

Application of Artificial Intelligence (AI) in Connection with Marketing

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Abstract - Artificial intelligence (AI) in marketing is getting popularity due to the practical impact it will have in both the current business and the industry of the future. It is essential to conduct research studies with a wider scope and coverage on the application of AI in marketing, and it is also essential to conduct meta-analyses of previously conducted studies in order to determine the routes that future research should go. In the most recent decade, the development of artificial intelligence has contributed to an increase in the complexity of marketing. The utilization of technology to its fullest potential in order to provide a superior experience for customers is the goal of artificial intelligence marketing. In the past several years, it has become increasingly important for companies to identify and comprehend the demands and expectations of their customers in regard to the products and services they provide. Artificial intelligence might be used by marketers to process vast amounts of data, carry out individualized sales, and match the expectations of customers. This research aims to provide a fundamental overview of AI in marketing management, which is the goal of the project.

Keywords: Artificial Intelligence, Digital Marketing, Marketing Analytics, Consumer Behavior.

I. INTRODUCTION

In competitive environment, technology and marketing are going hand in hand, to create a path for triumph [1]. In turn, controversies have been growing concerning the involvement of having Artificial Intelligence in making business decisions. This means the latter has become more important to marketers over the years, to bring in social knowledge and human touch to prevent the technology from scandals potentially ruining the brand. Artificial Intelligence (AI) has been present for decades but lacked the fundamental means to reach its full potential regarding the access of data that would push AI to the next level [1]. The mass of modern society has adopted technological advancements and has continued to evolve since the origin of the internet, which has introduced a tremendous amount of data. Giving AI developers the means to feed this historical data into these AI algorithms and those marketers can now seize opportunities to

personalize content into enhancing the consumers' experience. The benefits of AI have opened doors for all entities and contributed to delivering specialized content to customers. In terms of marketing, implementing automation has helped businesses to become more viable in the hype of AI and marketing activities. "Artificial intelligence has dominated popular culture for years; and soon may dominate marketing" [2]. With the ever-changing societal demands and needs of customers. The dynamic and abundant amount of information allows AI to come into play by simultaneously creating the demand for personalization, clustering data, and tackling the dark sides of technology [3].

II. REVIEW OF RELATED WORKS

2.1 Artificial Intelligence (AI)

Artificial Intelligence contains algorithms that support programs and systems to increase performance by analyzing big data. It follows that AI establishes "intelligence" in the same way compared to human intelligence by using Machine Learning to make decisions and predictions based on big data analyses from collected information of consumer's purchase history. The core principle of AI is the data that is being used. Therefore the biggest five tech companies, Facebook, Google, Apple, Microsoft, and Amazon, are holding an edge for the data it possesses about the worlds' citizens [2]. Due to the data being processed it is widely discussed how one's integrity is protected and to what cost. From this, different documentaries have emerged to reveal behind the scenes how data is collected and how it can be used. In "The Great Hack" it is evident that data is not only about individual integrity, it can also be dangerous such as manipulating people amongst other things [3]. Brittany Keiser, former Director of Business Development for Cambridge Analytical describes "the wealthiest companies are technology companies, Google, Facebook, Amazon, Tesla and the reason why these companies are the most powerful companies in the world is because last year data surpassed oil in its value. Data is the most valuable asset on earth. And these companies are valuable because they have been exploiting people's assets." [3]. Cambridge Analytical came by the data of 87 million Facebook users without consent, this data can then be sold or

used to hold an advantage against the user. An example of this could be for marketing but specifically, target the individual with content that it is most likely to purchase [3].

2.2 Marketing Automation

The term marketing automation was introduced, where he continues to discuss and refers to it as the act of automated marketing decisions support system through the internet. The way [4] explained his theory, suggesting that analyzing the digital footprints of customer A, B, or C, could help tell retailer Z of what appropriate tools and models can be used. He phrased it as “What do we tell retailer Z to do when customer A arrives that morning”. Using a model can allow one to gather information, patterns, and data to back up and strengthen the retailer's argument, which should boost productivity and problem-solving. A study by Silva et al., (2023) explored marketing automation in relation to business and information systems. It was found that marketing automation supports better decision-making, productivity, greater returns on investment, and customer satisfaction.

2.3 Digital Marketing

A notable framework, by [5] can be connected to this research. Over time, the term digital marketing has evolved, using digital channels to market products and services. The umbrella term is the process of using digital technologies which facilitate an environment to create, communicate, and develop value for customers. It obtains customers, and determines customer preferences, promotes branding, and returns on investment. With such rapidly changing environments, digital technology allows ease for companies, as it can reduce information asymmetries between customers and sellers. Digitization can foster a healthy environment which can help with the rapid changes, reducing any lag time. The definition of traditional marketing can be applied to digital marketing. It can be defined as the set of strategies and tactics that are executed through digital channels to achieve corporate goals with a defined period of time and limited resources [5].

2.4 Social Media in Marketing

The study by [6] illustrates the profound impact social media has on marketing and the benefits for the practitioners within the industry. All the social media platforms available today present a network populated by billions of people. This new universe connects all users worldwide and establishes an excellent channel for marketers. As a result, marketers possess the incredible freedom to select a specific market segment and for the exact purpose of exposing the segment to a tailored marketing advertisement through social media platforms.

2.5 The Influence of Technology on Marketing

The heavy influence of technology has made marketers change from a traditional approach towards advertisements and realized that the competition has grown stronger. Because consumers are doing research online about products before deciding to purchase a product or service. As a result, all information online could affect companies in good or bad ways, since word of mouth still has a strong impact on whether a consumer will consider purchasing goods from certain companies. According to [7] the impact of word-of-mouth has on the competitiveness among companies pushing to focus on keeping up with all the comments that are made from customers and how to make quick and proper responses in order to satisfy the customer base. Therefore, companies have allocated resources to monitoring blog posts, social media content, etc., to compete with the digital market and take control of their brand equity. Technology Affects the work discusses the effect of AI on jobs, and the fluctuation in the nature of demand by the world is continuously changing, ever so more now with technological advancements [7].

2.6 Artificial intelligence applications for marketing

AI is employed in marketing campaigns across various industries, including finance, government, healthcare, entertainment, retail, and more. Each use case yields different outcomes, such as improved campaign performance, enhanced customer experience, or increased marketing operations efficiency. Through programmatic advertising, marketers are using AI to address various challenges. Programmatic platforms use ML to bid on real-time ad space relevant to target audiences. AI may also aid in the reduction of mistakes in marketing procedure. So long as supervision and instruction exist, AI can execute specialized activities more efficiently than humans. AI is considerably more likely to result in a higher return on investment since it can substantially speed up the process of marketing campaigns, cut expenses, and improve efficiency. This technology can perform tactical data analysis faster than humans and use ML to arrive at quick decisions based on campaign and customer context. It frees up time for team members to focus on strategic projects, which can subsequently be used to guide AI-powered marketing. Marketers can use real-time analytics to make better media choices rather than wait until the end of a campaign to make AI decisions [8].

2.7 Reduction of human mistakes

AI has reduced human mistakes, particularly in the most critical area. This technology can also develop and optimize content in various email formats that are nice and relevant to the recipients. Without a doubt, AI exists to prevent human interaction, hence eliminating the possibility of human error.

Due to frequent data security issues, many firms are concerned about their workers' inability to protect client data and other essential corporate data. AI can assist in addressing various issues by learning, adapting, and responding to the cyber security requirements of an organization. Many of the slash-and-burn resources commonly used to design and implement a marketing strategy can be eliminated with AI [9].

III. MATERIALS AND METHODS

An inductive approach was adopted where the chain moved from a bottom-up approach [9]. The whole process of this study was on formulating research questions and analyzing through interpretation, summing up, or categorizing patterns and themes. Qualitative research relies on the data the researchers have gathered and obtained. It is research that does not intend to gather statistical information or other types of data quantification, usually; the outcomes of this type of research are attained by analyzing practical situations [9]. Sampling techniques was used to narrow down the different elements in collecting data from a subgroup. A sample consists of a few chosen elements which enable researchers to save time, costs, and human resources and are more likely to provide more reliable results, thus fewer errors. Furthermore, a sampling designs: non-probability sampling was used. The study was conducted in Mubi North and Mubi South Local Government Area of Adamawa State. The research has gone a long way in helping to deliver the right value, on time, in the right way, and proper manner with the advent of AI.

IV. RESULTS AND DISCUSSIONS

Table 1: Items total statistics

	Scale Mean	Scale Variance	Corrected Items
Artificial Intelligence	13.4541	14.482	0.393
BigData	14.1762	16.907	0.238
AI Platform	13.7072	14.586	0.457
Machine Learning	12.6873	14.599	0.257
Awareness	11.9479	16.960	0.051

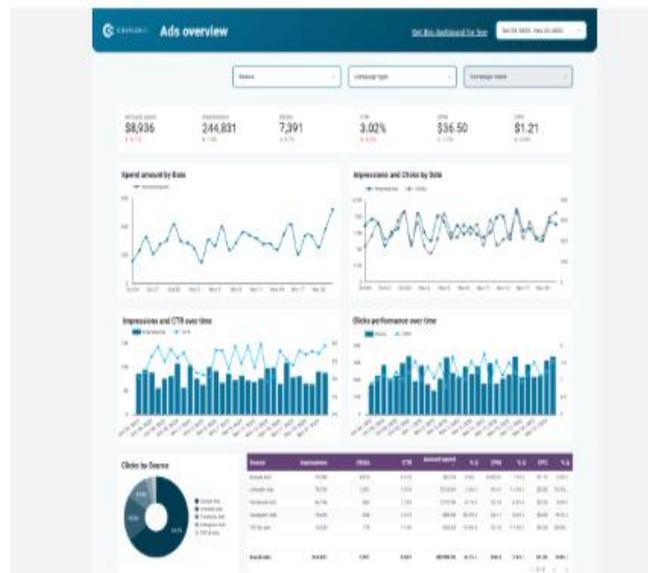


Figure 1: Blog tools generating data for marketing activities

Figure 1 shows blog tools, combined with analytics, generate valuable data for marketing activities by providing insights into content performance, audience behavior, and overall marketing strategy effectiveness. This data helps marketers optimize campaigns, understand customer journeys, and make informed decisions for better ROI. By leveraging blog tools and analytics, marketers can gather valuable data that helps them make informed decisions, optimize their campaigns, and improve overall marketing performance.

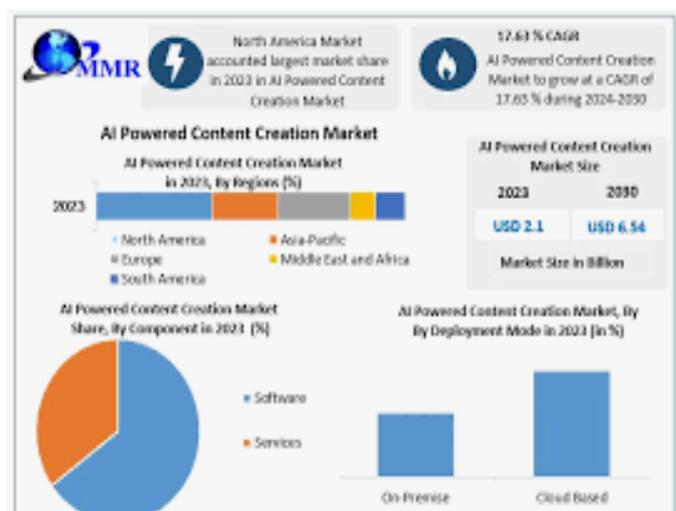


Figure 2: AI Showing the Content Creation for the study area

Figure 2 portray AI for content creation which generate, optimize, and repurpose various types of content like text, images, and videos. These AI-powered tools leverage machine learning and natural language processing to revolutionize the way content is created.

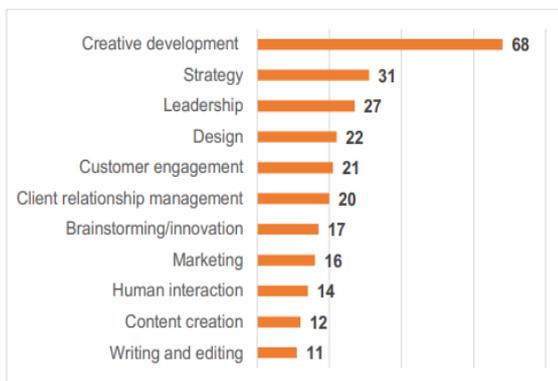


Figure 3: AI Showing status in customer engagement

Figure 3 portray AI role in understanding customer status and driving engagement by analyzing data, predicting behavior, and personalizing interactions. It helps assess customer health, anticipate needs, and improve the overall customer experience. Creative development has the highest percentage followed by strategy, then leadership. This could be as a result of organization/company interest.

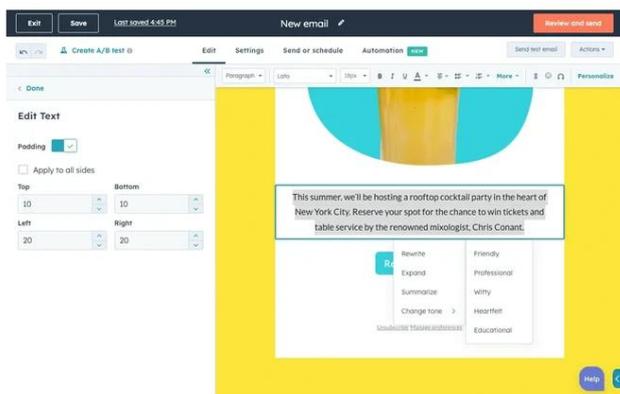


Figure 4: AI showing automated email marketing campaigns

AI analyzes email marketing data shown in figure 4 above portray an algorithms to sift through large datasets and identify patterns in user behavior, engagement metrics, and campaign performance. It tracks how recipients interact with emails such as opens, clicks, and conversions and uses this data to predict future behaviors. Automated email marketing has also been around for years. However, AI tools can help produce more engaging email content and learn about your email list behaviors. The goal is to have your marketers spend less time researching and brainstorming so they can focus on sending successful campaigns. As AI expands and improves, automated email marketing software becomes even more important to include in your marketing stack. HubSpot Content Assistant can help you create marketing emails. Write a prompt about what you'd like to promote — from a discount to a webinar to a blog post — and AI can generate a message with the right tone.

V. CONCLUSION

This study shows the impact of AI on marketing brand awareness leading to brand recognition for Social businesses. The findings from this study might be helpful to marketers who are looking to incorporate AI in their operations to achieve brand recognition for Social businesses. However, companies need to take the positive sides and the drawbacks of the integration of AI into consideration before going ahead with it. The conceptual framework has shown that brand awareness is a moderating variable that helps in the achievement of brand recognition because of the implementation of AI marketing. It can therefore be concluded that AI can be a great help for social businesses if they are trying to achieve brand recognition.

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