

Artificial Intelligence on digital Marketing- An overview

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Abstract

This article focusses on the exciting and Due to the emerging trends association between digital marketing and artificial intelligence (AI). Even while proposing, the techniques of AI engagement in developing app. As a genuine branch of Marketing science, digital marketing managed to create value to the organizations and enhance the engagement with the customers through electronic services. The advent of technology has created a new competitive arena for the digital marketing made rapid changes in digitalization. Marketing throughout the world make use of digital technology in order to enhance the service level delivered to their customers efficiency in their business. In marketing AI play vital role through more intelligent search's engine, smarter ads, refined content delivery, relying on bots, continued learning, preventing fraud and data breaches, image and voice recognition, sales forecast, language recognition, predictive customer service, customer segmentation, etc. Artificial intelligence enables businesses to gain a clear and precise understanding of their customers' needs, enhancing their sales and revenues.

Key word: Marketing, Digitalization, Artificial Intelligence, Customer efficiency and electronic services.

Introduction :

Artificial intelligence is a technology that enable computers or machines as intellectual as humans, able to perform activity is associated toward those performed similar to the human brain. in current scenario technology advances as well as artificial intelligence (AI) is being used in almost every aspect of life. It has been used in associated with digital marketing to make easier for the businesses reach the consumer at the right time. According to Jain (2020), "Marketers can process massive amounts of information, conduct customers expectation. It has been that ensure customer satisfaction with the help of AI" (Jain & Aggarwal, 2020). Advanced Analytics, machine learning, and customer insights specific to the sector are some of the techniques used in digital marketing utilizing AI. The use of the internet in India is increasing, which enhance new opportunities for business growth.

Modern artificial intelligence (AI) is a wide topic that utilizes advanced techniques to extract perspectives from massive amounts of data. The fundamental principle behind AI is to train machines to learn, purpose, and resolve issues that we deal with daily basis. The advent of machine learning in the early 20th century has accelerated AI development. This increase can be attributed to the hardware and processing capacity of machine learning techniques. Even though computational power expands in possibility, so does development in the field. AI's future could include aspects that will enable machines to learn and think more like humans (Lake et al. 2016). Adopting artificial intelligence (AI) at the organisational level could perhaps enhance the efficiency and productivity of critical decision making (Knight 2015). Despite the fact that studies show a various benefit to implement the changes in organisations. It also have additional challenges in adopting AI technologies (Chui and Malhotra 2018). One of the factors that cause behind the difficulty is organizations' lack of understanding where and how

to integrate the AI. A further possible in organizations' failure is to principal component analysis at the business level in order to successfully implement the business strategy on AI adoption. Before determining where to integrate Technology at the enterprise level, it's indeed essential to consider the fundamental factors involved. The purpose of this study is to perceive the employee perspective of AI in order to better understand the factors that can influence AI adoption at the enterprise level.

Digital Marketing :

Various digital marketing tactics and methods that include an electrical appliance or the online databases to demonstrate, advertise, or sell products or services, along with industries that have used internet channels to make them successful. Websites, social networking sites pages, targeted advertisements, and e - mails tend to hold current customers and attract new customers. To determine the critical role of artificial intelligence (AI) in digital marketing research, we must first analyze the current state of digital marketing scientific research and compare it to the business sector. Then we'll know how far digital marketing in academia tends to lag behind the advancement in the business sector.

Artificial Intelligence (AI) on Digital Marketing :

To understand how artificial intelligence (AI) appears to contribute in digital marketing techniques, we must first analyze the important sub-fields of artificial intelligence (AI). Following that, we examine whether any of those fields implement to digital marketing techniques one by one. This would demonstrate how artificial intelligence (AI) impacts digital marketing research. Aspects of the research of artificial intelligence (AI) have been discussed. Artificial Neural network have been used in brain modelling, time series prediction, and classification procedures, among many other things. Genetic algorithms, genetic programming procedures, and so on are examples of evolutionary computation. Object recognition, image conceptual understanding, as well as other image-processing procedures are examples of vision. Robotics is a phrase that relates to intelligent control, autonomous exploration processes, etc. Expert Systems encompass management information systems, instructional systems, and so on. Recognition system includes voice recognition, production process, etc. Machine translation referred to Planning, game play procedures, etc., are examples of planning. Data mining, decision tree learning, and other types of machine learning

Statement of the Problem

since business have increased in recent years as businesses have expanded, academic researchers have chosen to be hired by companies rather than digital marketing remain at or research centres. Predictably, the competence of AI research in the business sector through AI on digital marketing is much higher, which explains the spread of AI outside of universities and in technological products. A further major reason is that scientific researchers lack data, whereas the business sector obtains and stores billions of bytes of data per day, which would be sufficient to conduct their own research, whereas artificial intelligence (AI) scientists have nothing except a limited data to evolve their models. According to, marketing experts are having difficulty defining artificial intelligence (AI). Rather than saying 'machine learning,' 'data mining,' or 'predictive modelling,' they always say 'artificial intelligence' to describe data analysis, smart systems, data extraction, or keyword searches. Computer scientists, on the other hand.

Objectives of the study:

- To Identify the factors influencing the Artificial intelligence on digital Marketing
- To forecast & predict succeeding potential of artificial intelligence in future
- To analyze the impact of Artificial intelligence on Marketing world

Factors influencing Artificial Intelligence on digital Marketing :

Customized experience:

Every customer appreciates personalised items, whether they are gifts, messages, or special offers. Every business aims to delight its customers by providing them with precisely whatever they want. It's indeed crucial to facilitate the collection of consumer information for this purpose, and also to invest in Artificial intelligence. Machine learning is used to analyse the customer behavioural patterns, which enables businesses to customise their own products as required.

Real-Time Reaction

Utilizing Artificial Intelligence in businesses helps to retain consumer's loyalty. Customers prefer services or products that help to address their issues in a timely manner. For example, AI Chatbots allows the user to provide a quick response and solution.

Some chatbots are endowed with sensory abilities including such touch or voice. Customers like this because it provides them the almost direct experience and they do not even feel like they're having conversations with a machine.. These chatbots are available for 24/7 most of the times and this can also enhance the rate of customer satisfaction.

Customer Behaviour Prediction:

Artificial intelligence not just personalises the customer satisfaction, but it could also predict behavior of both, The existing and new customers. Artificial Intelligence can gather user information from across the internet by utilising data management platforms (DMP). This is not focused on a single visit to your website. This will allow the company to personalise their services based on the needs of their customers, and also target potential customers and generate more effective marketing strategies. The procedure of AI collecting, assessing, evaluating, and interpreting the information is always evolving, and with time, the accuracy in this area will enable a business to predict their sales and also ROI and find success in their endeavours.

Increasing the Return on Investment:

Return on investment is an ability to perform image quality recognition, artificial intelligence aids in improving ROI. This, throughout turn, enhances the company's revenue. It moreover enables in the resolution of many security problems and ensures that payments are made as quickly and efficiently as

possible. The machine learning technique is used to acknowledge a user's behavioural patterns, and then a personalised campaign is generated for the destination. AI drives business with personal information, which allows businesses to customise their products and services. It also helps in saving the business a lot of time and money that would have been spent on unengaged customers

Enhance the Search Sessions:

Technology had also advanced to the point where it has benefitted greatly users as well – they seem to be smarter! Users are looking for a variety of tools or applications that can provide them to high-quality products and services. As a consequence, businesses must integrate AI into their strategies. AI can be used to understand consumer behavioural patterns. These days, voice recognition is a must-have feature in their AI tools.

Advertising:

When it comes to promoting their products and services online or offline, businesses rely heavily on advertising. This seems to be an important factor and since it can be used to completely eradicate the majority of the manual labour. Customer data is extremely beneficial, particularly when it comes to providing unique advertisements. The AI tool evaluates all the data collected from customers and indicates their areas of interest. This provides a framework for a business's advertisements, allowing them to easily complement the desires of their prospective customers. This gives businesses an advantage over their competitors in the market.

Search Engine Optimization (SEO):

SEO implies to have one of the greatest possible editions of scientific. In terms of search engine marketing, or SEO, the large number of related scientific tends to work concern evolutionary computations, fuzzy intelligent systems, machine learning techniques, and web-crawlers for reading, collecting, and analyzing website data, with both the purpose of improving website page ranking positions in search engine results by integrating ranking factors via an intelligent learning model.

Social Media Marketing:

The number of research publications referring to social media marketing, that mostly examine behavior of customers, customer intentions, image understanding procedures, analyzing data from social media and use machine learning models as well as data mining techniques, exposes the field's slow progress. Digital Marketing, Content Creation, and Prescriptive Marketing: Scientific research that explores data extracted from blogs, websites, e-commerce sites, and social media through using data mining, specifically deals procedures, text mining, and machine learning based including such extractive summarization, expert systems, customer decision support systems, text analysis, and predictive analysis.

Pay-Per-Click (PPC) and Ad Targeting:

Machine learning is used extensively in scientific research for bidding and ad targeting through the use of optimized advertising models. It analyses criteria that allow one to assess the importance of the

various factors on the probability of clicks and conversions. Machine Learning provide new information and reveal hidden trends.

Chatbots:

While compared towards other digital marketing methods, chatbot research has made digital marketing effective. From health care , education to digital counselling as well as insurance, there seems to be a significant ongoing research effort to build automated robotic simulation software that interact with humans by utilizing AI subfields such as decision support systems, neural networks, autonomous exploratory procedures, etc.

Semantic search:

The scientific research is far exceeded similar aspects of business sector that includes a high volume of scientific publications referring to search engines, information retrieval, world wide websites, data mining, social networking, internet, learning algorithms, machine learning, information analysis, natural language processing systems, query processing, information management, decision support systems, user interfaces web searches etc., which refers to web development. More than 2000 publications have been described in the web technologies and optimized versions. From web design and web development to web application, web services, mobile friendly websites and data representation, artificial intelligence (AI) is involved in an effort of optimizing procedures in web development.

Voice search:

Most research refers to voice search and digital marketing is infrequent and limited. However, in other scientific fields makes an impressive progress. Most important research referring to marketing includes personal voice assistant technologies and speech recognition providing flexible interaction technique where the user and the system act as equal participants having the ability to facilitate precise and unambiguous answers in web queries.

Applications of Artificial Intelligence in Digital Marketing:

Earlier Digital Marketers were reluctant regarding the usage of AI in Digital Marketing but with the growth of AI and its results of AI has proved that it will bring dynamic changes in the marketing world.

Generating Content :

Machines can now create content from scratch based on data fed in coding. These can be helpful to save time and resources. AI can write reports and news based on data and information. Automated Journalism is now used by many leading news giants like BBC news, The New York Times, Washington Posts and more. Also, Facebook uses AI to remove fake news.

Product Recommendation and Content Curation:

Not just creating content but helping recommending products and services based on the user's search, interest and behavior. Artificial intelligence can rightfully understand the behavior of the targeted

audience and what is better than finding the right products or services that you are already looking at. Netflix recommends you content based on your interest. Artificial Intelligence technology is commonly used to make personalized content recommendations that the user may find interesting, such as the if people buy X product, they might like Y product too, similar products just like Amazon.

Use of AI Chatbots:

We are aware of automated responses used by businesses to solve customer queries and also used in data collection, keeping the audience updated about products and services. They can serve clients 24/7 and retain their data for future use. Also, the applications of chatbots are huge and the amalgamation of Chatbots with Artificial Intelligence and Machine is the new game changer.

Web Design

Without the help of a programmer or a designer, you can still have your website through the use of Grid, that uses Artificial Intelligence to do the work for you based on the information provided like images, text, calls-to-action, etc. they can make the website look professional in much less time and at affordable price.

Predictive Analysis:

Artificial Intelligence uses data to make probable future projections. Predictive analysis is just the use of data, statistical algorithms, and machine learning.

Digital Advertising:

Digital Advertising is widely using Artificial Intelligence to ensure maximum success, it is being used across platforms like Facebook, Google, Instagram to provide the best possible experience. Analyzing user information like gender, age, interest, and other aspects to show them relevant ads. With the help of AI technology, marketers can spot micro trends and even predict trends. They can then make strategic decisions as a result; brands can reduce digital advertising waste and ensure that their spend delivers the best possible results.

Online Search engine :

The way of searching content has changed and marketers will need to create and change content accordingly. New innovations include Voice Search and Google's algorithm and other AI advances. Other innovations include Amazon Echo, Apple's Siri, Microsoft's Cortana, and Google Home where they can perform searches just by voice command or pressing a button.

Email Marketing:

Brands are customizing emails to reach their target audience with the power of AI. They can now personalize content based on customer behavior and preferences. Machine learning or automatic learning can now determine the best time and days of the week to contact the user, the recommended frequency through analyzing millions of data. Now they can understand which content catches most attention and which subject and titles get more click.

Future Artificial Intelligence on Digital Marketing:

In future, marketers can expect the following impacts from artificial intelligence on digital marketing

Smarter searches:

As technology solutions become wiser and more perfect, it is essential to mention that the public's requirements become more sophisticated. People can find what they need quickly thanks to social media and fast search engines like Google. Artificial intelligence and big data can analyze these search models and assist marketers in identifying the key areas where they should concentrate their efforts.

Smarter Ads:

Marketers are still looking to attract customers with smart advertisements today, but using artificial intelligence allows them to do so faster and more efficiently. Online ads are becoming smarter and more effective as a result of big data. For human solutions, artificial intelligence can delve deeper into data, social networks, Profiles as well as other online content.

Relying on Bots:

A further area where artificial intelligence can play a vital role in the evolution is consumer care and retention. Conversation functions and other direct-to-consumer engagement will be handled by artificial intelligence bots very soon. Businesses will save time for employees and cut costs in this manner. The artificial intelligence bots will also have access to the entire internet's information and search history, allowing them to outperform humans.

Continuous Learning:

Using artificial intelligence, it will not only reveal some hidden data, but it will also instruct them and integrate them in to the new promotion strategy, as well as optimize the messages to the most relevant users. Artificial intelligence solutions will become more intelligent as well as effective over time, promoting real-time decision making.

Research methodology:

The present research study was descriptive and empirical in nature for this study empirical analysis used which is based on a quantitative approach to interpret the link between the variables such as Artificial

Intelligence, Technology, social networking, profit maximization and Decision Making through the research instrument. Both primary data (through an online questionnaire to collect demographic information) and secondary data (journal articles, publications and other sources) have been used. Convenience sampling method were used to filter participants, which are digital marketing customers . The data collected were subjected to pilot study to explore the reliability and validity of the instrument and Cronbach’s Alpha Reliability Coefficient value of 0.899 proves that the scale is more consistent and highly reliable in nature. Questionnaires were distributed to 200 respondents, and only 170 completely concise questionnaires were returned by the respondents. Structured Questionnaires with three different sections were finalized for the survey method among the digital marketing customers in the Chennai city. Section one deals with the personal profile of the respondent such as, age, gender, marital status, educational qualification, designation of employees, gross annual income experience of consumers is measured in the appropriate nominal and interval scales. The responses of the participants were collected on the basis of 5 point Likert’s scale applied for section 2 and 3 which consists of ten questions regarding perception of consumer regarding Artificial Intelligence variables Due to the emerging trends of AI application in the digital marketing, the aim of this paper is to review the AI implementation in the field of digital marketing. The goal of the research is to assess the scope of AI application with digital marketing (voice, text, image recognition, decision-making, technology and robots) find application in marketing; (The first step was a focus on review the marketing portals (www.marketingweek.com, www.adweek.com, www.warc.com) to gather AI application in marketing.

Table.1 Personal profile of the respondent

Particular	Items	Frequency (n=170)	Percentage
Gender	Male	69	40.6
	Female	101	59.4
Age	30 and below	74	43.52
	31-40	63	37.05
	41-50	20	11.76
	50 and above	13	7.64

Education Qualification	Graduation in Arts	45	26.47
	Science	25	14.7
	Engineering	37	21.7
	Technology	31	18.2
	PG- Arts	25	14.7
	PG-Science	13	7.64
	PG- Engineering	8	4.7
	PG- Technology	6	3.5
Experience	Below – 5Years	75	44.11
	5 to 10 years	52	30.58
	11 to 20 years	30	17.64
	Above 20 years	13	7.64
Gross Income	5lakhs and below	84	49.411
	5 to 10 lakhs	53	31.17
	Above 10 lakhs	33	19.41

The table 1 state that the personal profile of the respondents. The majority of the respondents are female 59.4%. The age group of the major respondents are 30 and below are 74%. The major respondents were graduate in Arts 45%. The majority of the respondents gross income is 5lakhs and below are 84%.

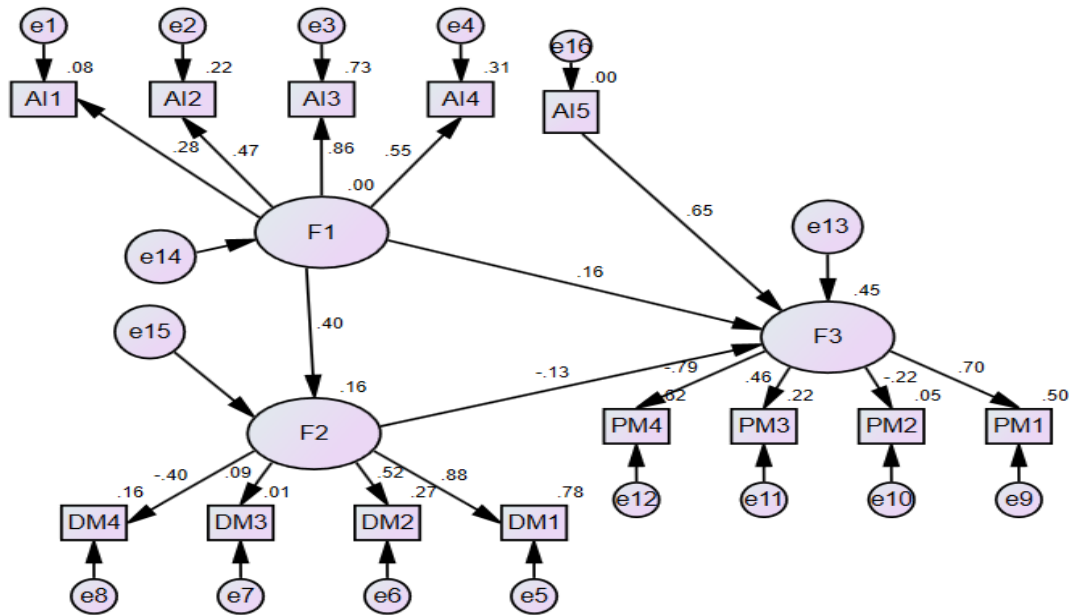
The Structural Model :

The SEM technique was used to examine the structural model so the effects among the four latent constructs were tested. The model included 15 items describing 4 latent constructs: Artificial Intelligence, Digital Marketing, Profit Maximization, and social networking. The various goodness-of-fit statistics are shown in Table.2. and present a good fit between the data and the proposed measurement model. The goodness-of-fit value of 0.90 shows that the measurement model has a good fit with the data.

Table.2 – Model evaluation overall fit measurement

Fit indices	Recommended value	Value
χ^2	N/A	15.40
d.f.	N/A	27
$\chi^2/d.f.$	≤ 3.00	1.57
Goodness of fit index (GFI)	≥ 0.9	0.90

Normed fit index (NFI)	≥0.9	0.91
Non-normed fit index (NNFI)	≥0.9	0.95
Comparative fit index (CFI)	≥0.9	0.96
Root Mean Square Error of Approximation (RMSEA)	≤0.05	0.035



Hypotheses:

H1. Artificial Intelligence has a direct effect on Digital Marketing.

The data indicates that Artificial Intelligence has a direct effect on Digital Marketing (H1: $\beta = -0.12$, $p < 0.05$). Hence the hypothesis is accepted.

H2. Technology has direct effect on Digital Marketing.

The data indicates that Technology has a direct effect on Digital Marketing (H2: $\beta = -0.62$, $p < 0.05$). Hence the hypothesis is accepted.

H2b. Social networking has a direct effect on Digital Marketing.

The data indicates that social networking has direct effect on Digital Marketing. (H3: $\beta = -0.07$, $p < 0.05$). Hence the hypothesis is accepted.

Conclusion:

Artificial intelligence is already transforming the business technological landscape through big data, machine learning, and perfect solutions. Companies alter their business practices to become more responsive, productive, and competitive. Technological advancements have always created new marketing opportunities. Just as the introduction of television heralded a new phase of truly mass

advertising and attain, and the Internet and mobile phones heralded a new level of targeting and background, artificial intelligence will alter how people interact to information, technology, brands and services.

Artificial Intelligence obtain marketers to realize potential personalization and relevance. Through the platforms via Search engines, Facebook, YouTube, Google, reach billions of people in day today life and with digital ad platforms, it achieves communication at scale. Determined combined with a customization possible through artificial intelligence means that companies will soon be able to tailor personalized campaigns in real time. The world of the future is in the application of Artificial Intelligence.

We must recognize that incorporating AI into any business does not imply that humans are no longer needed in the processes. AI is a technology that simply simplifies many time-consuming and complicated processes, and save businesses a significant amount of money and, more importantly, time. AI-powered tools are quite dependable and accurate, and they can be relied on for a quick solution. It enables a company to create a plan rapidly and effortlessly. These days AI has a lot of potential in digital marketing. It connects businesses with potential customers. It greatly improves a company's understanding of its existing and potential customers. This assists organizations in developing products and services that meet the needs of their customers.

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