



ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON ONLINE RETAIL



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ABSTRACT

As data privacy regulations evolve, retailers are facing pressure to adapt. Taking action to ensure your digital marketing and measurement remain effective is now essential. Luckily, you can put Google AI to work for you to help measure results, reach and convert mindful customers, and create engaging shopping experiences. Privacy is not only top-of-mind for shoppers, it also presents businesses with an opportunity to grow. An APAC survey found that 8 in 10 people confirmed that online privacy is important, and 7 in 10 would stop engaging with a brand in response to a violation of their trust around data. The artificial intelligence monitors the customer's choice, preferences, taste, and purchasing pattern, the frequency of purchases and the average amount spent over a specified period. It provides detailed customer information to Ecommerce Companies. Thus, this information enables businesses to tailor their products and services to their customers' specific needs and preferences. By providing various strategies for product recommendations, discounts, and multiple offers, the AI assists the customer in selecting and purchasing the best suggested/recommended products and services.

KEY WORDS: Lower operational cost, increase revenue, make customer engage, enhance decision making, improve credit score.

Introduction –

The advent of artificial intelligence has sparked a revolution in the retail world, completely redefining how companies interact with their customers and manage their operations. This technological advancement has not only opened new doors to offer more personalized and exclusive experiences but has also allowed retailers to optimize their internal processes and improve the efficiency of their operations. The marketing department within retail companies has managed to evolve its strategies with the adoption of artificial intelligence, gaining a deeper understanding of consumer behavior, allowing the design of highly segmented and personalized campaigns. By collecting and analyzing data, brands can implement strategies to offer products, discounts, or exclusive content precisely, adapting to each of their

customers' individual preferences. On the other hand, AI also plays a crucial role in generating content for brands' own digital channels' campaigns.

By leveraging data collected from user interactions with the brand, AI can create highly relevant and engaging content that resonates with the target audience. This customization capability significantly enhances campaign effectiveness by specifically targeting consumers' needs and desires. Additionally, AI's ability to analyze user behavior allows brands to anticipate emerging trends. By identifying patterns and signals in the data, marketing professionals can offer relevant and timely content that aligns with current and future trends, thus keeping the brand at the forefront of the industry.

AI is rapidly revolutionizing the retail industry by automating many of the traditionally manual and labor-intensive tasks associated with running a successful business.

Artificial intelligence automation allows retailers to reduce costs while improving efficiency, accuracy, and customer experience. AI-supported technologies like catboats, virtual personal assistants, and image recognition are implemented to take on many of the most time-consuming and mundane tasks typically carried out by store staff in the past. Artificial intelligence automation also helps retailers to get better organized and more productive, so they can focus on more strategic tasks without sacrificing operational excellence.

Literature review -

An extensive review and classification of IS literature on AI in e-commerce complemented the bibliometric analysis. It provides more details on how research in this area is conducted in the IS discipline. The review was delimited to the most impactful and influential management information systems (MIS) journals identified during the bibliometric analysis and completed by other well-established MIS journals known for their contributions to e-commerce research (Ngai & Wat, 2002; Wareham et al., 2005).

This study's findings show that AI in e-commerce primarily focuses on recommender systems and the main research themes are sentiment analysis, optimization, trust, and personalization. This study makes timely contributions to ongoing debates on the connections between business strategy and the use of AI technologies (Borges et al., 2020; Dwivedi et al., 2019, 2020).

AI gives companies a huge advantage over other players in the market. Some important AI applications are - recommendations to users about products, tracking the choices, offering real time discounts etc. (Davenport, et al., 2020).

The technology gathers data from the patterns of product search, the number of times a person views a category of product, kind of products a person likes and would want to buy and other

similar insightful information. This information is analyzed to provide recommendations which most likely persuade a person to buy relevant products. Similarly, catboats, which are AI based applications, contribute significantly to solving variety of objections that a customer may face while buying products (Michiels, 2017).

There are certainly other businesses that are constantly improving the techniques and tools which are used in the e-commerce business to modify the processes. Another retail company that is keen on developing artificial intelligence-based systems has focused on the important perceivable elements used in the search option, which is explicitly stated by the company on its website as well as "Artificial Intelligence with a vision" (Ng, 2016).

One significant AI development is the advancement of clerk less stores. Amazon Go, a completely mechanized supermarket in Seattle, dispenses with checkout lines and clerks. Amazon is set to open two additional stores in San Francisco and Chicago. Voice enactment AI is so well known it merits a different slug. Regardless of whether it's educating your Google Home to get you things or requesting that Siri looks for a thing on the web, voice control has acquired notoriety in the retail space (Sahoo, 2016).

Demand forecasting has turned into a vital part of the ecommerce and retail industry. While scholars frequently have analyzed it physically with the utilization of ERP. It is useful to find answers for advanced stock levels, increment effectiveness and hoist client interactions. Progressions in AI have taken an interest in estimating to a great level. Customary retail request estimating frameworks commonly include dissecting authentic deals information along with occasional varieties (Kumar & Garg, 2018).

Artificial Intelligence (AI) has increasingly become a transformative force in the retail industry, significantly impacting consumer buying behavior in online retail environments. This literature review explores the existing body of knowledge on the

impact of AI on consumer behaviors, focusing on various AI applications such as personalized recommendations, catboats, predictive analytics, and social media engagements. The review aims to synthesize current findings, identify gaps, suggest future research directions, and propose hypotheses for further investigation. Personalization is one of the most prominent applications of AI in online retail. AI algorithms analyze consumer data to create tailored shopping experiences. {Bhagat et al. (2022)}

Artificial intelligence demonstrated that AI positively influences consumer purchase intentions through personalized recommendations and customized marketing messages. Personalized product suggestions, based on individual consumer behavior and preferences, enhance the shopping experience and increase the likelihood of purchase. Mussa highlighted that the use of AI in each step of the consumer journey, from need recognition to post-purchase behavior, significantly predicts consumer purchase behavior in the online platform. Mussa (2020)

Research methodology -

The term artificial intelligence was coined in 1950s. This was after the US department of Defence Advanced research Projects Agency(DARPA) took interest in this type of technology. They first started to train machines to mimic basic human reasoning and problem solving and have since then developed machines that are able to perform more intricate tasks. In order for a system to be described as an artificial intelligence system it as to demonstrate human behaviors such as planning, learning, reasoning. Problem solving. Knowledge. Representation, perception, motion and manipulation. This can be differentiated into two sectors; narrow AI and general AI. Narrow AI means that the machine can only perform one task at a time. General AI means that machines can attempt to think and function as the human mind.

The recent development of technology has radically changed the way people shop. Artificial intelligence is one of the fastest growing

technologies used worldwide; there is no surprise that the market size is increasing drastically. In 2020, as per research \$51.08 billion user use AI (Oberlo). The growing uses of artificial intelligence show that it yields plenteously of benefits to the organizations. The increased web shops enabled with artificial intelligence to improve customer experience in online shopping. Artificial Intelligence (AI) enabled chatbots are surging as new technologies with both business and customer prospective. Artificial Intelligence is constantly evolving to benefit many different industries. In recent years, e-commerce has made significant achievements. While enjoying the accessibility brought by e-commerce, people also put forward higher requirements for it. The development of artificial intelligence technology opens up new ideas and forms for the development of ecommerce. This study provides an insight on the uses of artificial intelligence in online shopping. This study is an explanatory research article wherein secondary data such as published journals, articles, and other online data available is to be used.

AI helps retail system collaborate to improve consumer experience, inventory management predicting, and more. AI gives retailer near –real-time intelligence. Cloud analysis can reveal new business insights [4]. Intel technologies allows intelligent display ads, endless aisle kiosks, smart shelving, enhanced inventory control, and smart self-checkout. Artificial intelligence (AI) is a field of technology that repeats recurring patterns and behaviours by gathering data and information from datasets. Given that AI can complete tasks without being instructed to, it has evolved into a necessity for human existence. Every industry, including telecommunications, education, healthcare, entertainment, retail, transportation, and hospitality, is impacted by artificial intelligence. The use of AI App Development has spread to many areas of daily life.

Retail's future is AI. AI will progressively impact corporate research, pricing, inventory management, and customer shopping. AI is improving customer

service in stores. Cameras are being used by stores to track dwell and stare times and identify thieves, and companies like Amazon have already implemented a no checkout policy. Naturally, not everything will always go as planned, as Walmart's collaboration with Bossa Nova demonstrated. AI's influence on jobs was another big concern. If weakening or activity fulfillment is affected, certain studies in this sector should be understandable. This examination missed a golden opportunity to understand how AI has affected this field.

Data analysis and discussion -

It's easier than ever to collect and process customer data about their online shopping experience. Artificial intelligence is being used to offer personalized product recommendations based on past customer behavior and lookalike customers. Websites that recommend items you might like based on previous purchases use machine learning to analyze your purchase history. Retailers rely on machine learning to capture data, analyze it, and use it to deliver a personalized experience, implement a marketing campaign, optimize pricing, and generate customer insights. Over time, machine learning will require less and less involvement from data scientists for everyday types of applications in ecommerce companies.

Artificial intelligence isn't just a novel technology implemented for its "cool factor." Implementing AI has the potential to impact any number of business functions across your organization. To understand how it could impact your business, it helps to have an understanding of the components of artificial intelligence. The definition of AI is broad, and encompasses data mining, natural language processing, and machine learning.

AI technologies play a critical role in predicting consumer behavior by analysing historical data and identifying patterns. This predictive capability allows retailers to anticipate consumer needs and optimize inventory management, ensuring that popular products are always in stock. AI-driven predictive analytics can also help retailers identify

emerging trends and adjust their strategies accordingly, leading to better decision-making and improved sales performance. AI has also been found to influence impulse buying behavior in online retail. By analyzing browsing patterns and using real-time data, AI can identify moments when consumers are more likely to purchase impulse and present targeted offers or recommendations. Research has shown that AI-driven strategies can effectively increase impulse purchases, particularly in sectors like fashion retail.

Conclusion -

The retail sector of today's economy is powered by artificial intelligence. Prior to the COVID-19 epidemic, about 80% of consumers were accustomed to making purchases in physical stores. But, after the pandemic, physical stores are struggling with low sales. Consumers are likely to use e-commerce or online grocery applications to purchase their goods. Policymakers have a role to play in regulating the use of AI in online retail. Clear guidelines and regulations are needed to ensure that AI technologies are used ethically and responsibly. Policymakers should focus on data privacy, algorithmic transparency, and the prevention of algorithmic biases to protect consumer interests. Additionally, policies should promote innovation and the responsible use of AI to foster growth in the online retail sector.

The use of artificial intelligence in online shopping is transforming the E-commerce industry by predicting shopping patterns based on the products that shoppers buy and when they buy them. For example, if online shoppers frequently buy a particular brand of rice every week, then the online retailer could send a personalized offer to these shoppers for this product, or even use a machine learning-enabled recommendation for a supplementary product that goes well with rice dishes. Ecommerce AI tools or AI-enabled digital assistants such as the Google Duplex tool is developing capabilities like creating grocery lists (from the shopper's natural voice) and even placing online shopping orders for them.

AI-based technologies are introducing online shoppers to a range of products that they didn't even know existed in the market. For instance, AI-based technology company, Sentient Technologies is enabling virtual digital shoppers that can recommend new products for online shoppers based on their personal buying patterns and data insights.

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