

Assessment Submission Form

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Signed.....SANDHRA SARA JOHN.... Date12TH April 2024.....

THE IMPACT OF ARTIFICIAL INTELLIGENCE **ON DIGITAL MARKETING**

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M506B Research and Scientific Methodologies

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ABSTRACT

Global trends are shaped by technological disruption, and artificial intelligence (AI) plays a significant role in this process. AI involves the application of computer and information technology to develop machines that can imitate human intellectual capabilities. Industries have invested in Artificial intelligence to boost their productivity and for innovation purposes as well, which has been proven to be positive. The marketing industry is another group that believes in the endless possibilities of artificial intelligence.

In our mini-research paper, we will focus on the impact of artificial intelligence on the effectiveness of digital marketing and the ethical concerns around it. Mainly we will be elaborating on two major variables - First, the AI-powered marketing strategies (Sandhra), and second, the ethical concerns that revolve around giving the power and responsibility to a machine (Navnee).

The paper will be structured to provide insight into how deeply integrated AI is in this particular industry and the adverse effects of it, considering both positives and negatives.

INTRODUCTION

Sandhra) Artificial intelligence has even reached the marketing sector, especially digital marketing, where It implements AI-based marketing strategies in advertising, recommendations, and so on, which can change the entire look of digital marketing.

Artificial Intelligence, which includes aspects such as machine learning and deep learning, has seen widespread adoption in recent years. It significantly enhances the effectiveness of marketing processes by leveraging these strategies to understand customers' choices and interests, thereby providing marketing strategies based on them.

The implementation of machine learning has transformed the digital marketing landscape by enabling the collection, analysis, and utilization of customer clicks and feedback. By understanding the emotional connections that consumers have with a brand, marketers can tailor their sales tactics to each individual, allowing them to make more personalized and effective sales calls.(Ullal et al., 2021). But also, it is currently

unclear whether AI-generated content is on par with traditional, human-made marketing materials. (Hartmann et al., 2023).

Navnee) Personal Data of the customers plays a major role in integrating AI-based marketing strategies. On the surface level, it does have great benefits such as personalization and customizations but the customers lack the information to which their data can be used.

The algorithmic economy is powered by artificial intelligence and autonomous systems (AI/AS) which have extensive access to our data. Despite this, we are not benefiting from the knowledge that can be gained from the analysis of our experiences. For instance, Personalization is one of the most popularly talked about AI driven marketing strategy but with it comes with a major personal data requirement which creates privacy concerns among users. (abmatic.ai, n.d., 2023)

The ethical issues not only involve the privacy of the customers but also the chances of the machine discriminating against someone based on their data, this is a possibility because these machines are trained on past data which could contain data that is possibly biased.

PROBLEM STATEMENT

Sandhra) AI-based strategies have made marketing more advanced and convenient, providing better results. However, specific challenges exist regarding the quality of data and the strength of promotion to reach out to people effectively.

Navnee) Despite the benefits AI brings to digital marketing, it has caused a lot of ethical concerns. The increased use of it has highlighted many issues that must be addressed to ensure the healthy use of it in the long run. With this mini research paper, we aim to investigate the ethical and privacy concerns that are caused by the increase in the use of AI in digital marketing.

RESEARCH QUESTIONS

Sandhra) Do marketing strategies based on artificial intelligence increase the efficiency and productivity of businesses?

Navnee) What are the ethical and privacy issues that revolve around such technology?

RESEARCH OBJECTIVES

Sandhra) To determine whether AI-based marketing strategies are efficient and advantageous for the business.

Navnee) To understand how the implementation of AI in this field can bring challenges regarding privacy and ethical concerns.

HYPOTHESIS

Sandhra)

Ho: AI-based marketing strategies improve digital marketing significantly.

HA: AI-based marketing strategies do not improve digital marketing significantly.

Navnee)

Ho: Implementation of AI brings benefits and has no ethical and privacy issues.

HA: Implementation of AI has a lot of challenges and also brings, ethical and privacy issues.

LITERATURE REVIEW

Artificial intelligence is reshaping marketing and its processes. It has a leading role in digital marketing, using it for personalization and recommendations. It is a fact that AI will have a significant impact on your marketing function, regardless of the country you work in, the size of your organization or the sector you belong to. This impact may not be immediate, but it is certain to occur in the near to medium term. (Katie King, 2019)

The research paper of Salman et al. (2023) can be taken as an example. It demonstrates the impact of AI in digital marketing campaigns such as SEO, email marketing and so on. They state that “As a result, the utilization of big data to produce more precise digital marketing operations is already a business reality. As a result, the following Artificial Intelligence Strategies for Improving User Experience are relevant: Despite the thoroughness of our review, it recognizes some limits” (Salman et al.,2023)

The customer’s point of view about their experience with Artificial Intelligence is demonstrated in Maddodi & Kumar(2020), where they focus on how Artificial Intelligence can be used to increase customer experience. They state that “Industries, in order to be successful, should adopt AI Tools and Technology in different areas like Sales and Marketing. Data is key with the help of Customer data, applying AI and Hyper-Personalization, Customer experience can be improved.” (Maddodi & Kumar, 2020)

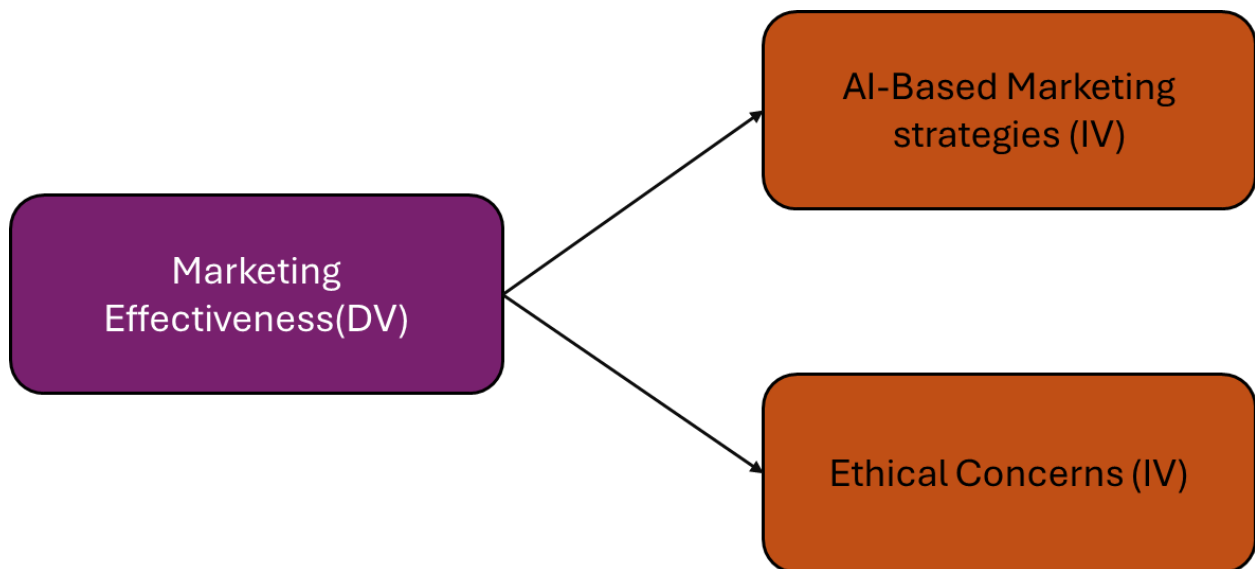
We should whether these marketing strategies improve digital marketing significantly. But with such major use of this technology, comes challenges and issues. And since these techniques thrives on the personal data of the customers, such challenges cannot be chosen to ignore. Chapter 7 of the book written by Jim Sterne titled as “Artificial Intelligence fundamentals” talks about the ethics of AI, especially mentioning that how our own personal data can be more of an asset to others than it is for other making it more prone to stealing.

Another issue that AI faces is that of biasness, this issues has been written very well by Zhinshen chen in this article called “Ethics and discrimination in artificial intelligence-enabled recruitment practices”. (Chen, 2023)

Implementing Artificial Intelligence in any field comes with its own benefits and challenges. As much as it is important to celebrate and explore the benefits, the challenges are needing equal attention.

CONCEPTUAL FRAMEWORK

The conceptual framework of this research involves marketing effectiveness as the dependent variable and AI-based marketing strategies and Ethical concerns as the independent variables.



RESEARCH METHODOLOGY

This research is quantitative research which focuses on analyses of non-numerical data to develop an understanding and to analyze reality. Also, the research is a basic research as it has been done to answer a theoretical question about the impact of AI. It is Deductive research, as we have analyzed the theory revolving around the topic to develop an analysis.

In this research, we will be collecting data through secondary resources. All of the sources are from verified sources such as Google Scholar, SSRN, Research Gate, and EBSCO and from online libraries such as Perlego.

The structure that will be followed is:

- 1) Introduction
- 2) Problem Statement
- 3) Research Questions followed by objectives
- 4) Hypothesis (null and alternative)
- 5) Literature review
- 6) Conceptual Framework
- 7) Research Methodology
- 8) Results
- 9) Conclusions & Recommendations
- 10) Bibliography

All of the above will be structured in a way to address both of the variables mentioned in this mini-research paper.

RESULTS & FINDINGS

Artificial intelligence

AI refers to imitating human intelligence in machines so that they work and think like humans. It involves developing data, algorithms, and programs to build an AI. Certain types of Artificial intelligence are narrow AI, general AI, and superintelligence. These are differentiated based on the level of intelligence.

Machine Learning, Deep Learning, Natural Language Processing and Robotics are certain fields of Artificial intelligence.

Benefits of AI:

- 1) The quick and accurate analysis of data- which helps in better decision making and providing meaningful insights using different strategies of AI.
- 2) The ability to automate tasks—This is helpful for specific companies or workers, allowing them to save time and money.
- 3) The personalizing and recommendation abilities provide recommendations of products or movies based on search data.
- 4) The capacity to handle large amounts of data- This can be advantageous for businesses, allowing them to make decisions and gain insights and patterns into big data.

Challenges of AI:

- 1) Data Security - The first and foremost concern of any consumer is if their data is safe. AI used immense amount of data, and such data leaks could lead to major issues if not handled properly.
- 2) Biasness - Since AI is trained on old data, possible biasness becomes part of many algorithms. For example, when AI is used to shortlist resumes, such cases can lead to major biasness.

- 3) **Malfunctioning** - Possibilities of such issues are high, and their consequences ranges from data leak to cyber-attacks which can cause major issues.
- 4) **Job Displacement** - Over the time AI has slowly taken over jobs of many individuals, anything that can be handled by this technology gets replaced immediately. This possess a major threat to our human resources as an individual.

Sandhra)

AI in digital marketing

The use of artificial intelligence in digital marketing is on the rise. Studies show that AI can greatly enhance marketing strategies by efficiently processing customer data and providing quick insights into customer preferences(Moaz & Mohamud, 2022). AI-based marketing strategies are used in order to improve the customer experience therefore helping in customer retention.

Some AI-based digital marketing strategies are:

- 1) **Personalization and Customizations** - It analyzes the customer's data such as browsing history, behavior in purchasing, etc. and recommends products according to the individual's needs and likeness. Data like users behavior, preferences and even demographics are collected to perform personalization. (abmatic.ai, n.d.) Personalization is a vast topic that has been explored in various fields of research. In marketing alone, personalization has been a subject of study for many years, approached from different angles such as game-theoretic models, empirical research, and studies on consumer behavior.(Rafieian & Yoganarasimhan, 2022)
- 2) **Virtual chat**- It maintains human conversations with the customers to provide any help or address other security issues. This is done to provide immediate responses that customers look for.
- 3) **Target Advertisements**- AI can showcase advertisements to the relevant people by analyzing user data.

These are the most common AI-based marketing strategies.

Advantages of AI in Digital Marketing:

- 1) The recommendation system, also known as personalization, provides products, movies, and recommendations according to the customer's preferences.
Netflix's recommendation system has saved more than \$1 billion by recommending personalized movie suggestions.
- 2) AI has improved in targeting audiences and advertisements to these audiences, which has helped marketers segment the audiences effectively.
Facebook's Ad targeting has led to more than 50% click rates and 25% reduced cost per click.
- 3) AI has gained enhanced customer experience because of the recommendation systems and simplified and smooth experiences with ecommerce sites.
Chatbots can handle 80% of customer inquiries which helps in customer satisfaction.

Challenges of AI in digital marketing

- 1) Privacy and security- for recommendation systems and ad targeting AI analysis of the browsing history data and user data. This can lead to privacy reasons and cause leakage of data.
- 2) Data quality- AI requires data of high quality data which can lead to inaccuracy of data which can be concerning when relating to marketing.
- 3) Integration- Integrating AI methods to marketing systems can be challenging. Therefore marketers should perform seamless integration.

Navnee)

Challenges of AI in Digital Marketing

It is important to consider the ethical challenges and privacy concerns that are present in digital marketing.

At some levels, the advantages of AI can be ignored, but the challenges and ethical concerns are something that cannot be ignored at any cost.

Artificial intelligence usage in marketing raises numerous ethical concerns, starting with the origin of the data. It is crucial to determine the source of the data and the ownership of the data before proceeding. Whose data is it, and where did you obtain it?

With the growing use of technology and awareness about it, individuals have started paying attention to where their data is going and used at. A major part of our population

thinks twice about giving away their data, this for a marketer can be considered a big challenge or even an opportunity.

Following are some of the major challenges faced:

1. Data Privacy and Security Concerns

With the hyper personalization of websites, the requirement of personal data is increasing. This puts customers safety at high risk.

In a survey by Pwc, about 85% of consumers states that they will not work with companies ho could possible cause harm to their data.

2. Algorithm Biasness

It refers to the systematic and replicable errors in computer systems that leads to biasness, such as towards certain colored people or genders. (Jackson, 2021)

Also, the inner complexities of these algorithms may lack interpretability which makes it difficult to understand different biasness. (Chaitanya et al., 2023)

3. Lack of Transparency

The AI algorithms are very opaque, and very complicated as well. These are hard to understand for people in marketing which leads to misuse of it as well.

There are many instances where ex-employees of data driven industries, such as twitter have expressed the crazy amount of data dependence and how less trust exists.

In a survey conducted by McKinsey in 2021, it was shown that 43% of executives expressed concerns about the same issue. (McKinsey & Company, 2023)

4. Fraud and Cyber Attacks

This challenge is one of the most common threats with our whole lives going completely online. Committing Fraud and doing cyber-attacks have become significantly more common.

AI powered bots can be used to imitate ads of big companies and can create fake ads leading to click and views. This result in lack of effectiveness of the original advertisement.

In a survey conducted by Juniper Research in 2020, the total global cost of ad fraud to reach \$44 billion.

Some possible ways of handling such challenges -

- There has been introduction of regulations like General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA), the safety of customer's data has been ensured by some extent.
For instance, British Airways was accused of data breaching which affected more than 400.000 of their customers. They were held accountable and were made to pay a fine of \$26 million.
- A sense of duty among the marketers, this is a psychological aspect but marketers must realize the importance of what they deal with and handle it with utmost care.
- Interdisciplinary collaboration is another factor that can help here, which is achieved by merging technology, ethics, law and sociology experts to develop a solution. (Simplilearn.com, 2024)

CONCLUSION AND RECOMENDATIONS

The implications of Artificial intelligence are endless, and so are the benefits it provides. In the future, we are only going to have even more AI in marketing. Many of those examples revolve around 3D trying of clothes and glasses, and possibly in the future we can try out clothes virtually as well.

With that imagine the amount of personal data a person will be willingly giving out to try clothes virtually, generating even more data which is easily exploitable.

One of the reasons for such emergence is also because of the highly competitive fields, everyone wants to go ahead and introducing some new technology which also generates curiosity is an amazing way to do it.

The implementations, benefits, challenges and to handle them is like an iterative endless loop. With the advancement of technology and the speed of it, there are always going to be new implementations, benefits, challenges and the ways to handle it.

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