Artificial Intelligence as a Catalyst in Digital Marketing: Enhancing Profitability and Market Potential

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ABSTRACT

In the era of digital ascendancy and economic integration, electronic business (e-business) within the tourism sector has emerged as a pivotal element in the transformation of market structures and the genesis of novel commercial paradigms. This study aims to evaluate the progression of e-business amidst the digitalization surge. The central inquiry addresses the requisite attributes of a contemporary information system for e-business evaluation. To fulfill this aim, the formulation of a precise model is necessitated, one that capacitates the appraisal of factors influencing e-business evolution and delineates opportunities for advancement. The focus of this investigation encompasses the contemporary information and technical systems underpinning e-business. It has been demonstrated through passive analysis that the technical status of an electronic storefront, as a principal intangible asset, can exert influence on cash flow generation. Notably, the transition from site visitor to purchaser is not guaranteed, despite the influx of traffic through acquisition or organic means. Critical attributes for model construction have been identified, advocating for the adoption of an integrative metric – the integral coefficient of site technical condition, which directly correlates with the visitor-to-buyer conversion rate. A novel assessment methodology has been devised, enabling the quantification of internal factors' impact on e-business cash flows. This method facilitates the examination of an enterprise's technical features and the identification of deficiencies that preclude the realization of potential sales volumes, as gauged by the integral coefficient of site technicality. The principal contribution of this paper is articulated through the proposition of an innovative information model as an estimation approach.

1. INTRODUCTION

The landscape of digital marketing has witnessed a marked increase in attention over recent years. Effective communication with customers stands as a crucial determinant in the expansion of business enterprises and the optimization of profit margins. It is imperative for a company's marketing communications to resonate with its target audience to fulfill its strategic objectives. The influence of Artificial Intelligence (AI) on various facets of digital marketing constitutes the primary focus of this investigation. An introductory overview of digital marketing, accompanied by a glossary of AI-related terminologies, is presented in Section 2.

Section 3 delves into a comprehensive analysis of how AI has become integral to digital marketing. AI's role in automating laborious and repetitive tasks is underscored, thereby liberating marketing professionals to concentrate on strategic and creative endeavors. Illustrative instances of such automation, including programmatic ad bidding, content optimization, and email campaign management, are explicated. The utility of chatbots in promoting products and services via AI in digital marketing is elucidated in this section.

The fourth section examines the ways in which social media platforms can be leveraged by businesses to enhance profitability through brand promotion and the strategic use of influencers. AI's capacity for personalizing customer engagement is explored, with personalized recommendations and support exemplifying the application of AI in refining customer experiences via chatbots, virtual assistants, and adaptive content delivery systems.

In Section 5, the predictive prowess of AI in marketing is addressed, highlighting its significance in anticipating consumer behavior. Subsequently, Section 6 discusses the concept of lead scoring, whereby consumers are empowered

to assign scores to leads based on a predefined set of criteria, reflecting their satisfaction levels.

Finally, Section 7 synthesizes the methodologies by which advertisers target customers through online advertising, with the concluding segment, Section 8, providing a summarization of the report.

2. DIGITAL MARKETING

In an age characterized by pervasive connectivity and rapid digital progression, digital marketing has ascended to a critical position, serving as an essential instrument for entities ranging from nascent startups to established conglomerates. This realm is defined by the deployment of strategies and methodologies that harness the potential of digital conduits to connect with and captivate the target demographic. The imperative of maintaining robust communication with clientele is paramount, as it significantly influences business growth and profitability. The role of marketing communication is instrumental in enabling an organization to engage with its intended audience and to actualize its strategic objectives. It has been observed that the interface between human and machine communication, whether it manifests through oral or written discourse, is garnering increased prevalence in the modern digital landscape [1].
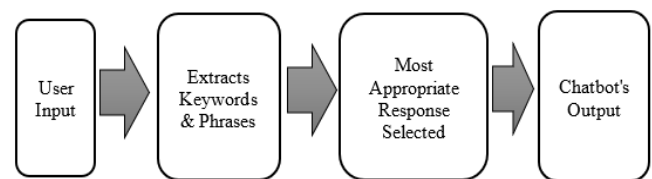
3. CHATBOTS

Digital marketers wanted to improvise their existing businesses and discovered new methods for interacting with various social media platforms. Chatbots can be used to answer customer questions, resolve issues, and provide support 24/7. This can free up human customer service agents to handle more complex problems and provide a better overall customer experience. However, it is not as sustainable as earlier, after the invention of chatbots. People want to interact with computers in the same way that they interact with other people. Chatbots can be used to qualify leads, generate sales, and promote products and services. They can also be used to collect customer feedback and data.

Chatbot for marketing chatbots are digital machines that are meant to interact with customers using natural language and assist them in clarifying their queries, assisting them about products, helping them in tracking their orders, product returns, online payments, or initiating refunds in the digital marketing field. It makes the whole shopping experience for the customer way easier and quicker. Chatbots have gained more popularity in recent years, especially in the field of digital marketing [2]. The primary purpose of chatbots in digital marketing is to promote brands and services with the support of Artificial Intelligence (AI). They are implemented to automate the processes more effectively and efficiently in various marketing sectors. In several e-commerce sites, interacting with clients over live chat interfaces has become an efficient way to deliver a good quality of service in real-time. Chatbots are not alone limited to digital marketing but are also deployed in various other fields depending on their business objectives.

Natural Language Processing (NLP) is a machine-learning technique for understanding and processing speech and producing human-like responses back to the user [3]. It is a dialogue delivery software designed to meet the requirements of customers in various fields. The objective of the machine is to deliver appropriate replies to inquiries and maintain a continued conversation session. The developer community is rapidly expanding, and the open-source software ecosystem has been pushed to help build or improve current developer tools and frameworks [4]. With the greater availability of development tools and technology, application development is much faster. It is feasible to obtain an Application Programming Interface (API) for any application domain from small chunks of data to a vast quantities of data. In recent years, developers have constructed chatbots with ease and it understands what the user has inquired about it does a database search or invoke the corresponding API and responds with the appropriate information. Figure 1 shows the process flow of Chatbot. Developers are motivated to make money to cover development costs, and platforms such as Facebook, Skype, and other mobile applications are altering the platform on which they may deploy their bots.

Figure 1. Process flow of chatbot

The user or the chatbot can initiate the communication. The interaction begins when the user asks a question to the chatbot either via text or voice command. The user input is then analyzed for keywords or phrases, and the most appropriate programmed response from the chatbot's database is queried and selected. After the output is graphically or verbally provided to the user, the conversion procedure is complete.

Benefits chatbots may be a viable option for boosting brand-customer communication. Companies have begun to use AI technology to deploy chatbots in their businesses to deliver high-quality services to their consumers and fulfilling the shopping experience without the need for human participation. In today's online marketing scenario, AI-based chatbots offer an automated customer care service, intelligent marketing, good voice control, and content navigation [5]. Scholars have recently analyzed the impact of anthropomorphism on adoption intention. "Anthropomorphism (derived from the Greek word anthropos meaning man, and morphed meaning structure or form) is attributing cognitive or emotional states to something based on observation to rationalize an entity's behavior in a given social environment [6]." Customer's social desires can be met through anthropomorphic chatbots, especially for customers who prefer a high need for human interaction. When AI chatbots are used by customers, it was proven to offer a positive response on social presence by delivering personalized content to the users depending on their respective choices. This ensures a good quality of service to customers. The author also stated this as a positive aspect in terms of virtual experience in online marketing sites [7]. People who believe they have control over their behavior are said to have psychological reactance. Sometimes, customers are hesitant to use these AI-based services because they are skeptical about their data being shared with such intelligent machines and at the same time more worried about their privacy. So, these people often have a negative experience with AI. Some researchers have investigated the link between social presence and trust in e-commerce. The work

demonstrated that social presence improves the degree of integrity and trust.

3.1 Critiques

According to Rahman et al. [8], as chatbots are designed using technical concepts such as machine learning and artificial intelligence, they have a few drawbacks associated with them. The first drawback is they have issues with handling NLP. For instance, it would be easier for chatbots to return responses to questions such as 'What is the price?'. But sometimes, we can expect a different response for questions like 'Can you check the price?'. To overcome this programming challenge, companies such as Google, Facebook, etc. are mainly focusing on Deep-Text and Syntax Nets. Secondly, machines should be able to learn the correct response and this could be accomplished using AI. The next issue is, there is a possibility that the database which holds all details of the customers could get compromised. When an adversary tries to attack this database, the complete information of the users will be exposed and they can manipulate the behavior of the chatbot. For example, instead of promoting the relevant products to the customer, it could send notifications about unwanted products, which could be misleading.

Georgi and Georgiev [9] conducted a study about chatbot un-subscription rates among users from four countries- Germany, France, Russia, and the Global Market. They investigated Viber Chatbot, which was specifically designed for businesses to communicate with their customers, and there is no requirement for employees to respond to these messages. This chatbot receives customer requests through a text or a button (pre-defined set of questions implemented in the chatbot design) and returns an appropriate response. They stated that this was an effective and cost-efficient method when compared to other AI products. To enhance promotion, it gives its customers an option to download a sticker package on the app. As the customers click and download the sticker package, the customers are automatically subscribed to the app. The subscribed customers will receive broadcast messages to keep them engaged and send notifications or reminders. However, they also provided an unsubscribe option. This sticker pack was released to the European countries and the subscribed users received messages in their respective languages as customer locations are determined by the chatbot. Every broadcast message was sent with a one-week difference in time. There were 260 million active Viber users, and the total number of chatbot users from all regions was 2715914 before the first broadcast message. But unfortunately, after every broadcast message, consumers' subscription rates slowly started to decline. The majority of customers who began unsubscribing with the application were Germans and Russians. Although all broadcast messages had almost similar content, the graph revealed a descending trend in the number of subscribers. Therefore, it is very crucial to send effective and useful information in the initial broadcast messages to keep the subscribed customers engaged and interested in their content.

AI chatbots are replacing roles that were once served by humans. The benefit of implementing AI in chatbots is to make them equally efficient and capable enough to serve the needs of customers just like human sales representatives. Another fact is that they become more intelligent by constant customer interaction and smarter by big data [10]. Current day research scenario is more inclined towards identifying how to develop better social bots for engaging customers in business or commercial boundaries, and how to enhance the services with these chatbots, and how to encourage customers to use them in a better and easy way. They have been deployed in Customer Relationship Management (CRM) exclusively for customer care, services, sales, and digital marketing. Chatbots can become even more popular and more successful if it is used by a large number of individuals. This can be accomplished by several websites on the Internet. Facebook's service was used by over 1.7 billion people in a month, and the company rapidly saw the potential for commercial messaging via chatbots. Since chatbots are designed to make marketing much better in terms of product recommendations and financial or shopping decisions, awareness can be spread among users to improve the global digitalization rate.

4. SOCIAL MEDIA MARKETING

Social Media can be considered as one of the effective communication channels for digital marketing. Hiring appropriate social media influencers for the respective products would not only promote the brands but would also maximize business profits. When combined with Artificial Intelligence, this can be accomplished to a greater extent. Recently, social media marketing with the help of influencers has emerged as a critical component of digital marketing strategy. AI can be used to monitor social media conversations and identify trends, sentiments, and popular topics. This information can then be used to inform social media marketing strategies and content creation. Nike, a leading sportswear brand, successfully leveraged AI to identify and target relevant influencers for their "Dream Crazier" campaign. Using AI algorithms, Nike analyzed social media data to find influencers who aligned with their brand values and had a strong following among their target audience. This data-driven approach resulted in a highly successful campaign that resonated with consumers and generated significant brand buzz.

AI can be used to generate content ideas, create social media posts, and even write entire blog articles. This can help businesses save time and resources, while also ensuring that their content is relevant and engaging. In July 2021, there were around 4.4 billion active social media users [11]. As a result of the pandemic situation, the graph gradually inclined further by the end of 2021. People had almost spent a couple of years distanced from family and friends and had to run their business from home. Therefore, they had to change the mode of communication after the lockdown was imposed. Schools, colleges, and offices offered home office options and almost everyone had to get adapted to the situation and run their lives entirely digitally. Later, there was a rise in social media activity as many users began to use social media especially for their business purposes. According to the social media benchmark report 2022, when the statistics and information about social media usage were examined for the past 12 months, it was discovered that there existed an inherent relation between social media and influencer marketing.

To guarantee optimal engagement, businesses must select the correct social media influencer for their digital marketing initiatives. AI can be used to identify and connect with influencers. This can help businesses reach a wider audience and promote their products or services. AI tools and

techniques can be helpful in determining the best fit for promoting their brands [12]. Social media platforms such as Facebook, Instagram, and Twitter have grown to meet specific demands with the latest news, connecting with family and friends through social messenger applications, and learning about new fashion style statements and trends. This offers a great opportunity for companies to establish a collaboration or cooperate with media influencers that have large followers. Instagram is currently the most popularly trending social media application for digital marketing with paid partnerships to enhance the product's market value.

AI technology can be utilized for social listening that provides significant details about customer behavior. Earlier studies have shown that lexical analysis can be used to interpret customer requirements through consumer-generated text in social media platforms such as product reviews, captions, hashtags, written comments on someone else's posts, textual conversations to predict what influences brand impression and provide monetary value to our buying purpose [13]. Social media listening involves monitoring and analyzing social media conversations to gain insights into brand perception, customer sentiment, and emerging trends. AI-powered social media listening tools can track brand mentions, analyze sentiment, and identify key influencers, providing valuable data for reputation management, product development, and marketing campaign strategy. Image analysis has gained popularity in social networking platforms. For example, a human facial feature recognition scheme can use AI to predict the customer's age or can even perform sentimental analysis. In recent years, AI extended an opportunity to researchers to train complex neural networks to identify distinguishable features in pictures such as car's model and brand to the sort of product being used.

The global market for Virtual Reality (VR) based applications is now evaluated to be approximately US$14 billion [14]. It is expected to increase up to US$60 billion in five years from now. According to a World pay report, 55% of customers around the globe expect Augmented Reality (AR) and VR will become as famous as our mobile phones. Integration of AI in social media marketing is important because it automates the business process. AI technologies and tools help in automating repetitive tasks which do not involve any manpower and save a large amount of time. Content creators or digital marketers schedule their content, publish content, and check out reviews and feedback about the respective brands and products. AI tools can analyze data from numerous sources from social media profiles, hashtags, databases of the firm, customer profiles, past purchases, and preferences. The final results extracted out of these AI tools are utilized to enhance business marketing programs and reduce overall marketing expenses while improving their efficacy. In the future, we anticipate that academics will use AI to identify large data as an input into social media.

Critiques Social Media Marketing targets information and advertisements with previously unimaginable accuracy. As a result, the business revenue is maximized since users spend more time on their platforms and click on more advertising links. AI in digital media marketing is specially built to increase the engagement rate between social media users. However, there are certain drawbacks associated with this as well. In social media marketing, the biggest engagement typically comes from content that might be provocative. This can cause discomfort to social media marketers [15]. In one scenario, AI failures at large social media platforms imply that your brand's material may appear alongside hatred speech or unsuitable information, potentially harming you. In another case, marketers wanted to deploy AI techniques that optimize engagement in advertising or promoting. Attackers may target social media systems by injecting malicious software programs and users' data could get compromised. In such situations, machine learning techniques can be used to detect such software. Such techniques are still being investigated. Currently, there are access control methods implemented to safeguard social media access and to ensure the authenticity of users. Identifying the legitimacy of users is still a challenge in social media networks. According to the author, machine learning techniques can be used to detect such false user profiles which are built using malicious code and by other means which could cause a large impact on digital marketers. For example, it might have an impact on an influencer's social media posts on a specific product and have a bad impact on the followers' minds. Researchers in cyber security are striving to identify such software and protect the social media network from such adversaries.

5. PREDICTIVE MARKETING

Digital Marketing organizations state that 98% of customers prefer window shopping and the rest 2% prefer online shopping. It is also said that only 8% of customers return for a second purchase. Therefore, stores the need to understand the window shopping patterns and establish their marketing needs accordingly [16]. Propensity modeling may be used to identify a customer's proclivity to convert, the price at which customers would like to convert, and who is likely to return. This model is also termed predictive analysis. This is because it incorporates analytical data to anticipate consumer behavior. Based on the large data, it detects trends and predicts future outcomes. Salesforce Einstein Lead Scoring helps organizations prioritize leads most likely to become customers. It scores leads using machine learning algorithms that analyze CRM, marketing automation, and social media data. Lead scores can categorize leads, prioritize follow-up, and evaluate marketing campaigns. Forecasting marketing tool Microsoft Dynamics 365 for Promotions lets firms build and manage targeted promotions. It analyses client data using machine learning algorithms to find patterns and trends that might improve promotion success. Promote to particular client categories and track their impact. Marketing prediction tool Adobe Campaign enables companies create and manage personalized marketing campaigns. Customers are profiled by machine learning algorithms to customize marketing messages and content. Adobe Campaign can evaluate marketing campaigns and business results. Enterprise software from SAP may be utilized for predictive marketing. SAP systems may analyze client data, generate profiles, and target marketing initiatives. SAP can also assess marketing campaign effectiveness and commercial consequences.

Yeo et al. [17], estimated that 98% of customers do not wish to purchase on their first visit. The authors studied the prediction behavior of the customers if they would visit again for a second purchase in the future. Re-targeting was considered as an option for them to attract customers by sending vouchers and other beneficiaries. Their major goal was to predict the behavior of the market and the customers. Market prediction seeks to discover a conversion rate and consumer behavior for a certain product. Here, customer

behavior modeling was used as an analytical measure for the customer retargeting method. When analyzing the earlier techniques where only one was taken into consideration – either the customer or product-level conversion pattern, the authors proposed an aggregated method that supports both patterns the depending on the well-studied purchasing decision method.

5.1 Predictive analysis

Digital Marketers can create more awareness about a certain brand or product among their customers through predictive analysis. This may be done by delivering customers with appropriate and relevant product content. When the customers are targeted with irrelevant content, there might be a possibility for low click rates and a decrease in the rate of interest of the customer towards that product. With the help of predictive analysis, one can determine the events that are bound to happen next. It can trigger offline decisions on what is being delivered digitally. Using this approach, digital marketers can enhance the email frequency. Customers do not want to be attacked with continuous marketing emails. Therefore, by optimizing the marketing mails frequency, marketers can attract the right customers and increase sales. For instance, Starbucks, a popular coffee shop brand, uses customer loyalty cards and mobile applications to collect and analyze their customer data. Starbucks app records all the purchases including the order timing, and other details of the customer collected during the application registration, and maintains a track of it. The company employs predictive analysis to analyze this data and provide customized marketing emails and messages. Therefore, whenever a customer visits a nearby Starbucks shop, these messages contain suggestions and attractive offers which not just gain the customer's attention but also enhance the customer's average order value, which in turn will increase the business profit.

Amazon implements predictive analysis in recommending suitable products for its customers depending upon their previous purchase activity. This recommendation technique increases Amazon's sales by 30%. Amazon intended to create a mechanism that, based on projections, would send products to multiple regions where orders were expected even before those orders were posted on site, therefore shortening the time it took to deliver products to the customers. According to the author, a management professor believes that predictive marketing has benefits such as pricing optimization, more accurately evaluating the customer requirements using AI methodologies such as machine learning, unstructured information analysis, textual analysis, social media, and pricing pattern analysis will stimulate desirable consumer behavior. He also stated that 86% of executives who have been managing predictive marketing initiatives for at least two years reported an improvement in return on investment (ROI) in the business. Raveena and Surendran [18] worked in the predictive analytics sector and implemented machine learning algorithms in a system specially designed for estimating daily sales prediction. By using this AI technology, it improves the business strategy and better competition among the organization's competitors. Content marketing is one of the most strategic methods of marketing, especially in the manner in which a digital marketer's post and show material about their items on the internet. Previously, Google assessed and prioritized the contents based on the keywords entered by

users. The biggest flaw of the keyword strategy was that a lot of duplicated and false material ended up ranking alongside the legitimate one at the top. However, post the invention of AI, it is no longer the same. Google is also slowly modifying its ranking strategy. Google uses machine learning algorithms to sift through data, recognize the original material, and rank it accordingly. The production of actionable content that targets the correct audience is critical to a company's success. Companies are utilizing AI to generate content automatically, engage with consumers via chatbots, and develop customized content for their customers. Marketers may also use AI techniques to acquire important insights into the top-ranking content. They may also obtain advice on how to improve their present content and which channels will lead to greater sales. Machine learning can examine large volume of data about the customer to decide the optimum time and days of the week to contact them, the suggested frequency, the content that attracts them the most, and which email headings and titles will lead to more clicks.

Predictive analytics is a type of data mining that employs machine learning and statistical modeling to predict the future using past data. Today, we all rely on numerous applications to meet our day-to-day demands. Banking apps, for example, employ predictive modeling to accept or deny loans or credit cards. In digital marketing, determining a product lead is critical, but we must also examine how promising they are. Financial service companies can utilize thousands of data points generated by their customers' online behavior to identify which credit cards are ideal for them and when they should use them. Fashion merchants will keep track of their customers' purchases and analyze them to recommend the next most appropriate item for them to buy. For example, if a consumer buys a winter coat, the system utilizes their purchase data to indicate which shoes are most suited for this outfit and should be purchased next based on the previous purchase history of other customers. Every time we search for anything on Google, Twitter, Facebook, or Amazon, we feed more data into the machine, thus making it smarter.

5.2 Data privacy issue

Customers are more concerned about their data privacy. Privacy is sophisticated for various reasons. Firstly, low storage cost implies that the data could reside longer than it is intended to be. Secondly, the data collected from the customers could be compromised or used by unauthorized entities. Thirdly, the data for one person could contains information linked to other people. Data privacy policy necessitates balancing two contradictory interests. Customers may not embrace AI-based applications if they are not adequately protected. Too much regulation may hinder innovation. When firms gather data from clients, they should be aware of the methods by which they may address, respond to, and, most importantly, handle data breaches if occurred.

5.3 Incomplete data for predictive analysis

The data may be incomplete. For instance, the data may satisfy only one of the two criteria of a wider set that you're attempting to predict, such as when a model developed to examine stock market performance only has data accessible from the last five years, skewing both the data and the model. The model fails to react if the market has any modifications implemented that lead to a bear market, just because it was not

trained and tested with data simulating a bear market.

When analyzing the questionnaire responses, it is critical to note that not everyone would offer accurate information. We do not know how many are stating the truth about how frequently they use social media or make online purchases. There is a chance of deception, but the evidence stays the same.

5.4 Ambiguous data

The quality and format of data obtained from various sources might vary. Data acquired from a variety of sources, including surveys, e-mails, Google, or any other online data entry form, and the firm website, will have varying features and structures. Data from diverse sources may not have significant data field consistency. Such data needs extensive preprocessing before it can be analyzed. It is important to check any missing values in the data set or identify any errors in the data. Avoiding duplication or outliers in the given data, normalizing the data, and identifying any derived data for further analysis.

6. LEAD SCORING

Digital Marketing teams use lead scoring to estimate the quality of leads, or new consumers, by assigning values to them depending on their behavior linked to their involvement in goods and services. The lead value assigned can differ in different organizations, but is usually defined by the level of engagement observed in the brand or their leadership role in the sales process. Businesses deploy point-based services to evaluate leads, or simply call them hot or warm or cold depending on their past communications. Companies' first objective is to attract sales leads or market opportunities into their channel, but once they have a maximum number of leads, they must concentrate on the most promising prospect. Before the lead scoring process is initiated, marketing companies must agree on what constitutes a quality lead. To assess a lead, relevant information and respective documentation about the lead role and its role in the industry are collected to evaluate whether they are eligible to market to. When determining if a lead would be engaged in a firm and its products, details about the lead's behavior, characteristics, or areas of focus can be used. Each activity is awarded a numerical value depending on the probability that it could result in a purchase, as predicted by the software. A marketing-qualified lead (MQL) is a potential customer who has demonstrated interest in a company's products or services and is considered to be more likely to become a customer than other leads. MQLs are typically identified by marketing teams based on their engagement with marketing campaigns, such as downloading whitepapers, attending webinars, or visiting specific pages on a company's website. The emails that the lead reply to the areas that they browse on the company's official website, and how often they visit; whichever forms they fill and submit or download; and if they click on a forum post or connect via social sites are also all indicators that businesses use to assess a lead's engagement. Depending on whether the organization is offering a good or service, and what market they are supplying into, the value of particular Key Performance Indicators (KPIs) can shift.

6.1 Lead scoring tools

Many software packages are available to support businesses in executing lead scoring. Lead scoring technology tools are available from CRM providers, including Salesforce Einstein Lead Scoring, Microsoft Dynamics 365 for Promotions, Adobe Campaign, SAP, etc. Lead scoring systems enable enterprises in gaining and retaining leads by tracking and scoring their activities. Lead scoring software has limited effectiveness by itself, but when incorporated with Customer relationship management systems (CRM) and workflows, it can add a lot of value by placing sales agents and executives in the correct places. To be beneficial to marketing and sales groups, lead scoring solutions can establish and sustain lead ranking scales depending on the company's target and industry positioning. Supporting small to medium-sized clients as leads could be impacting your sales representatives if your company relies on commercial clients. Allow customers to give provided lead scores based on predetermined requirements outlined by the advertising distribution part of a business. If a company is targeting a business, its lead scoring algorithm should grant a high rating to enterprise customers than to smaller firms. To link new prospects to what the business needs in a buyer, we provide actionable insights to business stakeholders that are aligned with corporate standards. Integrate with technology for supply chain management, as well as technologies such as machine learning. Allow organizations to import data from various sources, such as questionnaires or market statistics, with importing and exporting capabilities. The results of lead scoring must be simple to download for use in the dashboard. Based on data hypothesis testing, lead scoring evaluates the value of a potential revenue lead and if it is extremely rewarding. Artificial intelligence gathers information through volumes of data to identify the most suitable consumers, employers, and even peers based on the data it already has and the software it employs. It can also anticipate or rate how hot a lead is, which is even more exciting. As a result, for recruiting reasons, this could save a huge amount of effort on basic research, providing the marketer more time to focus on marketing and promotion calls.

This is the procedure for granting value for each lead they produce. Users may evaluate these leads based on accumulated points using a numerical scale. The leads with the most accumulated points are the most likely to switch. Rating these leads is based on the sort of data they provide or their level of website engagement. When you apply lead scoring, you rank leads depending on several factors. You may evaluate them depending on the specifications they provide and how they interact with your brand and websites. Marketing teams may save money on marketing by ranking prospects depending on where they are in the sales pipeline. Therefore, they focus their content development efforts on producing qualified leads instead of regular leads. There are three different types of lead scoring models.

6.2 Demographics model

This is a standard technique for grading audiences. If you're trying to reach out to a certain set of people, this could be the best model to choose. For instance, you may collect demographic information from your website' based on that data. And later make your decisions based on this information.

6.3 Online behavior model

The online behavior model can be another popular lead

scoring approach. This approach examines the leads who finally converted and the steps they took to get there. You'll need to know the following when using the online behavior model:

(1) Which pages users visited on your website; (2) the total count of pages visited; (3) whether they subscribed to receive emails or followed your social profile; (4) the discounts they downloaded; (5) the number of deals they downloaded; and (6) the duration of time they spent on your website.

6.4 Engagement model

Although it is comparable to the online behavioral model, it focuses solely on the method in which leads interact with your business. It is more concerned with their involvement with your brand than with how they converted in the past. It is predicated on the idea that high engagement equals development especially.
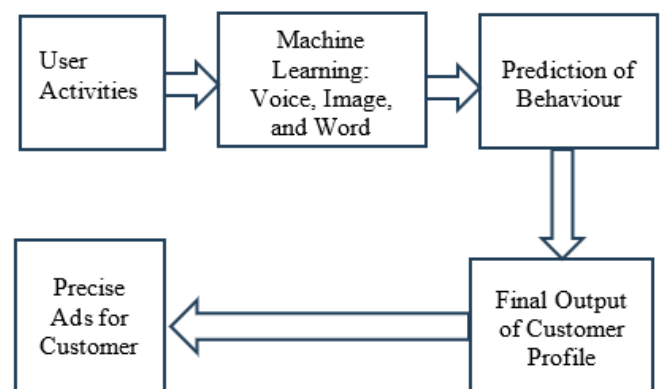
7. AD-TARGETING

Ad targeting is one of the marketing strategies to attract customers and enhance businesses. Advertising companies specialize in the delivery of digital marketing services. In the United States, advertising firms work for major magazines, selling advertising space, and are getting paid for it. Currently, their business has been widely recognized and spread. The advertising firms are concurrently working with several firms for marketing and promoting their services and commodities. The benefits involved in hiring an advertising agent are lowering the company's expenses by outsourcing the activities of designing, generating, and putting up advertisements, advertising background of companies that have recruited professionals in so many fields of work and therefore can give solutions to complex or special remedies and lastly the innovation of advertising firms.

In today's scenario, there are AI solutions that can effectively optimize the advertising budget and determine crucial factors that define the interests of the intended audience. AI can evaluate a marketing company's data based on advertising expenses and campaign outcomes to predict what measures (modifications in expenditure, variations in targeting) will result in greater productivity. This is also true for a sizable proportion of sophisticated initiatives. In this regard, we may look at the statistics released by an advertising firm that ran a campaign for a gift store and used a false in- formation from Albert to automatically enhance its sponsored advertising. The outcomes were remarkable.

Researchers identified methods to streamline the expenditure, and increase income from advertising, and become more productive than a human operator. The program utilized data acquired from large volumes of advertising budget data, discovering new customers for the gift store business that the management seemed to have no thought were relevant customer demographics. We may infer that AI's ability to comprehend and develop without human intervention has provided the business with a significant competitive edge over both human-powered and classical software-based ad programs. AI can also describe the performance of advertising agency commercials and even assist in improving performance. As a result, it is now widely employed to effectively enhance the activities carried out in marketing campaigns. Advertising networks, like Facebook,

offer AI that assists digital marketers in creating advertisements and suggestions far faster than advertisers' labor, utilizing the material that you have previously supplied. Many of the technologies that are already accessible help to further this process. Thus, an AI-powered phrase tool creates Facebook and Instagram commercials from scratch, and the ads are targeted to convert into sales. AI-based technologies also help to reduce the amount of time necessary for overall campaign management. Word Stream employs machine learning to assess your advertising campaigns fast and effectively. With just a few clicks, the same tool reveals opportunities to make modifications to your Facebook, Google, and other ad campaigns. The program develops on its own over time as it learns which phrase leads to higher performance from each new advertisement.

Determining an intended audience is essential for organizations because it may lead to greater revenue at a cheaper rate. Web browsers offer keyword-driven content depending on the needs of the user. Machines are becoming smarter today. With the help of AI, we can determine the scope and conclude using the keywords provided by the customers while searching for certain items, the semantic index, and synonyms as shown in Figure 2. Furthermore, AI can effectively understand customers' interests by monitoring their habits and making predictions. Unlike classical categorization, AI intends to create smarter systems capable of supporting highly customized customer insights at a cheaper cost, since every customer engagement detail may be used for product enhancement.

Figure 2. Ad targeting using AI

Websites are monitored by the AI system. These activities are then analyzed using machine learning techniques such as voice processing, image detection processing, and even word analysis is performed. Machine learning has a unique way of evaluating and predicting customer history and repeated activities to identify potential customers for marketing or promotional operations. Companies may use AI to maintain contact with their customers throughout each step of the process according to their interests and demographic characteristics. Rather than establishing an advertising campaign to target all customers, businesses may generate customized content for each targeted group of shoppers without having to invest more resources to enhance revenues and profits. Following the analysis and evaluation of these actions, the customized ad for the targeted audience is shown. Eventually, marketing strategies can become more successful since consumers can be classified into distinct group and categories, allowing for highly focused area. The basic

parameters for targeting advertising in digital marketing are cost-per-acquisition (CPA) and cost-per-click (CPC).
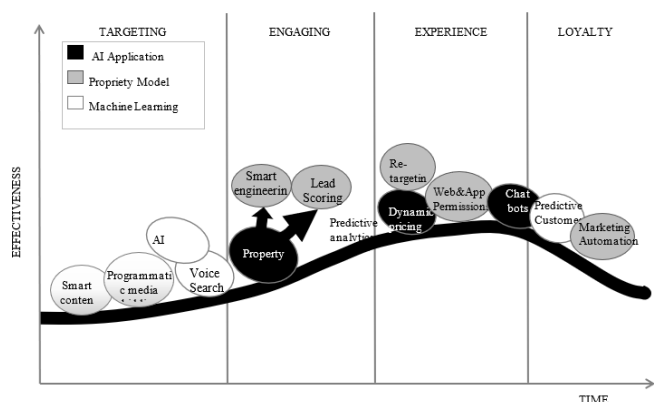
**Figure 3.** AI based time and effectiveness monitoring system

In Figure 3, researchers categorized them into three types of technologies: Machine Learning, Propensity Model, and AI Applications. Machine learning algorithms learn from previous data samples, which can then be used to construct propensity models. Propensity models are used to predict specific occurrences, such as evaluating leads based on their potential to transform. Other types of AI include AI applications that do operations that would typically be accomplished by a human agent, such as answering consumer inquiries or generating new content. By continually optimizing hundreds of factors using machine learning, you may achieve more effective media placement and content than traditional algorithms. However, people will still be required to do creative work. We can see in the graph, the effectiveness of targeting engagement experience, and loyalty increases with time. Initially, smart content is generated using the customer inputs such as keywords, voice commands, etc. A business that masters voice search is said to benefit from significant increases in site reach with strong consumer engagement as a result of increasing voice search traffic from AI-powered digital assistants. Smart content curation helps the company engage online shoppers by displaying the right and most relevant content to the buyers. This strategy is most commonly found on many sites under the 'people who purchased and also bought B' recommendation section. It is also a great approach for gaining membership as the more customers utilize a particular service, the more digital information the machine learning algorithm has to work with, the better the content suggestions provided to the customers. Once the user has made his/her first purchase on that website, the transaction details will be recorded for further procedures to keep the buyers engaged with their brand. Based on the purchase behavior, customers might be targeted using an AI technique called predictive analytics. It is termed predictive analytics because it makes predictions about how customers would act based on analytics data. Machine learning propensity models may be taught to score leads based on various aspects. The sales representatives may save time and focus their attention where it is most successful by targeting the most appropriate leads. Insights on a lead's proclivity to buy may also be utilized to focus offers and discounts in the most effective places.

To keep the existing customers more engaged with the brand, companies keep retargeting them with advertisements, dynamic prices, web, and app personalization. Dynamic pricing directs special offers exclusively to customers who are likely to benefit from them to convert. Machine learning can develop a propensity model which describes what characteristics indicate a consumer is expected to avail an offer to convert and which indicates a consumer is likely to be receptive without an offer. This implies businesses may grow sales without affecting profit margins, boosting earnings. Implementing a propensity model to predict a purchaser's level in the customer's journey allows you to present that user with the most appropriate information, whether on an app or a web page. Now that they are frequent customers of the brand, their experience and loyalty grow also over time and may persuade other people to purchase the same items and this cycle repeats so on.

AI algorithms gather and classify data on prior customer transactions, purchasing patterns, commonly purchased items, etc. the back-end of search engines and e-commerce platforms. This aids in the development of buyer personas, the categorization of consumers, and the creation of customized loyalty schemes and discounts depending on customer profiles. Many websites use web cookies to collect information. According to the preliminary research findings, 60% of respondents are satisfied with retail platforms, merging customers' buying preference information with psycho-graphic and demographic information for customer profiling and generating customized deals. More than 50% of the target population is willing to give data, which reflects well enough for the growth of AI in the commercial store. AI algorithms, mainly data modeling and data mining, are used to derive valuable inputs from unstructured information to anticipate trends and customer behavioral patterns in online retailing. Exchange rates from online advertisements have risen using digital marketing strategies. Primary study was intended to determining the relevance and extent of customization of product promotion and consumer engagement from the consumer's point of view. 77% of research participants felt that AI had increased the personalization of business, marketing communications and sales.

This verifies the secondary study customer engagement inference that AI technologies have all had a significant impact on the customization of consumer engagement. Effective offers and recommendations will enhance advertisement click-through ratios and turn prospects into consumers. Figure 4 represents the customer's behaviour towards ad targeting.
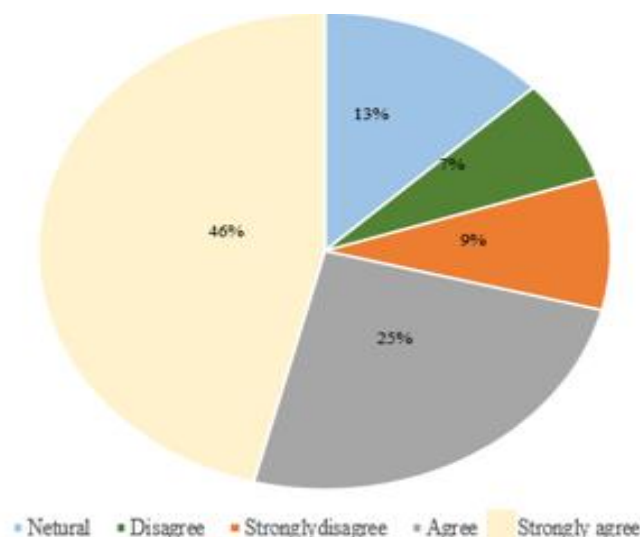
Figure 4. Customer's behaviour towards ad targeting

With the introduction of digital marketing, the number of advertisements and pop-up notifications that customers encounter while browsing any e-commerce site or social networking site has tripled. Participants in the survey believe that targeted advertisements and customized message ideas are effective and engage with their specific needs. In today's environment, personalized and moment marketing are becoming increasingly popular. Big data integrated with AI-powered technological solutions aid in the prediction of buying behavior and allows advertising strategies to be adjusted accordingly. With the potential to segment the market in an infinite number of ways and at the customer- specific layer, targeting is becoming increasingly frequent in the contemporary industry. Online advertising, for example, uses cookies to target specific buyers by following them around the Internet everywhere they go. The new targeting is indeed flexible in that it would aggregate existing consumers into a sector if they have similar interests or it can separate a sector if diversity within the segment becomes apparent. Targeting includes not just locating segments but also deciding whether or not they should be targeted. It is a matter of anticipating the results if they persist, and forecast at the interpersonal level is only scalable with the support of AI.

7.1 Drawbacks

AI has the potential to identify and predict consumer attitudes in every aspect based on their past transactions. However, the usage of AI in Ad Targeting is also associated with privacy concerns in terms of fundamental human rights. Marketing Organizations could track their customer's online activities using AI technology. However, this could lead to invasion of privacy and socio-economic exploitation. This cutting-edge technology monitors users' daily routines and collects information, which could include particular actions or personal behaviors (e.g., eating, drinking, digital shopping, browsing, gaming, and movies). We can say that, while AI may give useful exposure to all aspects of the intended audience's life, it also comes with certain potential hazards in terms of privacy.

8. CONCLUSIONS

The incorporation of Artificial Intelligence (AI) into digital marketing has ushered in a new era of consumer engagement and business expansion. In line with the research objective to examine the impact of AI on customer segmentation, the study revealed that AI-powered tools can effectively segment customer bases based on diverse factors, enabling marketers to deliver more personalized and targeted marketing campaigns. This aligns with the observed increase in customer engagement and conversion rates associated with AI-driven segmentation strategies. This report investigates the multifaceted effects of artificial intelligence on digital marketing, casting light on its transformative capabilities across multiple dimensions. From personalized user experiences driven by sophisticated algorithms to frictionless interactions facilitated by AI-powered chatbots, AI's impact on brand promotion and customer service is undeniably remarkable. Social media platforms have become a fertile ground for AI-driven strategies, allowing businesses not only to maximize profitability through targeted campaigns but also to leverage the influence of social media personalities. AI's

predictive capabilities have emerged as a linchpin for informed decision-making, providing valuable insights into consumer preferences and behaviors. This predictive capability enables companies to precisely tailor their marketing efforts, thereby increasing conversion rates and fostering consumer loyalty. Another aspect of AI's influence is lead scoring, which enables businesses to allocate resources effectively and engage with high potential consumers, thereby optimizing the conversion funnel and enhancing overall customer satisfaction. Moreover, the strategic deployment of AI in composing and disseminating targeted online advertisements has reshaped the landscape of digital advertising, ensuring that marketing messages are delivered to the appropriate audiences at the appropriate time. As the digital marketing environment continues to evolve, it is evident that AI's influence will continue to grow. The symbiotic relationship between AI and digital marketing provides businesses with unprecedented opportunities to innovate, connect, and flourish in an increasingly competitive market. The voyage through this report's various sections demonstrates the transformative power of AI in digital marketing. The convergence of technology and marketing has produced a harmonious synergy that not only enhances consumer experiences, but also propels businesses to unprecedented heights of success. As we move forward, the continued exploration and integration of AI in digital marketing promise a future in which innovation will know no bounds and businesses will maximize their potential and profits.

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