services in October 2019.
- Under the Digital India movement, Government launched various initiatives like Umang, Start-up India Portal, Bharat Interface for Money (BHIM) etc. to boost digitisation.
- In October 2020, Minister of Commerce and Industry, Mr. Piyush Goyal invited start-ups to register at public procurement portal, GeM, and offer goods and services to government organisations and PSUs.
- In October 2020, amending the equalisation levy rules of 2016, the government mandated foreign companies operating e-commerce platforms in India to have permanent account numbers (PAN). It imposed a 2% tax in the FY21 budget on the sale of goods or delivery of services through a non-resident ecommerce operator.
- In order to increase the participation of foreign players in E-commerce, Indian Government hiked the limit of FDI in E-commerce marketplace model to up to 100% (in B2B models).
- Heavy investment made by the Government in rolling out fiber network for 5G will help boost E-

commerce in India.” (E-commerce in India: Industry Overview, Market Size & Growth| IBEF, 2021)

References: Media Reports, Press releases, Business Standard, Economic Times, LiveMint, Times Now, Times of India

AI - Impetus behind heightened e-commerce business in India

It is evident that e-commerce has seen an unprecedented growth in Indian markets. It is the use of technology which enables e-commerce business to maintain their footing in this bottle neck competitive market. AI enabled technology is the impetus behind the spurt in e-businesses which can be understood through various examples in market.

Lenskart: Lenskart uses 3-D AI enabled technology where customers can try out different frames in virtual reality and can decide which suits them the best from the comfort of their couch. Lenskart also provides mobile vision correction technology. Apart from this it uses AI like others to detect customer preferences through data analytics.

Flipkart: One of the most famous e-commerce platform uses AI for providing customized services to deal with consumer issues. Natural Language Processing (NLP) is used for chatbots, Machine Learning (ML) models provide information on user inclination, brand conversion rates and such other vital information. It also uses augmented reality (AR) to provide solutions for example- you can upload the picture of your wall where you want to place a new LED and flipkart through AR will display how it will look and which size suits the best. Flipkart has thus adopted AI in its core to emerge as a most favoured platform for online shopping by customers.

Zomato and Swiggy: Swiggy has created a heatmap feature which showcases demand areas for its delivery partners, which tells them their next destination after delivering the present order. Zomato uses Machine Language to predict variety of challenges on real-time basis, including last-mile delivery of food orders, allocating delivery partners, estimating food preparation time by various restaurants,

grooming of delivery partners, assessing fake reviews, etc.

Myntra: The e-commerce giant of fashion in India tries to map clothes onto people's bodies who upload their pictures on the app to come up with better products. It also uses SABRE, an AI based return system which lists customers who frequently return products with no genuine reason. Apart from this it provides good customer experience by way of providing occasion based or age based shopping solutions.

These are some of the basic examples of e-commerce websites using B2C channel that we are all well aware of, which have used AI technology to their very basic core in order to generate greater revenues and provide better and efficient solutions to their customers.

A Roadmap for AI in India

"Though there are challenges in bringing AI projects efficiently and effectively in India such as a handful number of AI researchers and scientists, less awareness regarding upcoming innovations, digital divide, resistance to change, as well as lack of infrastructures. But, India is taking initiatives to overcome these barriers and gradually move forward to be in the AI race. Let's dig deep into what is the future of Artificial Intelligence in India. India has already been named as the eighth country in the top ten list by AI patent families on a global level. The Government of India launched a national policy on Artificial Intelligence known as National Strategy for Artificial Intelligence #AIforAll in June 2018. It mentioned that India will focus on AI models and R&D on healthcare, agriculture, education, urban or smart city, and transportation. The Government of India announced that US\$477 million would be required for Digital India for more innovations and R&D on Artificial Intelligence and the completion of the MCA 21 project with Rs.357.81 crore. There is also an official program known as AI Game changers that is focused on driving Artificial Intelligence models in India. It is one of the strategic pillars of NASSCOM's AI for India mission. There are advents of new AI-based start-ups in India

and are expected to hit 100 by 2025. It is due to a massive rise in supporting hardware for disruptive technologies. NITI Aayog has created an introduction to the roadmap and the Government of India's mission to build the AI sector in the nation to assist in developing economically with the fastest adoption among the industry sector. The Government has started approving AI-based start-ups in Bengaluru, Hyderabad, Pune, Mumbai, and New Delhi to cater to customers efficiently and effectively. It is expected that AI models will start showing improvements and functionalities by 2025 in India. Indian citizens will experience more smart cities, AI managing busy traffics, violations, healthcare, and many more. For the future of Artificial Intelligence to be feasible, the country needs AI talent and a sufficient budget from the Government. It is anticipated to receive much more help from Artificial Intelligence and partnerships with reputed companies. We hope to see the elimination of the digital divide from India in the nearby future." (Sinha, 2021)

Conclusion

In today's India, e-commerce is expanding, resulting in a significant growth in brands, each with unique product and service offerings. With such a broad consumer base and so many options to pick from, AI solutions have become crucial in assisting brands in becoming more visible and assisting consumers in making more informed decisions and breaking through the clutter. Brands are already leveraging AI-powered marketing efforts to create smart, data-driven product recommendations through intelligent target marketing, gaining a better understanding of consumer behaviour and influencing decision-making. With the world gradually evolving towards a new reality of a possible hybrid way of life, where people live both "online" and "offline," obtaining consumer insights through AI can also improve offline marketing efforts.

References

1. Agarwal, P. (n.d.). AI will define India's future. *Hindustan Times* (<https://www.hindustantimes.com/bran>)

d-post/ai-will-define-india-s-future/story-x0qJfrxnTXahE16qJy21qO.html .

2. By Arpan Sheth, S. U. (2021). *How India Shops Online 2021*. BAIN & COMPANY.
3. *E-commerce in India: Industry Overview, Market Size & Growth/ IBEF*. (2021, NOVEMBER). Retrieved from www.analyticsinsight.net (<https://www.analyticsinsight.net/disclosure-what-is-the-future-of-artificial-intelligence-in-india/>).
4. Sinha, D. (2021, JULY 31). *Disclosure: What is the Future of Artificial Intelligence in India?* Retrieved from www.analyticsinsight.net (<https://www.analyticsinsight.net/disclosure-what-is-the-future-of-artificial-intelligence-in-india/>).