

The Role, Application And Critical Issues Of Artificial Intelligence In Digital Marketing

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Abstract: The application of artificial intelligence (AI) has a great deal of promise in the realm of marketing. It helps to increase the amount of data and information that is readily available, it enhances the ability of software to process enormous volumes of data, and it makes it simpler to develop sophisticated and original algorithmic solutions. The emergence of AI is changing the relationship between users and brands. How this technology is used depends heavily on the nature of the business and the website being used. Now, more than ever, marketers can give their full attention to satisfying their clients' needs. They are able to swiftly determine what material to target customers with when they use AI, and the data collected and provided by its algorithms allow them to choose the most effective channel for reaching those customers at any given time. Users are more likely to make a purchase when they have their experience tailored to them using artificial intelligence. Using AI methods, we can also gauge the success of our rivals' initiatives by learning what their customers were hoping to see from them. Machine learning (ML) is a subfield of AI that teaches computers to learn from data without being explicitly programmed to do so. When applied to the process of marketing, artificial intelligence enables marketers to process and analyze vast volumes of data to quickly collect fundamental information and analyze it to satisfy the needs of customers in a short amount of time. In addition, management needs to successfully acquire customers in order to support the return on investment and maintain client loyalty. The fact that the business environment is becoming increasingly complex, competitive, and dynamic as a result of the proliferation of various internet technologies such as Web 2.0 and so on is an additional essential element that attempts to employ artificial intelligence in the process of marketing products. Businesses must therefore not only produce and improvise, but also recognize and comprehend the demands and wants of their clients. Products that go above and beyond in meeting those specifications.

Keywords: Artificial Intelligence, Digital Marketing, Chatbots.

1. Introduction

The use of artificial intelligence (AI) is becoming increasingly common in day-to-day activities for both individuals and businesses. Voice recognition, image identification, attending to a customer's demands, resolving questions, and other applications of AI are some of the ways that businesses communicate with customers and engage them. The term "artificial intelligence" (AI) refers to the process of integrating a wide range of technologies, including cloud computing, robots, the production of digital content, network devices, and their respective systems. It is enabled that the AI will support the management in creating and monitoring a variety of digital content, will aid in understanding the overall needs of the customers, and will enable in supplying the management with the essential information for making important decisions. Artificial intelligence assists marketers in developing a distinct competitive advantage and enables them to provide customers with superior goods and services [1,2].

The advent of digital marketing made it possible for marketers to implement a variety of tactics, increase their utilization of a variety of electronic devices, promote items through the use of a variety of online resources, and monitor the requirements of clients. In addition to this, the marketers are able to assist in engaging the clients, targeting the adverts, and staying current on the most recent events that have taken place in the corporate environment. The use of AI in the marketing process enables marketers to process a vast number of data, crunch it to get to critical information, and analyze it so as to meet the needs of customers in a shorter amount of time. In addition, the management needs to effectively engage the consumers in order to ensure that they will continue to be loyal customers and support efforts to increase the return on investments. The business environment is getting increasingly complex, competitive, and dynamic as a result of the proliferation of various internet tools such as Web 2.0 and so on. This is another crucial aspect that wants to integrate AI in the process of marketing products. As a result, businesses have an obligation to identify and comprehend the needs and expectations of their customers, as well as to develop and improve their products in order to effectively satisfy those requirements.

Using AI in digital marketing has been a huge help in drawing in customers, which has accelerated the development of the industry as a whole. This paves the way for AI to contribute usefully to decision-making that is informed by data.

As a result, improving the efficacy of the marketing procedure is of paramount importance, and firms stand to gain much from harnessing the potential of AI. Greater insight into customers, which can improve service expansion and customer retention efforts, as well as forecasting and the capacity to find sales opportunities.

Integrating AI with digital marketing is viewed as a helpful tool by individuals who work in the field at the present moment, as AI is now widely available to most businesses. It's clear that artificial intelligence has far-reaching consequences, especially in areas like client selection, recommendation aid, and quick response times for customers. Indeed, digital marketing that makes use of artificial intelligence enables business owners and marketers to expand their brand while simultaneously living up to the standards set by their clients.

Recent studies in the social sciences and the ethics of AI have uncovered a number of AI shortcomings that need to be fixed before the true impact of AI algorithms can be calculated. Recent research in this field has uncovered a number of AI faults, despite AI's proficiency in data collection and the ability to apply novel algorithms that may accurately track consumer behavior, resulting in accurate sales forecasts and an eventual rate of return on investment. When it comes to digital marketing, having access to relevant data can be of great assistance.

2. Literature Review

Figure 1 presents an illustration of the many key marketing categories that AI projects can target. The use of AI-based systems has become increasingly prevalent in all facets of marketing, including but not limited to: pricing, strategy and planning, product management, and promotion and place management. Targeting and positioning, scenarios, and thinking models related to the product's design and the needs of end-customers have been identified as crucial elements of marketing for AI applications [1]. Targeting and location, specific scenarios, and mental models are all examples of such concerns.

Marketers employ AI to boost customer demand. Integrating applications that make use of AI yields a positive user experience for customers. It keeps tabs on all of your purchases, including when and where you made them. It can process large amounts of information quickly and send targeted advertisements to customers. When a user is in close proximity to a business, the business can send them a message with suggestions and discounts to boost their average purchase amount [2]. When marketing automates all of the company's systems, the business has a huge advantage. Better decision-making and micromanagement of customers are two outcomes that can result from incorporating AI into marketing. The patterns of content that are supplied to clients by ML algorithms can be considerably improved with the use of data. Programmatic media bidding describes the method by which online advertising is bought and sold. These algorithms use audience data to target specific consumers with relevant advertisements [3]. They also share other properties with ML.

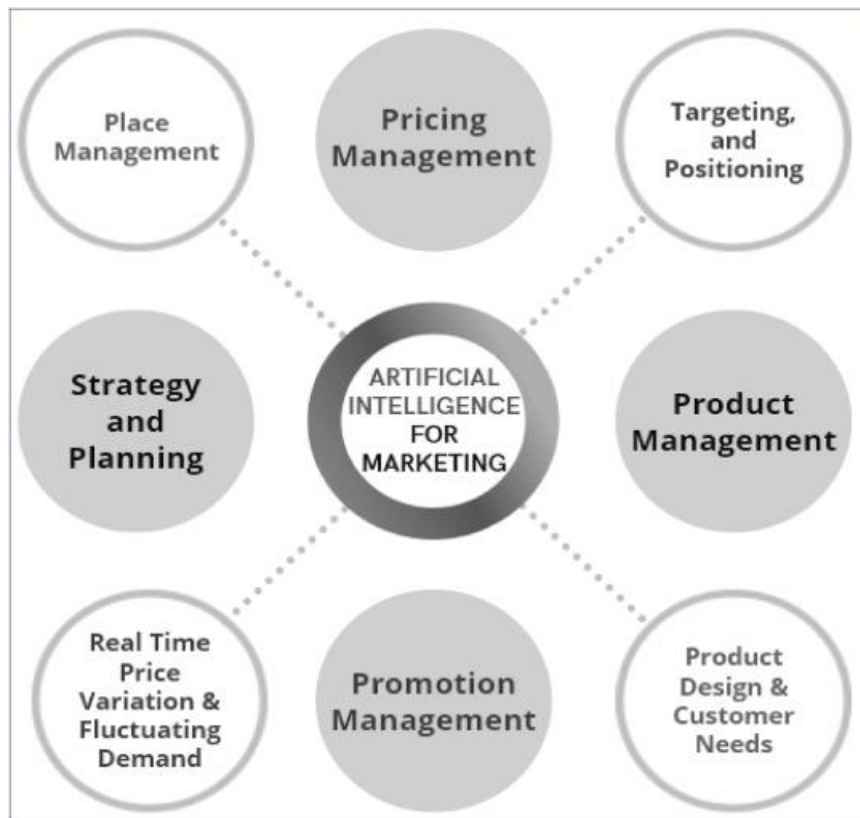


Fig. 1. Several Types of Marketing AI Applications.

The use of AI algorithms and ML to assist models reduces the possibility of human error, improves audience data efficiency, and makes display advertising more scalable. Commercials that are relevant to the reader or that solve an issue the reader is having are more likely to be read. Marketers can increase their chances of success by focusing their efforts on the core groups of consumers who are most likely to behave and respond favorably to the advertising by developing targeted advertising strategies for these groups of customers who are a good fit for the product or service. Artificial intelligence (AI) models and algorithms make digital superintelligence possible, which may help marketers achieve this goal [4]. Marketers using AI for focused marketing techniques that include ad targeting will find the technology useful. Machine learning is used to determine the difference between exploring, buying, and real conversion behavior so that the most likely to convert leads can be retargeted. Amazing artificial intelligence (AI) powered solutions include facial recognition software, which can be utilized to keep track of a customer's recurrent visits and link photos to their accounts. When these cutting-edge tools are combined with AI-driven smart notifications, it's possible to send personalized greetings and promotional offers to each customer in real time [5].

Artificial intelligence is a potent instrument when combined with reliable information gleaned from market research. Companies can use this to accomplish a wide range of goals. One important aspect of this widely applicable use case is the ability to divide up target audiences. When compared to humans, AI is both faster and more efficient at this task [6]. When customers take the time to do their homework, businesses may make more tailored offers that are more likely to be accepted. Many top executives in industries have felt the need to make a career leap to a more cutting-edge and fruitful profession, and artificial intelligence has emerged as the most practical option. This is because AI has proven to be the most applicable area of study. Having access to AI will give businesses a leg up on the competition in a number of different areas [7].

With this information, marketers may more accurately determine which categories of customers should be targeted by the campaign and whether or not to include them. More likely to buy things will be displayed to customers, while less relevant or unavailable options will be concealed. Artificial intelligence (AI) can help businesses enhance their customer service, allowing them to give each buyer tailored recommendations,

discounts, and assistance. AI has been helpful to businesses in many ways, and predictive marketing analytics is one of them [8]. AI can successfully anticipate future performance by looking at data from the past. This capability is contingent on a wide range of individual factors. If you take the time to learn about the person you're giving advice to and their interests and values, you can better serve them. However, most AI-based customization solutions are designed from the ground up with an individual's interests in mind rather than those of a wider community. A major advancement in IT, the use of AI to reliably foretell the success of marketing activities and to better customize user experiences will continue for many years to come [9].

The rapid development of conversational search queries and algorithms brought about by AI necessitates adaptations on the part of search engine marketers and content authors. The use of artificial intelligence (AI) in marketing automation has the potential to reduce the workload of human marketers and increase the quality and quantity of marketing content produced. The most major social media platforms have pushed back hard on some social media marketing methods that rely on artificial intelligence (AI). Questions from customers that can be answered without a phone call or in-depth conversation with a human agent can now be directed to a customer support bot. Vanishing messaging services are used by millions of individuals all around the world, both for private communication with friends and family and for business-to-consumer marketing. Brands can now interact with consumers in unique and personalized ways wherever their target demographic spends time online, especially on social media, thanks to the capabilities of artificial intelligence [10].

HubSpot's software, for example, can be helpful in this area because it automates some emails via a process. The low price and high efficiency of AI are attractive, yet it could theoretically imitate anything. In order for marketing AI to function, huge volumes of data are needed. It is challenging for many marketing teams to work with big data sets and give relevant insights due to a lack of data science and artificial intelligence competence [11]. To get their AI initiatives up and running, organizations should engage with outside companies that can aid with data gathering and analysis to train AI systems and enable continual maintenance. Machine learning algorithms improve in precision and competence as more data is added to their stores. More and more businesses will be able to monitor and enhance their processes thanks to real-time insights provided by process intelligence solutions [12, 13].

It enables the marketing team to focus on the right channels at a reasonable price. Programmatic purchasing is an indication of how ML may increase marketing's adaptability to clients' ever-changing needs and preferences. Some customers may be swayed by an emotional appeal, others by wit, and still others by logic when it comes to cross-channel marketing communications. By keeping tabs on which communications customers have replied to, ML and AI may build a more complete user profile [14]. The marketing department will be able to cater their messages to each individual customer by keeping their preferences in mind. However, without clean, consistent data, the insights gained from AI algorithms would be useless, and they may even provide results that are harmful to marketing initiatives. Data management teams and other business units must engage with marketing departments to develop procedures for data purification and upkeep [15] before AI marketing can be deployed.

3. Various AI-Based Transformations For Marketing Sectors

Several AI-driven innovations have improved the efficacy and impressiveness of the marketing industry. As shown in Figure 2, several forms of artificial intelligence are deployed to perform a variety of tasks with the ultimate goal of addressing the complex public relations difficulties of the modern business world. [16] In addition, the adoption of AI for managing market-level tactics requires data collection, in-depth market analysis, digitalization via AI methods, a thorough understanding of customers, research, and a finalized set of requirements.

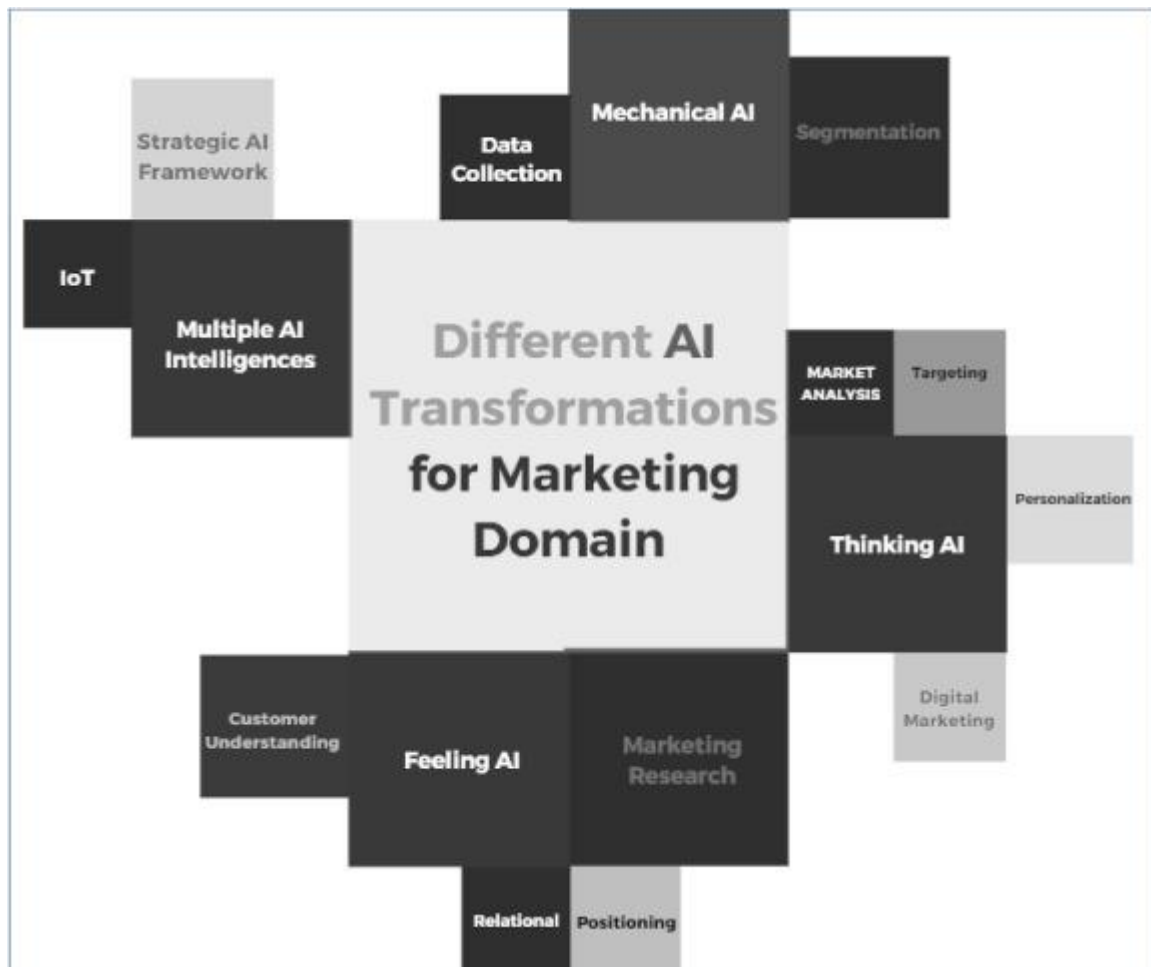


Fig. 2. Artificial intelligence and the marketing industry.

AI technology enables marketers to discover trends and make predictions on such trends for the future. [17] The information provided will allow them to make educated decisions about resource allocation and target selection. Brands can redirect their resources away from digital advertising and onto more fruitful endeavors. From initial strategy development through conversion and customer retention, AI is a crucial component of any successful marketing effort. [18] Businesses that fully embrace AI will have a leg up on the competition. The cognitive abilities often associated with the human mind, such as learning and problem solving, can already be simulated by machines. Artificial intelligence helps marketers in adapting to the rapidly shifting content marketing landscape by analyzing user data and making sense of user intent. [19] Marketers can use AI to generate content for easy-to-cover topics like stock updates and sports news.

The search for vulnerabilities in software might potentially be automated with the help of AI. Software engineers may employ artificial intelligence to check their own creations for security issues in the same manner that hackers check operating systems for vulnerabilities. [20] It is important to think about how much insight you'll need into an AI platform's decision-making process before settling on a tool. It's feasible that marketing teams will get a report that explains the algorithm's choice and the specific data that went into making it. However, higher-level systems that use deep learning might not be able to make sound judgments. [21] The AI's output may be disentangled from the data it was taught with. Data-driven AI algorithms improve their predictive abilities over time. Therefore, complete management of the data and its value requires control over all assets, including the data itself. The infrastructure that facilitates the collection, storage, and analysis of massive volumes of data should be priced just like any other asset in the market. [22] Furthermore, due to their interconnectedness, some industries are more crucial to safeguard than others; the banking industry is a prime example.

Many large companies and services, including Netflix, Amazon, Google, and others, have AI systems that are always up and running in the background. Artificial intelligence (AI) has, however, entered the marketing sector in recent years, assisting businesses in enhancing the entire customer journey. Moreover, resources that were once unaffordable to all but the largest organizations are now within the budgets of medium and small businesses. Neural networks are creating dynamic solutions for the business world in areas such as marketing automation, content production, and sales forecasting. We can now process massive data volumes with these tools, leading to deeper and more insightful analyses. Predictive analytics allows marketers to extrapolate the likely outcome of a campaign by studying historical data and looking for trends. Although neural networks have been around for some time, the increased interest in analyzing Big Data has led to the development of much smarter and more adaptable systems.

Additionally, the AI is able to recognize the requirements of advertising and suggest an appropriate audience. In order to ascertain which users are most likely to have a positive experience with a given brand, the relevant algorithms examine a variety of user data, including age, gender, demographics, interests, and other important information. There has been a shift in the manner in which people look for information on the internet. In the next years, machine learning will become more accurate as a result of the additional information input that will be brought about by the rise of voice search devices. Like ML models, deep learning takes into account more than a million data points to establish the reliability of a prediction. Deep learning is a self-learning system, therefore it doesn't need any training time before it can be put to use. A marketing campaign is a coordinated effort across multiple media to increase brand awareness and drive sales of a product or service. The top of the funnel is driven by this, and a pipeline is created for the business as a result.

AI technology can collect and analyze data from a broad variety of sources, allowing for more informed judgments and a more data-driven decision-making process. Traditional marketing has changed drastically as a result of the shift in power from businesses to consumers. There has been a rise in the marketing budgets of companies whose products are geared around collecting, analyzing, and making use of massive amounts of corporate and consumer data. [23] Thanks to developments in AI, marketers now have a window into what customers are saying and feeling about brands. Similarly, with all the social media options available today, businesses can learn more about their customers' true sentiments. Insightful marketers can use this data in real time to make rapid adjustments to their messaging or branding, so increasing the efficiency of their efforts. With the use of AI technologies, marketers may conduct more in-depth research and analysis. AI technology allow marketers to go further than ever before in their use of digital advertising and account-based marketing.[24]

The transformation from the assembling and promotion era to the connection and intelligence era saw substantial improvements to business principles. Because to the exponential growth of computer science over the past few decades, people's perspectives on the value of new ideas, innovations, and inventions have been completely shifted. As a direct consequence of this, business model evolution will continue. The idea of data management has undergone a fundamental paradigm shift as a result of the Internet of Things. These gadgets not only make consumer data more accessible, but they also learn from user behavior by recording and analyzing their interactions with the item.

Businesses are also taking advantage of the rising body of knowledge about Internet of Things (IoT) technology to improve their operations by analyzing data gathered from IoT widgets. The efficiency of any company can be improved by gaining a better grasp of the market and its customers. During the product development process, IoT devices can help boost efficiency.[25]

Future years are expected to see significant effects of AI on data transparency and security. Consumers' expectations for how open businesses are about the data they gather, how it's used, and how it's safeguarded are only going to rise as they learn more about how much data organizations collect. Marketing solutions powered by AI can help many firms boost the effectiveness of their email marketing campaigns. They are especially useful for determining the optimal time to send targeted emails and the best content and products to recommend to individual clients. The most relevant information is shown at the most opportune times thanks to AI. This technology can aid in determining which types of material perform best, allowing for improved planning of future content, repurposing of existing content, and optimal dissemination. There has been a rise in the

commercial use of automation, data analytics, and NLP. These three subfields of AI are enhancing productivity and streamlining operations in many different sectors.[26]

Whole-Systems Thinking Artificial intelligence will have a greater impact on the future of marketing, and even small and medium-sized businesses can apply AI, according to the findings gathered from the research consulted and the interviews conducted for the purposes of this work. It's important for companies to be ready to switch to AI-supported marketing strategies if they're currently using non-AI-supported methods. Successful artificial intelligence (AI) marketing strategies require solid groundwork in both technology (data and procedures) and organization (people and culture). Reviewing the company's current business and communication strategies is the first stage in implementing an AI Marketing plan. To determine which use cases will be most beneficial in bringing the firm closer to its goals, it is necessary to first define the company's business strategy and communication strategy. The organization needs to give some thought to how it will put its AI strategy into action during the implementation phase. [27] It is crucial for organizations to have a clear idea of how AI efforts will be executed, who will be responsible for each action, and which activities and projects will require support from outside sources. Companies should think carefully about the kinds of technology they'll need to acquire in order to achieve their AI objectives. It is important for businesses to determine if they would benefit from having their own in-house AI team or if they would be better served by relying on solutions developed by third parties. Whether or not they will employ solutions developed by other organizations depends on whether or not having an AI team within their own company is beneficial.

4. Methodology

This post is the result of my own in-depth investigation and description of a specific issue. The study is backed by a qualitative method that is primarily descriptive in nature. This study analyzed the backdrop of AI tools used in marketing from the perspective of actual users of AI, based on the information presented above. This study focused on the perspective of individuals who create and deploy AI, despite consumers' natural assumption that they are the core and structuring figures in research due to their pervasive engagement.

Since this is an exploratory and descriptive study, one objective is to learn about the strategies used by companies that implement AI, as well as the advantages, disadvantages, ethical concerns, and impact these strategies have on business profits. This study was designed to help businesses and serve as a reference for anyone working to incorporate AI into their marketing strategies. Therefore, it is important to learn what components are deemed crucial for a winning AI-based marketing plan. To be more specific, it is important to learn what components are deemed necessary for the effective application of an AI strategy in marketing.[28]

In the first part of the study, the theoretical foundations were presented; this part was based on secondary data collected from academic sources such books, journals, and papers. The second half of this study concentrated on the acquisition of primary data for the goal of conducting analysis alongside the theoretical foundations.

Collecting Information Via Interviews Interviews, a qualitative research approach, were carried out as a means of gathering primary data for the purpose of achieving the goals. In semi-structured interviews, the interview script was variable, and the questions and responses were not preset.

Information gathered from the literature review was used to inform the formulation of the research questions. The decision of which specialists to hire was made through direct company contact or through connections created through LinkedIn. There are individuals with backgrounds in computer science, data science, consulting, and marketing among the profiles of the respondents. During the meetings with the specialists, notes were collected, and later on, the most important information from those notes was selected, summarized, and then assessed in accordance with the goals of the research. The research questions that were formulated and the assessment of the relevant literature served as a guide for the evaluation and discussion of the results.

Table 1 provides a description of the professionals, including details such as their place of birth, the sector of expertise in which they work, the organization in which they are employed, and their name.

Table 1. Experts interviewed

Name	Country	Prof. area and organization	Acronym
Mark Floisand	UK	Chief Marketing Officer at Coveo	Exp 1
Stephanie Ogando	Brazil	Marketing Analyst at Alfonsin	Exp 2
Peter Mahoney	USA	Marketing Intelligence Consultant at Plannuh	Exp 3
Paul Rotzer	USA	AI Marketing Author/Consultant at Marketing Artificial Intelligence Institute	Exp 4
Bernardo Nunes	Brazil	Data Scientist/AI Marketing Consultant at Growth Tribe	Exp 5
Katie King	UK	AI Marketing Author/Consultant	Exp 6
Christopher Penn	USA	Data Scientist/Digital Marketer at Trust Insights	Exp 7
Jim Sterne	USA	AI Marketing Author/Researcher at Digital Analytics Association	Exp 8
Patricia Lorenzino	Brazil	Head of Strategic Alliances - IA at IBM	Exp 9
Nuno Teixeira	Portugal	University Professor/AI & BI Consultant at ISCTE-IUL	Exp 10
Alex Mari	Switzerland	Researcher/Consultant at University of Zurich	Exp 11
Sergio Lopez	Bolivia	AI Marketing/Marketer Consultant at AIMA	Exp 12
Kevin Kuhn	Switzerland	AI Marketing Consultant at Jaywalker Digital	Exp 13
Alexander Avanth	Philippines	Director of Innovation at PTC Holdings	Exp 14
Tilak Shrivastava	India	Senior Marketing Manager at Ityx Solutions and ThinkOwl	Exp 15

5. Analysis And Discussion Of Results

Data was described and examined once it was gathered through conversations with experts. The analysis was planned in accordance with the aims of the study. [29] In the first step, respondents' comments on the advantages of AI in Marketing will be compared to information gleaned from the literature. The next stage is to catalog and describe all of the obstacles that prevent marketers from making extensive use of AI. Finally, the research will investigate the influence that AI has on marketing expenses and revenues, and it will emphasize how companies are incorporating AI in their marketing plans and whether SMEs are able to integrate AI into Marketing procedures.

5.1 Benefits of AI Integration in Marketing

Reduced expenses and more income are the two key outcomes to anticipate. Acceleration, quicker results, precision, better outcomes, and relief are just some of the ways in which artificial intelligence (AI) can improve your life (Exp 2, Exp 4, Exp 7). Machines may sometimes be quicker than humans at spotting problems and fixing them.

Machines provide for increased productivity and scope of operation. Try as they might, human beings can't read 10,000 tweets or Facebook status updates in five minutes. An eight-hour report in the field of marketing, for instance, can be generated by a computer in just eight minutes. This way, you may save money on menial tasks while giving your marketers more time to work on creative, strategic, and decision-making tasks (Experiment 4, Experiment 7, and Experiment 8).

Key advantages of AI in Marketing include increased sales through personalized approaches, enhanced marketing operations, and cost-effectiveness in the field. Ineffective marketing strategies include customer path mapping, behavioral analysis, and segmentation. Businesses can "filter out" irrelevant information and gain useful insights through the application of AI (Exp 5, Exp 9, Exp 10, Exp 13). Businesses and marketers alike can

benefit from using AI into their marketing strategies by doing things like better predicting consumer behavior and trends and providing more hyper-personalized content for customers. AI's potential to automate and improve processes at the operational level has the potential to boost both the efficacy of business strategy and the quality of employees' work (Exp11).

To provide a better tailored experience for each user, the marketing team may now make use of AI without being too obtrusive. Marketers may already take advantage of AI to improve their websites by catering to individual visitors with tailored content and aesthetics that are based on their profiles and preferences. With the help of AI, businesses of all stripes will be able to reconnect with their clients on a more human level. Customers' current and future needs can be better understood with the help of data (Exp 6, Exp 14).

5.2 Challenges and Ethical Aspects of Integrating AI in Marketing

Despite AI's many advantages, many new concerns have emerged along with them. Marketers have been pondering, according to respondents, how to reorganize and empower people within firms (internally) and how marketing may give value without being too invasive (externally) in recent years. The technical (i.e., hardware/software) and organizational (i.e., staffing/resources) technological competency of a company is crucial to the success of any artificial intelligence (AI) strategy. The company's AI efforts (Expert 10, Expert 11, and Expert 12) may underperform if it does not coordinate with its partner companies.

All of the interviewees agreed that trust is the most important factor. The information citizens create (digital footprints) has value and can be used by companies, and they should be aware of this. The novelty and sophistication of AI may lead the general public (including technically knowledgeable professionals who are unfamiliar with AI) to suspect its existence. To make informed decisions about things like product purchases, suggestions, and even voting, consumers need be aware of how data is gathered and used by businesses and governments. Individuals, businesses, and governments alike are concerned about ethical practices and data protection under the General Data Protection Regulations (GDPR). There will be growing anxiety about how government and corporate institutions will use individuals' private data. Companies will need to take the initiative to solve these concerns if consumers are to have faith in technology. Consumers' trust in AI can benefit greatly from greater openness. Customers are more likely to trust decisions made by AI systems if they understand how such systems use the information they offer (when, how, and where) (Exp 1, Exp 3, Exp 4, Exp 5, Exp 7, Exp 9, Exp 10, Exp 11, Exp 12, Exp 13, Exp 14, Exp 15).

The quality of data and the uses to which it is put by businesses are also frequently cited. Data that provides a distinct perspective on customers and is adequately authenticated and sanctioned by the organization is something that many businesses lack. Artificial intelligence relies on extensive datasets to function properly. However, most major businesses already employ many marketing systems, and this locks up a lot of valuable information. Connecting systems, utilizing this data, and unifying it is crucial; doing so allows artificial intelligence to personalize marketing campaigns and experiences for each unique consumer (Expert). 3, Expert 7, Expert 10, Expert 12, Expert 13, Expert 14).

5.3 AI Applications in Marketing

Machine learning constitutes the bulk of AI's application in Advertising. Machine learning allows for algorithms to self-learn, whereas in the past they relied on brute computational power and required all actions to be described. To build models that can pick out regularities in large datasets, artificial intelligence relies heavily on machine learning. The most effective marketing strategies revolve around making content more relevant to each individual customer (Exp 3, Exp 4, Exp 5, Exp 7, Exp 11). Predictive models, clustering, and recommendation systems emerged as the most popular applications of AI after analyzing the responses. Customer churn can be reduced, causes of dissatisfaction can be pinpointed, best customers can be managed, and resources can be allocated with greater precision thanks to the use of predictive models used across the many stages of the customer journey.

To do segmentation, clustering models rely on unsupervised algorithms, which compare each client to others to determine whether or not they are similar enough to be grouped together. Using these models, the customer acquisition process may be automated, audiences and similar targets may be found, and marketing budgets can be optimized through better segmentation, prediction, and identification. They make faster, more

effective, and more targeted targeting and segmentation possible. These models are essential; practically every business today should have at least one of them (Exp 5, Exp 7, Exp 10, and Exp 15).

5.4 Capacity of SMEs to Integrate AI in Marketing

Companies can either create and operate their own AI marketing solutions or acquire and use the services of third-party AI marketing tool providers. Personalization was out of reach financially until powerful machine learning tools were available. The cost of developing a model has decreased as a result of the open availability of these methods by academic institutions and software developers and the declining cost of computer power. It used to be too expensive to train algorithm models on servers, but now that Google, Amazon, and Microsoft are making their data clouds open to any firm, it's no big deal. Big names in AI like Google, IBM, Facebook, Amazon, and Microsoft have made their complex computer vision models available to the public as cognitive services. With one of these firms' AI offerings, the user defines the dependent variable and the data he has access to and wants to tie to the point, and the process is executed automatically and made available via the cloud. Companies are likely to increase their usage as the price drops. You can create your own AI solutions with little to no technology spending if you have the time and expertise of your company's human resources. The most challenging aspects will always be the time commitment and the availability of skilled labor. If the company has the time and the talent, it must develop its own solutions.[30] They should use third-party tools (Exp 5, Exp 7, Exp 10) if speedy results are a priority and financial resources permit.

6. Conclusions

Significant improvements and changes to the digital marketing industry as a whole are brought about by the incorporation of artificial intelligence into the field. Artificial intelligence has transformed a number of aspects of marketing, including the analysis of data, the comprehension of customer behavior, the enhancement of campaigns, and the personalization of experiences. AI's abilities pave the way for more precise audience segmentation, more effective content delivery, and more fruitful marketing campaigns as a whole. One of AI's primary advantages in digital advertising is its speed and accuracy in processing and analyzing large datasets. One of the reasons why AI is gaining in popularity is because of this. In order to solve an issue, AI algorithms may sift through large amounts of data, such as client demographics, browsing activities, social media interactions, purchase history, and more. This data-driven strategy gives marketers with the capability to better understand their customers, recognize patterns, and make decisions that are supported by data in order to optimize their marketing campaigns. The ability of AI systems to learn about and respond to individual users' preferences, habits, and interactions helps businesses increase sales and improve client satisfaction.

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