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Role of Artificial Intelligence in Meeting Consumer Demand in E-Commerce

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ABSTRACT

Technology's introduction and use in business have transformed operations across industries. Notably, significant technical advancements in e-commerce try to sway consumer behavior in support of particular goods and companies. The use of artificial intelligence (AI) has emerged as a crucially new tool for product personalisation and customisation to satisfy particular needs. To get a thorough knowledge of the concept of explainability as it has been applied by scholars in the area of AI, the study employed the usage of word cloud analysis, voyance analysis, and concordance analysis.

This study is driven by corpus analysis and establishes the framework for a consistent front, advancing the development of Explainable Artificial Intelligence (XAI) models.

In order to build on explainable XAI systems, this study recommended that ML models be reinforced by making them explanatory.

Keywords: *Artificial Intelligence, Neural Networks, Sales forecasting, E-Commerce, Intelligent Chatbots.*

I. INTRODUCTION

Artificial Intelligence systems show the ability to fulfill demands of consumers in various sectors and are essential for the existing economy. AI has a major role in observing the environment of business, identifying the needs of customers, and executing the essential strategies with or without minimal human intervention. Therefore, it fills the gap that exist between effective services and consumers' needs. AI permits e-commerce to create novel ideas on meeting the needs of customers and maintains with the altering choices and preferences. Human intelligence might often be restricted in performing some tasks in e-commerce, which includes predicting supply chain and demand mechanisms. AI extents and simulates human intelligence to deal with the large number of challenges in e-commerce. Such as, AI assists platforms of e-commerce to monitor and manage their clients. Through AI, business may gather variety of information and assess clients to make sure that quality or effective services are provided to them. This assists platform of e- commerce comprehend

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the factors, which affect purchasing behaviors of their potential and current clients.[2] It enhances the interactions between the companies of e-commerce and their clients through chatbots and messengers. E-commerce companies utilize processes of automation to remove severances in their operations. The e-commerce related organizations use processes of automation to remove redundancies in operations. It is stated that AI permits for automatic responses to questions put by clients. But researchers warn of prospective challenges and threats to e-commerce and customers, which restricts the effectiveness and efficiency of AI in fulfilling the expectations of business. Consequently, this is essential to explore challenges and opportunities in light of altering demands of consumers in e-commerce.

II. ARTIFICIAL INTELLIGENCE TECHNIQUES

There are many techniques of Artificial Intelligence, but there are two predominant techniques which are elucidated below:

(A) Artificial Neural Network (ANN) in E-Commerce

ANN refers to processing devices, which are modeled loosely after the brain's neural structure. ANN consists of thousands of neurons like human brain consists of billions (Singh et al., 2020). The industry of E-commerce is likewise utilizing this technology and there are neural networks' applications in e-commerce.[2] Below are the advantages of adopting this technique in electronic commerce.

1. Customized shopping experience

2. Advanced site search

3. CSAT- The analysis of customer feedback

4. Sales forecasting

III. HEURISTIC TECHNIQUE

The heuristic technique of AI is an approach that is problem specific employs a real-world method, which often gives enough accuracy for instant goals. This technique is utilized in the system status' visibility. The website or app ought to always keep the clients apprised regarding what is happening. This shows giving apt feedback in a considerable amount of time. For instance, on the website of ecommerce, when a client decides to choose a product in basket, addition ought to be visible instantly in a basket on screen. If customers do online

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[2] Singh, P., Singh, R., Singh, N., & Singh, M. K. (2020). A Distributed Artificial Intelligence: The Future of AI. InDistributed Artificial Intelligence (pp. 263-276). CRC Press.

shopping haptics might likewiseplay a role to reassure a user that their choice was effective. ASOS for instance even utilizes soundto let their customers know about the items placed in basket.[3] Customers are likewise apprised how long a product will be placed. In the online shopping, they can de-select a chosen item or remove something from the shopping basket is the instance of this technique. It may be tempting to make this process complicated to motivate their clients to purchase more. But it is a dark pattern,which might risk their client's abandoning basket and leave their website altogether.

IV. AI-TRANSFORMING E-COMMERCE-5 SIGNIFICANT WAYS

AI plays a mammoth role in creating customer delight and innovative solutions in the ecommerce industry. Product recommendations, personalized shopping experiences, virtual assistants, chatbots and voice search are some of the most distinctive uses of AI in eCommerce Artificial Intelligence is transforming and has brought drastic change in the landscape of E- Commerce.

(A) The Rise of Voice Search

Voice recognition is the capacity of a machine to receive and construe notation and to comprehend and carry out spoken commands. Voice recognition has gained prominence and use with the rise of AI. The assistants for instance, Siri and Google have made life easy. They have grown enough via machine learning and artificial intelligence to comprehendhuman speech. The internet is exploiting the AI power in recognition of voice for a long time. The Google's voice search has altered the way individuals search online. They say "Hey Google, retellme regarding the meeting at 4 pm today" to Google assistant; this might not have been imaginablewithout machine learning and artificial intelligence. [3]

(B) Intelligent Chatbots

The convenience of customer is the significant part of E-commerce and may affect the customer retention and reputation of brand. In E-commerce, chatbots may assist businesses to enhance engagement of customer and advocate and it may provide on-the-spot solutions to problems faced by clients. Chatbots are software programs that comprehend spoken or written human language based on language processing techniques and are proactive customer interactions they can easily automate frequently performed tasks and at explicit time intervals.

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[3] Lee, S. B. (2020). Chatbots and Communication: The Growing Role of Artificial Intelligence in Addressing and Shaping Customer Needs. Business Communication Research and Practice, 3(2), 103-111.

a. 24/7support

Unlike support of human, chatbots may provide continuous support to clients as time limitsdo not restrict them.

b. Enhances efficiency of customer support

Chatbots may solve common problems and may decrease the effort required to deal with such queries.

c. Cost-effective

Chatbots may deal with many customers simultaneously and decrease the human resources needed to intensify these queries. This is efficient and cost-effective when contrasted with humansupport.[4]

(C) Personalized Recommendations for Shopping

AI is gradually filling gaps, which were developed amid the transition from outlet shoppingto the online shopping. Such gap is called persuasion. In the offline shopping, clients are treated with shopping experience that is tailor-made by the vendors. If a client buy products from the online store regularly, AI may show recommendations for specific product to customer at highly favorable times, on the basis of previous product lifecycle and buying patterns. This may considerably enhance the conversions' chances and increase the loyalty of customers toward the online shopping[5]

(D) Product Descriptions Generated by AI

Product descriptions has a main role in transforming visitors into clients. A good description of product may assist the customer comprehend the products and force them to purchase it. AI has likewise started including the writing's creative part.[8]

a. Streamlined

Product description's writing is a boring task and utilizing AI can save resources and time as it hasa streamlined approach.

b. Cost-effective

AI may help make copies of better content at cheap rates in comparison to the human writers.

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[4] Fedorko, R., Kráľ, Š., & Bačík, R. (2022). Artificial Intelligence in E-commerce: A Literature Review. In Congress on Intelligent Systems (pp. 677-689). Springer, Singapore.

[5] Shyna, K., & Vishal, M. (2017). A study on artificial intelligence E-commerce. International Journal of Advancesin Engineering & Scientific Research, 4(4), 62-68.

c. Reduces the count of errors

Manual descriptions of product may sometimes possess grammatical mistakes, which are nearlyunavoidable. The content generated by AI tends to follow stringent rules of grammar.

d. Visual Search and Image Recognition

The customer might occasionally desire to look for a product online but struggle to do so. The "visual search" or "reverse image search" capabilities can be useful in this situation. Complex algorithms and artificial intelligence can be used in visual searches to detect the items that customers are looking for online and deliver comparable results[9]

(E) Best Use cases for AI in ecommerce:

a. Re-Ranking Results of Product in Real Time

Platforms for product discovery and search that are supported by machine learning and e-commerce clickstream data can re-rank search results to display the products most likely to resultin a conversion. A product will automatically move up in the rankings if it outsells competing products that are ranked higher for a given search phrase, which will increase conversion rates[6]

b. AI-Powered Autosuggest Utilizing Search Data

Autocomplete in the search box is quite good at increasing sales and can increaseconversions by up to 24 percent. But great autocomplete does more than just anticipate common user questions. Now, e-commerce behemoths combine autosuggest with Natural Language Processing (NLP) algorithms to deliver query answers that roughly reflect search intent.

c. User Experiences that are extremely individual

The distinction between offering a visitor a customized experience versus a list of productsis hyper-personalization. Services like Netflix, Spotify, and YouTube appear to anticipate what content users would like to watch. Clickstream data is the foundation for this kind of hyper-personalization powered by AI. Ecommerce companies may use AI to analyze every click, every search, and every item put to a basket in order to better understand what each client loves and anticipate what they will buy.[7]

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[6] Bhagat, R., Chauhan, V., & Bhagat, P. (2022). Investigating the impact of artificial intelligence on consumer's purchase intention in e-retailing. *foresight*, (ahead-of-print).
[7] Bawack, R. E., Wamba, S. F., Carillo, K. D. A., & Akter, S. (2022). Artificial intelligence in E-Commerce: a bibliometric study and literature review. Electronic Markets, 1-42.

d. AI-assisted marketing

On any e-commerce website, there are thousands or perhaps millions of search queries that, for one reason or another a misspelt search term, the usage of a synonym that the search engine does not recognize, or anything similar would return a large number of results.[12]

V. USE AI IN PRICING STRATEGIES OF ECOMMERCE

The data their consumers already provide them can be used to adjust product prices basedon customer demand or elasticity, which is nothing new (airlines have been doing it for quite sometime). According to Ignite Outsourcing, "Deep learning enables AI to make an educated guess as to what you are ready to pay for that hotel room or set of metal tumblers.[8] Here are some fundamental techniques used by online merchants nowadays to implement dynamic pricing:

Determining each product's optimum pricing. Similar to how AI-based solutions can change product rankings, they can also change prices of particular goods based on how likely users are to buy things they see at various price points (as well as the maximum price point, they're prepared to pay for them). In order to maximize profit or revenue, this technique examines consumer interactions at the macro level before determining the product's worldwide pricing.[14]

Estimating the optimum pricing to offer to each consumer. A dynamic pricing AI can change an item's price to raise the chance that a consumer will convert by examining the things that a person clicks, adds to their basket, and purchases. New consumers may be lured in with cheaper prices, while more price-sensitive clients may be offered slightly lower rates. In other words, AI-powered dynamic pricing can offer customized prices.[15]

VI. WHERE ARTIFICIAL INTELLIGENCE IN E-COMMERCE IS HEADED/WAY FORWARD

The pandemic uncovered shortcomings in last-mile delivery and third-party (3P) warehousing operations, many of which were connected to shipping mistakes, complicated deliveries, and inaccurate schedule forecasts. This was made worse by drop-shipping business methods, which are the foundation of numerous online retailer firms. In order to better incorporateAI for delivery, storage, and inventory management even for testing drones

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[8] Pallathadka, H., Ramirez-Asis, E. H., Loli-Poma, T. P., Kaliyaperumal, K., Ventayen, R. J. M., & Naved, M. (2021). Applications of artificial intelligence in business management, e-commerce and finance. Materials Today:Proceedings.

3P and last-mile delivery businesses started to do so. Visual shopping will likely increase. As it most closely resembles the experience of in-store purchasing, Google's Vision Product Search uses machine learning-powered object identification and lookup to display alternative or similar products from a retailer's catalogue, and I think more and more customers will search visually. This is also the preferred way to search on the most dominant shopping tool: mobile. Furthermore, 62% of millennials and members of Generation Z desire visual.[9]

Destination shopping is a strong incentive for people to leave their homes; people need a purpose to do so. I believe there will be a change in how merchandise is stored and sold. Many merchants still use separate inventory models for their online and in-store products. As AI-powered inventory management systems assist in directing inventory to the appropriate end homes,this will continue to alter. Limited stock will be kept in stores more for testing and trying on thanfor actual purchases. As a result, stores will be smaller, there will be less employees working in customer service, color, consumer preferences, and sizing will be better managed; in this final area, AI will be invaluable.[10] Furthermore, thanks to improved last-mile delivery, customers can receive their purchases from a warehouse before they get home from a day of shopping.

VII. AI RELATED CASE LAWS

The first case that is related to AI is ["S and Marper v United Kingdom"] in which "European Court of Human Rights (ECHR)" held that holding individuals' DNA samples who were arrested but acquitted later or have charges against them released is a breach of the right to privacy under the ECHR.

Another case related to E-commerce and AI is the ["Cartier International AG & Ors v British Sky Broadcasting Ltd"] that is about the test case regarding the Trade Mark proprietors' ability to pursue orders against "internet service providers (ISPs)" requiring them to block the websites of counterfeiter. The Court provided consideration to whether this had jurisdiction to give these orders under "Senior Courts Act's Section 37" and Enforcement Directive's Article 11and detained that this did. The factors are considered by court that are applicable to such orders' grant as a query of discretion. It is held by court that this might give orders against ISPs regardingwebsites of several counterfeiters. The orders might be

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[9] Khrais, L. T. (2020). Role of artificial intelligence in shaping consumer demand in E-commerce. *Future Internet*, *12*(12), 226.

[10] Shyna, K., & Vishal, M. (2017). A study on artificial intelligence E-commerce. International Journal of Advances in Engineering & Scientific Research, 4(4), 62-68.

dependent on the "sunset" clause.[11]

VIII. CONCLUSION

It is concluded that AI is not only restricted to experiments and laboratories, if properly executed, it may significantly reduce effort of human and make lives of people easy. AI is drastically altering the landscape of E-commerce with more robust and innovative solutions. E- commerce businesses are adopting it at great pace. The market of E-commerce is going through the revolution of AI, as businesses maintain pace with market trends related to AI to survive in theextremely competitive market. They are now beyond the academic boundary and are transformingthe daily life activities, making them easy than ever. There are several technological innovations in last few years, which are the results of implementation of machine learning and artificial intelligence. These have entered almost all sections of society and now in e-commerce also. Frompersonalized recommendations for products to chatbots like human, AI is altering the landscape ofE-commerce rapidly. The future of Artificial Intelligence in e-commerce is positive. You might not be surprised to learn that the retail industry is projected to experience a boom from AI. That being said, If you want the best possible shopping experience on your e-commerce site, check outthe benefits of artificial intelligence and machine learning. This can help you better to use your consumer and business data to create a workable plan for the future.

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[11] Bhagat, R., Chauhan, V., & Bhagat, P. (2022). Investigating the impact of artificial intelligence on consumer'spurchase intention in e-retailing. foresight, (ahead-of-print).

IX. REFERENCES

1. Bawack, R. E., Wamba, S. F., Carillo, K. D. A., & Akter, S. (2022). Artificial intelligence in E- Commerce: a bibliometric study and literature review. *Electronic Markets*, 1-42.

2. Bhagat, R., Chauhan, V., & Bhagat, P. (2022). Investigating the impact of artificial intelligence on consumer's purchase intention in e-retailing. *foresight*, (ahead-of-print).

3. Fedorko, R., Kráľ, Š., & Bačík, R. (2022). Artificial Intelligence in E-commerce: A Literature Review. In *Congress on Intelligent Systems* (pp. 677-689). Springer, Singapore.

4. Khrais, L. T. (2020). Role of artificial intelligence in shaping consumer demand in E- commerce. *Future Internet*, *12*(12), 226.

5. Lee, S. B. (2020). Chatbots and Communication: The Growing Role of Artificial Intelligence in Addressing and Shaping Customer Needs. *Business Communication Research and Practice*, *3*(2), 103-111.

6. Pallathadka, H., Ramirez-Asis, E. H., Loli-Poma, T. P., Kaliyaperumal, K., Ventayen, R. J. M., &Naved, M. (2021). Applications of artificial intelligence in business management, e- commerce and finance. *Materials Today: Proceedings*.

7. Shyna, K., & Vishal, M. (2017). A study on artificial intelligence E-commerce. *International Journal of Advances in Engineering & Scientific Research*, *4*(4), 62-68.

8. Singh, P., Singh, R., Singh, N., & Singh, M. K. (2020). A Distributed Artificial Intelligence: TheFuture of AI. In *Distributed Artificial Intelligence* (pp. 263-276). CRC Press.

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