Impact of Artificial Intelligence in Consumer Behaviour

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Abstract—**The favorable impact of artificial intelligence (AI) on marketers' ability to analyze and understand consumer behavior is examined in this case study. In order to increase the efficacy of their marketing strategies and objectives, marketers are learning how consumers behave online. Artificial intelligence (AI) could be the answer given the vast volume of data that is already accessible and the regularity of data breaches. Image recognition technology has the potential to identify and categorize items in photos by analyzing millions of examples. Through the display of text chat examples, a chatbot can be trained to conduct naturalistic discussions with humans. Currently, companies need to use the best AI skills in order to stay ahead of the competition. AI may be used by marketing teams to interpret vast volumes of data so they can make use of the knowledge and pinpoint their target audience. With its help, they may develop user-centered sales funnels upon which to build their marketing plans. In the end, more traffic is produced, which benefits marketing teams trying to get website visitors to become leads. Technology such as artificial intelligence (AI) is transforming our understanding of and perspective on marketing.**

Index Terms—**AI, Artificial intelligence, consumer behavior, Pique practitioner**

I. INTRODUCTION

Artificial intelligence is the term used to describe the machine-human reproduction of intelligence functions, especially in computer systems. Natural language processing, speech synthesis, machine vision, speech recognition, and expert systems are a few specific uses of AI. Increasing the use of Artificial Intelligence (AI) technology will enable businesses to deal with large amounts of data in real-time. According to McCarthy et al. (1955), artificial intelligence (AI) is a technology that can carry out tasks that would normally need human intelligence. AI integration into marketing processes creates opportunities for marketers and piques practitioners'

curiosity in the range of uses it can have (Fagella, 2018).

Consumer buying behavior is the study of how customers behave when deciding whether or not to purchase a certain commodity that meets their needs. It is an investigation of consumer behavior and the factors that influence individuals to purchase and use specific goods. Understanding consumer purchasing behavior is crucial for marketers because it allows them to better understand what customers expect from them.

Marketers are able to identify the things that customers like and dislike in order to tailor their strategy. A wide range of circumstances are examined by consumer purchasing behavior, including the products that customers buy, why they buy them, when they buy them, how often they buy them, and many other attributes.

Most businesses now employ AI technology to improve customer experience overall by boosting revenues, increasing productivity, lowering operating costs, and forecasting customer behavior. With AI technology advancing, businesses now need to hire the best AI personnel to stay ahead of the competition. With the use of AI, businesses may create enduring customer relationships. With the usage of AI solutions, such as Customer Relationship Management (CRM) software, an organization may engage with customers and improve the overall customer experience. AI can also be used to analyze consumer behavior. Marketers can use AI to investigate how consumers engage with their brands. It may give marketers access into every phase of the customer journey and help them understand what drives consumer behavior. When carried out correctly, it can lead to positive outcomes such as increased customer retention, improved customer connections, and client lifetime value.

Businesses can customize content for their websites and social media pages by using artificial

intelligence. In the end, this increases traffic, which is good news for marketing departments looking to convert website visitors. According to a survey of 2,500 American consumers and company decision marketers titled "A Revolutionary Partnership: How AI is Pushing Man and Machine Closer," corporate executives think AI will become an essential tool in the future. Together, 72% claimed that it was beneficial for businesses. The majority of the companies that took part in Talent Alpha's study, used AI to support marketing (54%) and sales (47%) areas in their companies, by uses of AI in the creative sphere of business with, for example, written content (68%) or image generation (22%). The key driver behind AI's popularity is the significant revenue that businesses see after incorporating AI into customer behavior. By employing AI to interpret vast volumes of data, marketing teams may narrow down on the target market, customer demands, and trend analysis. They can improve prospect exchange rates by basing their marketing strategies on user-focused sales funnel design. More sales are the result of increased conversions. Today's most valuable resource for businesses is a faithful customer base. Businesses take time to cultivate this kind of devotion, which is the reason behind this. Gaining the trust and loyalty of clients requires years of diligent work in meeting or exceeding their expectations. AI techniques tell a great deal about the attitudes, needs, desires, and expectations of their clientele. Through the use of this data, companies can better serve their clientele by streamlining processes and raising prices and quality. This allows companies to stay one step ahead of competitors and attract loyal customers. All companies aspire to achieve this.

According to PwC (2017), artificial intelligence is projected to boost global GDP by $15 trillion by 2030. As a result, artificial intelligence (AI) is currently the most popular trend across several industries, including marketing. Artificial Intelligence is transforming the way customers and organizations communicate. As a result, marketers must be ready for the changes that the artificial intelligence era is bringing about. The lack of a thorough analysis of AI's effects on consumer behavior keeps marketers from utilizing these technologies. AI may be used by marketers to foresee and modify consumer behavior in a variety of contexts, including information retrieval, need identification, evaluation, and purchase decisions, as well as post-purchase behavior.

II. LITERATURE REVIEW

A recent development in business, education, science, medicine, and the automotive sector is artificial intelligence. It is now available for marketing as well (Jarek and Mazurek, 2019). The rapid advancement of AI presents fascinating prospects for research and marketing (Mustak et al., 2021). Artificial intelligence (AI), also referred to as human intelligence processes by computers, is the ability of computers to transform data into plans that have a major impact on customer behavior (Haenlein & Kaplan ,2019). Marketing professionals can use AI to handle vast amounts of data, carry out individualized sales, and satisfy customer expectations (Jain ,2020). The usage of intelligent technological solutions for digital marketing is also encouraging firms to enhance the customer experience through the implementation of new technologies like AI and big data ((Davenport ,2020). Artificial Intelligence in marketing aims to anticipate the next purchase decision and enhance the client journey. Machine learning, massive data, and powerful resolution are the three main components of artificial intelligence (Dimitrieska ,2018).

III. OBJECTIVES

- To study the expansion of the industry after AI adoption.
- To assess the overall effectiveness of the AI-using industry.
- To determine how AI affects customer purchasing decisions.

IV. METHODOLOGY

The information for this study came from secondary sources, such as published research articles in the field, in order to establish the study's premise and validate its insights. This study has made use of a few company cases from a variety of industries, including trading firms, banks, education, healthcare, and online merchants. With the goals of the study in

mind, the researcher has acquired and evaluated the data.

V. IMPACT OF ARTIFICIAL INTELLIGENCE ON CONSUMER PURCHASING BEHAVIOR

A. Banking Industry

Chatbots: There are several applications of artificial intelligence (AI) in the banking industry. Artificial Intelligence is being applied in multiple contexts. Customer service is one important area where AI is being used. In 2016, HDFC Bank, the top private sector bank in India, launched OnChat, an AI-powered chatbot, on Facebook Messenger. The chatbot, developed in collaboration with Niki.AI, experienced a 160% month-over-month boost in transactions during the first year of its use. Nearly Rs 2.5 crore worth of transactions were performed by HDFC Bank OnChat as of April 2018, with over 300,000 customers connected. AI in conversational banking is also demonstrated by Eva, the HDFC Bank virtual chatbot that can be accessed through Google Assistant and Amazon Alexa.

Cybersecurity and Fraud Detection: Customers utilize apps or internet services on a daily basis to pay bills, withdraw cash, deposit checks, and perform a number of other digital transactions. As a result, the financial industry needs to work harder on cybersecurity and detecting counterfeit goods. This is where artificial intelligence in banking comes into play. Banks can reduce risks, monitor system issues, and improve the security of online banking transactions with the aid of artificial intelligence (AI). Machine learning and artificial intelligence can quickly identify fraudulent activities and notify banks and customers.

Loan and Credit choices: In order to assist them in making safer and more profitable lending and credit choices, banks have begun integrating AI-based technologies. Nowadays, a lot of banks still just consider a person or company's creditworthiness when making judgments based on their credit scores and customer references. It is indisputable that all of these credit monitoring programs frequently contain mistakes, leave out actual transaction details, and incorrectly identify creditors. Consumers with a clean credit history may have their creditworthiness assessed by an AI-based lending system by looking at their behavioral patterns. Additionally, the system warns banks of certain behaviors that may raise the

risk of default. In summary, these technological advancements are radically altering the way that consumer loans are processed going forward.

B. Online Retail Industry

The huge datasets pertaining to consumer behavior and usage patterns are exploitable by today's AI and online commercial platforms. Computerized reasoning and self-learning calculations allow online buyers to enjoy customized purchasing experiences. AI-driven online purchasing offers a number of capabilities, including voice-activated search, visual pursuit, instantaneous focus, selection intelligence instrument, and trade in conversation.

Amazon, the largest online retailer in the United States, offers the best illustration of how AI may be successfully integrated into online retail. In addition to the large assortment, prompt delivery, and reasonable prices, a more specialized shopping experience can be created. Hence, users of Amazon can pay in their native currencies, take advantage of location-specific pricing, and receive messages that are relevant to their places. Artificial intelligence (AI) in online retail allows for more personalized and customer-focused search experiences, which improves sales. The development of novel marketing strategies to better connect with target audiences and provide better customer experiences is spurred by new technology that enable them, such as artificial intelligence (AI) systems.

Online retailers have a great chance to look at the profiles of both existing and potential customers and then suggest marketing strategies that are tailored to their needs. AI also increases the frequency and interactiveness of contacts between employees and customers, which increases customer satisfaction and engagement.

C. Healthcare industry

Aside from consumer analytics, finance, and marketing, artificial intelligence has demonstrated great promise in the healthcare sector. Applications of artificial intelligence (AI) in healthcare include claims processing, clinical documentation, revenue cycle management, and medical records administration.

AI Chatbots Assist Patients with a Variety of Medical Concerns: In this digital age, we cannot deny that customers demand quick satisfaction. Virtual

assistants can now offer patients the best treatment for health conditions and symptoms, saving them from having to schedule an appointment with a doctor or travel a long distance to a nearby hospital in search of solutions. While people provide round-the-clock care to patients in shifts, it is more economical and practical to buy a robot that never sleeps. These chatbots may be integrated into the most popular messaging apps, such as Facebook Messenger and WhatsApp.

Artificial Intelligence (AI) is used by Pfizer to support its discovery of novel medication candidates. For instance, the business employed AI and machine learning to aid in the creation of PAXLOVID, a Covid-19 therapy. To focus their efforts, Pfizer scientists can use modeling and simulation to determine which compounds have the best chance of becoming viable therapy options.

Algorithms for Machine Learning in Big Data Analysis to Forecast Treatments and Extract Patient Insights: In the era of big data, obtaining and analyzing vast amounts of information about healthcare consumers is challenging. Thus, artificial intelligence in the form of machine learning strategies, adaptive inference frameworks, and natural language processing software applications such as Human Dx aid in the collection, arrangement, and evaluation of vital information required to provide prescription drugs, provide precise diagnoses, and—above all—provide "personalized care." Machine learning and deep phenotyping not only handle massive amounts of patient data but also help with potential cardiovascular disease prediction. Together, these two strategies help medical researchers and practitioners in clinical practice, which improves patient care in the end.

D. Discussion

AI has undoubtedly helped people by enhancing their online experiences in a number of ways. Quickly responding to all requests and reducing the time it takes an agent to address a caller's problem can improve customer satisfaction. But in order to truly deliver great customer service, a company must anticipate and resolve any issues before clients ever contemplate getting in touch with them. AI-powered tools are able to analyze vast amounts of data quickly. Therefore, by using them to evaluate past and present client data, one may quickly learn more

about them and predict their future behavior. Among other things, this could lead to the development of customized marketing campaigns or the identification of the most common client complaints.

Artificial intelligence (AI) technologies are making the task of classifying massive amounts of data easier and simpler every day. Upon examining the reports produced by AI, a business will be able to ascertain precisely what its clients require, how to provide it, and how to adjust their offerings to better meet their needs.

Based on consumer preferences, AI can identify current trends and forecast where the market will go in the future. This can be used to evaluate how well new goods and services are received as well as suggestions for enhancing customer support initiatives. 90% of consumers say they are more likely to purchase from firms that offer personalized offers and helpful recommendations, while 80% of consumers who identify as frequent buyers say they exclusively use companies that personalize their experiences. Personalization allows us to identify products on Amazon that we wish to buy or get recommendations for Netflix shows based on our previous usage.

One of the best applications of artificial intelligence in banking is without a doubt chatbots. Unlike others who have set office hours, once they are deployed, they can work whenever they wish. Moreover, they continue learning more about the usage habits of a certain client. It makes it easier for them to efficiently understand what the user needs. Banks can provide round-the-chatbots into their online banking platforms.

The given graph shows that impact of sales increases percentage about to 46.20 % and its optimization impact is 63.27 % by using AI tools and techniques.
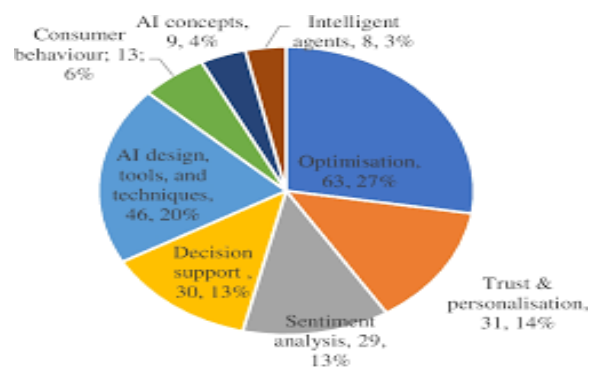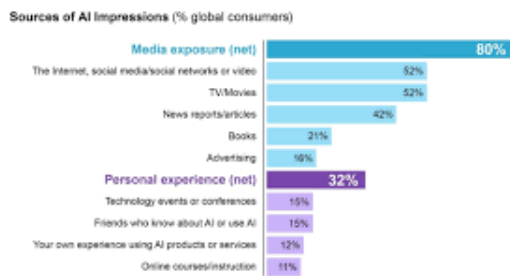

Graph 1.1

Social media users can use hashtags and trending information to search photos for a certain activity, topic, or event on sites like Instagram. This allows users to find popular restaurants, events, and places worldwide. Instagram users can find interesting items among the millions of uploaded images with the use of search functions made available by tagging. Instagram is able to provide adverts to businesses that wish to communicate with a consumer profile and who could be most likely to hear a marketing message by analyzing the search trends and interaction data of its users.

Graph 1.2

the above given graph 1.2 clearly defined that AI have significant impact on consumer behavior buying pattern.

Facebook has access to a robust analytics network that can be used to customize ads based on user interests, the people they follow and interact with, and the items they save because the firm controls Instagram and has 1.8 billion users on the site.

Graph 1.3

The above graph showing increasing share of AI in changing the consumer perception. Like Amazon's ability to anticipate customers' demands through personalized product recommendations is another example of how it may retain customer satisfaction

while increasing its market share. This functionality is made possible by Amazon via item-to-item collaborative filtering. Cooperative filtering operates on the premise that consumers who have previously made a purchase will likely do so again and show interest in related goods. The algorithm uses data from rated profiles of different people or items as the only source of recommendations. Customers can browse products, make purchases, and handle the checkout process with Alexa, Amazon's speech assistant, all without having to click or touch a screen.
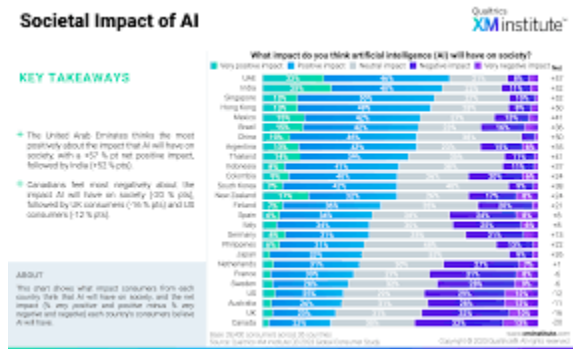
Graph 1.4

The application of artificial intelligence has proven beneficial to consumers across a range of industries, enhancing their online experience. It also helps businesses by enabling them to stay abreast of market trends and customer preferences, thereby improving customer understanding and contributing to the profitability, sustainability, and expansion of their operations.

VI. CONCLUSION

The above Graph and images reveales that the AI have significant impact on consumer buying behaviour and also various research provides us with a clear grasp of how artificial intelligence (AI) can be used to analyze customer behavior. Compared to the conventional method of behavior, in which customers visit a store, choose a product, and make a purchase, our research study of the top six sectors revealed that artificial intelligence (AI) simplifies the marketing process. Additionally, the banking sector uses AI to try to identify prospects and detect fraud. There are numerous applications of AI in the healthcare sector, ranging from disease identification to patient care

services. For marketers looking to implement AI in their organization, this report is crucial.

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