

# A review of the development of digital marketing and the impact of artificial intelligence on it

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## Abstract

This paper reviews the development of digital marketing and the impact of artificial intelligence (AI) on it. With technological advancements and the widespread use of the internet and digital devices, traditional marketing is no longer sufficient to meet current consumer needs. Digital marketing has emerged as a critical approach for businesses to remain competitive and relevant. This study highlights how AI enhances digital marketing by optimizing marketing strategies, personalizing customer experiences, and improving consumer engagement. The findings show that AI, through big data analysis, pattern recognition, and improved advertising processes, significantly contributes to creating a competitive advantage and increasing marketing efficiency. In conclusion, integrating AI into digital marketing strategies can lead to substantial improvements in customer conversion rates and overall marketing performance.

**Key Words:** "Digital Marketing", "Traditional Marketing", "Digital Marketing Development", "Artificial Intelligence", "Machine Learning"

## 1. Introduction

In the era of advanced information technology and communications, the field of digital marketing stands out as a critical aspect in business strategies, enjoying significant importance. These transformations, closely linked to technological development, the increasing use of the internet, and the integration of digital devices into people's daily lives, have created endless opportunities for businesses to engage in effective advertising and customer interaction. Along this path, the presence of Artificial Intelligence (AI) emerges as a crucial innovation and transformative force in the realm of digital marketing, bringing about profound and enduring effects.

The present article sets out to provide a comprehensive examination of the development of digital marketing and subsequently explores the impact of Artificial Intelligence on this domain. Initially, we will delve into the history of digital marketing and its tactics, followed by a contemporary analysis of the influences and tools of Artificial Intelligence in the world of digital marketing.

## 2. Literature review

### 2.1 What is the Marketing?

marketing can be defined as the process by which individuals and organizations create, communicate, and deliver value to customers in order to satisfy their needs and wants. It involves understanding customer needs, developing products or services that meet those needs, promoting them effectively, and delivering them in a way that enhances customer satisfaction. Marketing encompasses various activities such as market research, product development, pricing strategies, advertising, sales promotion, distribution channels management, and customer relationship management. (Kotler, 2007)

Marketing includes all the business processes that are needed to transfer a product or service from the producer to the consumer and all the activities that a company does to get customers and maintain its relationships with them (Araz Jahanshahi).

There are several types of marketing, including: Traditional Marketing, Digital Marketing, Content Marketing, Social Media Marketing, Influencer Marketing, Email Marketing, Affiliate Marketing, Guerrilla Marketing, Relationship Marketing, Direct Response Marketing, Event Marketing, Viral Marketing, Mobile Marketing, Experiential Marketing, Cause-related Marketing (Araz Jahanshahi)/ (Kotler, 2007)

These are just some examples of the various types of marketing available today; businesses often use a combination of these methods based on their goals and target audience preferences.

## 2.2 What is the Digital Marketing?

Digital marketing is the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital medium (Desai, 2019). According to Chaffy and his colleagues, digital marketing means achieving marketing goals by employing digital technologies to assist marketing activities in order to enhance customer knowledge by adapting to their need (Chaffey, 2013). Digital marketing can be defined as the process of maintaining and establishing customer relationships through digital activities to achieve the goals of both parties by facilitating the exchange of ideas, services, and products (Chaffey, 2013)

### 2.2.1. The difference between traditional and digital marketing

Traditional marketing is known as a non-digital and conventional way of promoting products or services to various entities. In contrast, digital marketing uses digital channels to promote products or services in order to attract consumers. (Bavarsad, 1399)(table1)

| Traditional Marketing  | Digital Marketing   |
|--|---|
| Traditional marketing includes print, broadcast, direct mail, and telephone                          | Digital marketing includes online advertising, email marketing, social media, text messaging, affiliate marketing, search engine optimization, pay per click. |
| It has nothing to do with the audience   | Interaction with the audience   |
| The results are measurable   | Results are easily measurable   |
| Advertising campaigns are planned over a long period of time   | Advertising campaigns are planned in a short period of time   |
| The process is expensive and time consuming  | Cheap and fast way to promote products and services   |
| Success in traditional marketing strategies can be considered if the company can gain local audience | The success of digital marketing companies can be guaranteed if the company can reach a number of local audiences   |

|  |  |
|--|--|
| A long-term campaign prevails  | Campaigns can be easily changed and innovations can be introduced in each campaign |
| Due to the limited number of technologies, access to the customer is limited | Due to the use of different technologies, it reaches more customers                |
| There is no way of mass transfer   | There is a possibility of wide transfer  |
| One way conversation   | Two-way conversation   |
| Response occurs during business hours  | Responses occur at any time  |

Table1: Comparison of traditional and digital marketing (Bavarsad, 1399)

### 2.2.2 The emergence of digital marketing

In the 1970s, the advent of technology, marked by Ray Tomlinson's first email, facilitated communication between individuals through file exchange. In the 1980s, with the increased storage capacity of computers, the use of online techniques like database marketing replaced intermediaries, enabling companies to better track customer information. This shift reduced reliance on manual and inefficient processes. (Desai, 2019)

In the 1990s, following the introduction of the term "digital marketing" and the prevalence of personal computers, Customer Relationship Management (CRM) programs became a vital component of marketing technology. Intense competition led to the addition of more features to marketing software, and with the advent of the Internet, marketers were able to leverage vast amounts of online customer data through e-CRM software. This capability encouraged companies to update customer data and prioritize their own experiences. For this reason, the first clickable banner ad, part of the "You Will" campaign by AT&T, was launched in 1994, and within the first four months, 44% of people who saw it clicked on the ad. (Desai, 2019)

In the 2000s, with the continuous increase in the number of Internet users and the emergence of the iPhone, customers not only conducted their initial decision-making stages online but also engaged in online research and exploration of products and their needs. This situation created new challenges for the marketing sector of companies. (Desai, 2019)

The development of digital marketing in the 1990s and 2000s profoundly transformed the way brands and businesses utilized technology in the marketing process. With the advancement of digital platforms in marketing programs and everyday life, and the increasing shift of people from physical stores to digital devices, digital marketing campaigns became widely popular and more efficient. With the rise of social media in the 2000s, such as LinkedIn, Facebook, YouTube, and Twitter, consumers became heavily dependent on digital electronics in their daily lives. (Desai, 2019)

In 2007, the introduction of the concept of marketing automation assisted companies in providing segmented customer data and personalized information, even though the adaptation speed with consumer devices was not initially rapid enough, and these devices experienced sudden growth. (Desai, 2019)

In the years 2012 and 2013, digital marketing experienced significant growth and is now recognized as the predominant approach in the global marketing landscape. It constitutes a growing segment of advertising resulting from businesses utilizing Online Behavioral Advertising (OBA). (Desai, 2019)

The prevalence of the coronavirus in developing countries, including Iran, has led to significant changes in digital marketing. Companies faced new challenges with closures and a new type of demand, while people, due to concerns about virus transmission and the need for essential purchases, encountered difficulties. These events have posed challenges to digital marketing and created notable impacts on the course of digital commerce and advertising. (Fariborz Karami Fard, Farahnaz Rostami, Shahpar Geravandi, 1399-1400)

As a result of the emerging conditions, the government became obligated to impose restrictions on people's movement, leading consumers to explore the digital world and embrace digital marketing as a safer means to fulfill their essential needs. (Fariborz Karami Fard, Farahnaz Rostami, Shahpar Geravandi, 1399-1400)

These changes were so significant that one can consider the coronavirus as an accelerating factor in the development of digital marketing compared to the decades from 1990 to 2000. (Ayush, Gowda, 2020)

Surveys indicate that between the years 2020 and 2021, the number of internet and social media users in Iran has increased by 1.3% and 1.9%, respectively. (Fariborz Karami Fard, Farahnaz Rostami, Shahpar Geravandi, 1399-1400)

As observed, the spread of COVID-19 unexpectedly propelled the growth of digital spaces and digital marketing. With the lockdown of daily life, people being quarantined at home, and a swift shift in behavior towards digital platforms, digital operating systems, digital media, and digital content have undergone significant changes. (Ayush, Gowda, 2020)

The report presented by Digikala, recognized as the largest online store in the Middle East and Iran, indicates a significant increase in online shopping during the COVID-19 pandemic in Iran. (Fariborz Karami Fard, Farahnaz Rostami, Shahpar Geravandi, 1399-1400)

## 2.2.3 Tactics of digital marketing

From Deepak's perspective, digital marketing has various types:

**2.2.3.1 Search Engine Optimization (SEO):** SEO is the practice of enhancing a website's visibility to achieve a higher ranking in search engine results pages. This, in turn, boosts the organic and naturally (unpaid) traffic directed to your website. SEO is applicable to various channels such as websites, blogs, and infographics (Desai, 2019). Google regularly updates its algorithms so that only relevant results appear. From this point of view, many experts say that SEO is dead and the effort is futile. However, the truth is that Google tries to prevent algorithm manipulation and filters out sites that do not deserve to be at the top of SERPs (Search Engine Results Pages). So there is no doubt that you should invest in SEO work. Remember, this is the most cost-effective marketing strategy that brings organic traffic to your business. (Dr. Madhu Bala, Mr. Deepak Verma, 2018)

**2.2.3.2 Search Engine Marketing (SEM):** SEM is an all-encompassing strategy focused on driving traffic to your business through paid efforts, commonly referred to as Paid Search Marketing. It involves various models such as PPC (pay-per-click), CPC (cost-per-click), or CPM (cost-per-thousand impressions) based on your business structure. Key platforms for SEM include Google AdWords (on the Google Network) and Bing Ads (on the Yahoo Bing Network). SEM spans across Display Advertising, Search Retargeting & Site Remarketing, Mobile Marketing, and Paid Social Advertising. (Dr. Madhu Bala, Mr. Deepak Verma, 2018)

**2.2.3.3 Content Marketing:** Content can take various forms, such as blogs, white papers, e-books, videos, etc. Recent updates to Google's algorithms highlight the crucial role of content in enhancing search results. Creating creative

content across different domains and tailoring it for specific platforms is a powerful strategy for engaging readers and elevating your business brand (Dr. Madhu Bala ,Mr. Deepak Verma , 2018).

**2.2.3.4 Social Media Marketing (SMM):** Social media marketing involves leveraging various platforms like Facebook, Twitter, LinkedIn, Instagram, Snapchat, Pinterest, and Google+ to enhance brand awareness, boost traffic, and generate leads for your business. It's a strategy aimed at promoting your brand and content across social media channels (Desai, 2019). Consistent engagement with users, at least four to five times a day, is crucial for successful social media marketing. This approach significantly impacts branding and sales. Aligning strategies with business plans is essential due to the transformative impact of social media on communication. The success of a social media marketing campaign hinges on consumer openness to technology. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

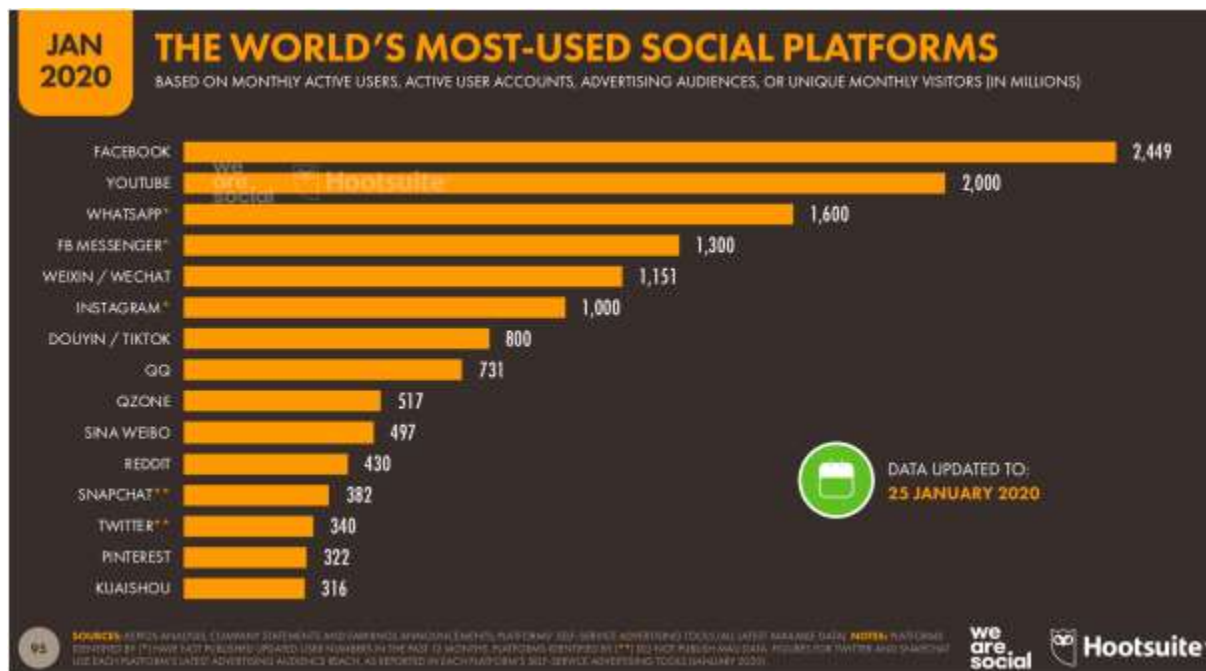


Fig 1. Popularity of social platforms in 2020 (Bavarsad, 1399)

**2.2.3.5 Digital Display Advertising:** It is part of SEM and involves using various formats like text, image, banner, rich-media, interactive, or video ads to reach your target audience. Tailor your message based on interests, content, or the customer's position in the buying cycle. Keep in mind that Digital Display Advertising can be expensive, requiring expertise to ensure a favorable return on investment for your business. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

**2.2.3.6 Mobile Marketing:** It is an emerging branch of marketing that involves two-way communication between companies and customers through mobile devices. It includes customizing websites, apps, and content for mobile use. With the growing number of mobile users, it proves to be an effective marketing method. mobile marketing is a revolutionary tool for companies to connect with clients through mobile devices at the right time, place, and with appropriate direct messages. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

**2.2.3.7 Interactive Marketing:** Interactive Marketing emphasizes engaging potential customers in ongoing conversations. Studies show that 55% of respondents prefer continuous communication with the companies they purchase from, and 89% feel more loyal when invited to provide feedback. Utilize interactive tools like widgets and opt-in features on your website to solicit feedback and monitor user behavior. Actively engage with customers, tailor offers based on preferences, and adapt to their browsing activities. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

**2.2.3.8 Viral Marketing:** Viral Marketing is a modern-day equivalent of traditional word-of-mouth, where unique content spreads exponentially online due to widespread appreciation, sharing, and liking. This strategy is effective for branding and driving traffic to your website. The content format can vary, requiring creativity. Marketers are increasingly incorporating viral elements into their plans due to its cost-effectiveness and the potential for higher believability compared to standard ads. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

**2.2.3.9 Email Marketing:** Email Marketing is the strategy of sending commercial messages through email to a list of potential customers. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018). It involves sending emails to promote content, discounts, events, and drive traffic to the business's website. Campaign emails may include newsletters, follow-ups to website visitors, welcome emails, holiday promotions, and nurturing tips or series. (Desai, 2019)

**2.2.3.10 Affiliate Marketing:** Affiliate Marketing is a performance-based program where publishers are rewarded for bringing in customers through promotions, leads, or sales. Businesses join affiliate programs to advertise on publishers' pages, compensating them based on the agreed model. Affiliate Networks provide access to a broad publisher base with tracking and reporting technology. This strategy benefits startups by leveraging high-traffic sites to drive traffic and establishing a mutually beneficial relationship between merchants and publishers. Well-known platforms like Amazon, eBay, LinkShare, and Flipkart operate Affiliate Programs, commonly adopted by online businesses with substantial traffic. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

**2.2.3.11 Online Public Relations (Online PR):** Online Public Relations (Online PR) is a crucial aspect of modern marketing, offering advantages over traditional PR through the potential for rapid and effective two-way communication on the internet. Businesses, especially those operating online, can enhance their online public relations by publishing articles in online PR catalogs, issuing press releases in online media, sharing multimedia content with commercial messages, and engaging in discussions on relevant forums or topics. Online PR plays a vital role in customer retention and business success (Dr. Madhu Bala ,Mr. Deepak Verma , 2018).

**2.2.3.12 Digital Media Planning and Buying:** When a media agency researches and makes a comprehensive strategy framework, we call it Digital Media Planning. Be it in driving sales or conversions, launching a new brand or promoting an established brand, or changing customer behavior, the media agency plans different platforms and formats to reach the desired audience. It studies reach and frequency of different web-based and mobile applications. The agency works with different partners and buys relevant space and ideas. This is called Media Buying. In essence, Media Buying and Planning entails all the strategies that we have discussed above (Dr. Madhu Bala ,Mr. Deepak Verma , 2018).

**2.2.3.13 Web Analytics:** Web Analytics is a critical component of Digital Marketing, focusing on collecting, measuring, understanding, analyzing, planning, reporting, and predicting web activities for businesses. Unlike simple reporting, Web Analytics provides in-depth analyses and perspectives for businesses to consider. Key Web Analytics tools include Google Analytics, Spring Metrics, Woopra, Clicky, Mint, and Chartbeat. Utilizing Web Analytics is essential for advertisers to comprehend their businesses, enhance ROI, and optimize conversions (Dr. Madhu Bala ,Mr. Deepak Verma , 2018).



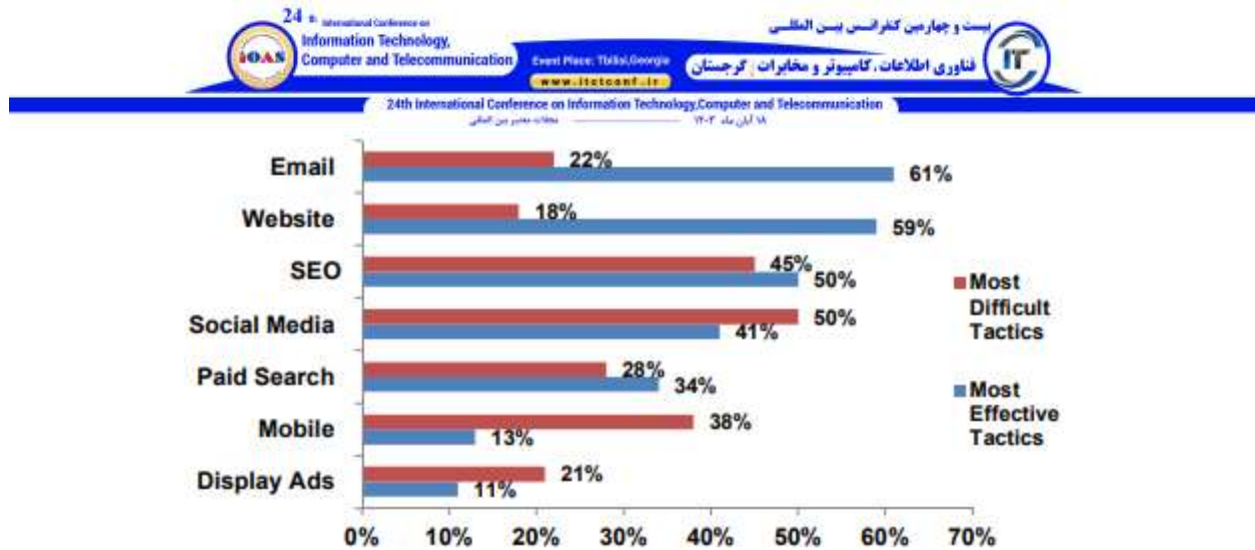


Fig 2. Preferred Internet Marketing Approach (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

The picture above shows that Email and Website constitute the most effective tactics and least difficult to execute. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

The following statistics show the various digital marketing activities with the highest business impact in 2017. Content marketing communities have the greatest impact on a company's business. (Dr. Madhu Bala ,Mr. Deepak Verma , 2018)

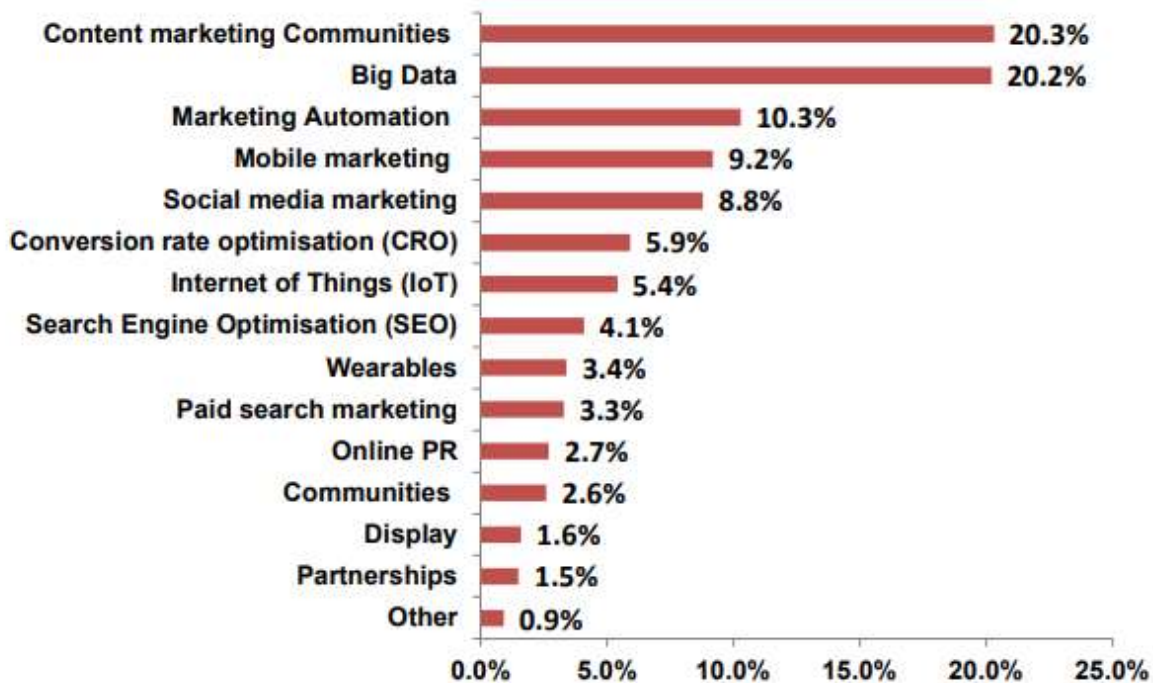


Fig 3. digital marketing activities

## 2.2.4 Pros and Cons of Digital Marketing

Digital marketing provides real-time insights, offering accurate results for marketers, unlike traditional advertising methods such as newspaper ads, which pose challenges in estimating engagement. Digital marketing enables precise measurement of audience reach and engagement, fostering a better understanding of the product or service reach, engaging with potential customers, and accessing a global audience through personalized promotion. However, digital marketing faces challenges due to its dependence on internet accessibility, especially in areas with limited connectivity. The clutter in the digital landscape complicates marketers' efforts to distinguish their ads and initiate meaningful conversations about an organization's brand or products. Despite these challenges, the saturation of competing goods and services utilizing similar digital strategies can be a drawback. Negative portrayals by customers, influenced by online distrust stemming from fraudulent advertising, present risks for companies. Even an individual or a small group can adversely impact the image of an established brand. Digital marketing primarily disseminates information to prospects, many of whom may lack purchasing authority, raising skepticism about its direct impact on real sales volume. (Desai, 2019)

## 2.3 Artificial Intelligence (AI)

Despite six decades of research in Artificial Intelligence (AI), reaching a consensus on defining this 'set of technologies' remains a daunting task. The term 'AI' encompasses a range of diverse technologies, including robotics, deep learning, machine learning, speech recognition, image recognition, computer vision, natural language processing, and analytics, all designed to replicate human behavior. Unlike older manufacturing or information technologies, AI has the unique ability to learn from data, process information for human use, and autonomously update outcomes, eliminating the necessity for programming or direct human involvement. (Huang and Rust, 2018)

The concept of Artificial Intelligence involves the creation of machines or systems with intelligence resembling that of humans. It involves simulating human-like intelligence in machines to perform tasks such as reasoning, problem-solving, learning, perception, and language understanding. (Koneti et al, 2023)

The above literature review shows that Artificial Intelligence (AI) is a rapidly evolving technology that has revolutionized how we live and work.

### 2.3.1 Machine Learning (ML)

Machine Learning is a subset of AI that enables machines to learn without the need for explicit programming. In this process, data is considered a fundamental and vital element. The machine learns how to perform specific tasks, such as labeling images, by analyzing data. Neural networks also act as the primary processing components in machine learning. Inspired by the structure of human brain neurons, these networks are formed by multiple interconnected layers. The layers of this network exchange information, and each neuron, with its learning capability, performs specific tasks. Along this path of network learning, the algorithm continuously recognizes changes in the priority of input data and identifies patterns in the data to ultimately reach the desired output, which is the learning of a specific task. (Adib Salehishayegan & Dr. Khodaei)

#### 2.3.1.1 Deep Learning (DL)

Deep learning algorithms represent a sophisticated advancement in the realm of machine learning. Within the domain of deep learning, these algorithms encompass a collection of machine learning techniques primarily



grounded in artificial neural networks. Their objective is to capture and model intricate abstractions present in the data. Situated as a subdivision of machine learning, deep learning incorporates various methodologies, including neural networks, hierarchical probabilistic models, and an array of supervised and unsupervised algorithms. The essence of deep learning lies in its ability to analyze data at a heightened level through hierarchical structures. In this framework, each layer within the deep learning hierarchy endeavors to discern a more advanced set of features compared to its predecessor. (Adib Salehishayegan& Dr.Khodaei)

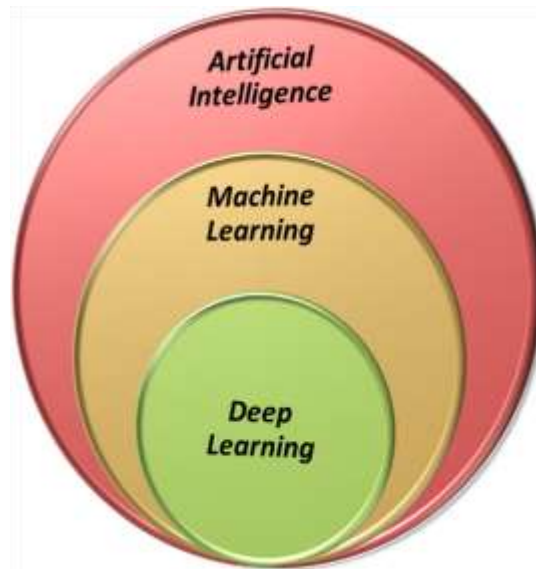


Fig 4. Show artificial intelligence (Adib Salehishayegan& Dr.Khodaei)

## 2.4 Use of artificial intelligence and machine learning in digital marketing

Transformative technologies such as the Internet, big data analytics, blockchain, and artificial intelligence have changed the way businesses operate. Of all the transformative technologies, artificial intelligence is the latest transformative technology and has great potential to revolutionize marketing. Professionals around the world are trying to find the AI solutions that best fit their marketing roles. (Sanjeev Verma, Rohit Sharma, Subhamay Deb, Debojit Maitra, 2020)

Artificial intelligence is a common emerging technology that helps organizations track data to analyze and respond quickly to customer needs in real-time, thereby creating a competitive advantage. (Adib Salehishayegan& Dr.Khodaei)

Machine Learning (ML) has become a pivotal element in digital marketing, revolutionizing the field by enabling algorithms to learn from data without explicit programming. The primary objective is to enhance performance, achieved through the analysis of historical customer data to identify patterns, preferences, and behaviors. These insights are then used to refine marketing campaigns, personalize content, and predict future customer actions.

In the digital marketing landscape, Artificial Intelligence (AI) and ML empower marketers to leverage data-driven insights, streamline customer experiences, optimize advertising strategies, and automate repetitive tasks. This integration transforms decision-making in marketing, fostering a more informed and adaptive approach. This shift facilitates personalized content delivery, precise targeting, and improved overall outcomes in the digital realm.

AI and ML enable marketers to sift through extensive customer data, including demographics, preferences, and online behaviors. This leads to the delivery of highly personalized content, recommendations, and offers, creating more relevant and engaging experiences for the target audience. This customization contributes to increased customer satisfaction and enhanced conversion rates.

Additionally, AI and ML play a crucial role in targeted advertising by analyzing consumer behavior patterns and preferences. These technologies identify the most relevant audience segments for specific campaigns, allowing marketers to tailor advertisements and increase the likelihood of conversions, maximizing return on investment.

In customer experience optimization, AI and ML analyze customer feedback, sentiment, and interaction data to identify pain points and areas for improvement in the customer journey. The integration of AI-powered chatbots and virtual assistants enhances customer satisfaction by providing real-time support and promptly addressing queries. (Koneti et al, 2023)

Therefore, it can be said that machine learning has had a great impact on the use of digital marketing tactics that were mentioned earlier. (Adib Salehishayegan& Dr.Khodaei)

### 3.Methodology

The current research is a review article based on domestic and international online sources. Research sources are extracted from reliable and scientific databases such as Civilica, Science Direct, SID and Google Scholar, which are known as reliable sources in the field of digital marketing development and the impact of artificial intelligence. The purpose of this research is to provide a comprehensive and accurate article in the field of digital marketing development using artificial intelligence and to improve knowledge and understanding in this field and provide a complete perspective.

Research steps include searching and selecting sources, reading and summarizing, analyzing and comparing, organizing and categorizing, and finally writing and editing the article.

### 4. Findings

Some interesting articles are summarized below

| Author(s)                   | Study base on                               | Findings  | Year |
|-----------------------------|---|---|------|
| (Gacanin & Wagner)          | Autonomous CEM                              | Establishment of critical business drivers through AI and ML  | 2019 |
| ( Maxwell et al, 2011)      | Data processing through AI and ML algorithm | Correct the marketing decision made through AI and ML algorithm-based data processing                   | 2011 |
| (Chatterjee et al, 2019)    | Application of AI in marketing              | Based on the AI application analysis of customer habits, purchases                                      | 2019 |
| (Seranmadevi & Kumar, 2019) | AIUI in CRM                                 | CRM functions evolution through AIUI  | 2019 |
| (Sha and Rajeswari, 2019)   | Advanced AI in e-commerce                   | Advanced AI-enabled machine could be able to track five human senses and improved e-commerce business   | 2019 |
| (Yadegari et al, 2021)      | The impact of AI on digital marketing       | Using artificial intelligence, marketers can increase their brand value and meet customer expectations. | 2021 |

|                       |   |  |      |
|-----------------------|---|--|------|
| (Koneti et al, 2023)  | AI & ML in DM                                   | The positive impact of AI and ML on digital marketing and the creation of a competitive advantage. | 2023 |
| (Tooran, 2023)        | Impact of AI on Marketing & CRM                 | High use of AI in marketing and CRM  | 2023 |
| (Emami & Panah, 2023) | Impact of AI on Marketing and Market Management | Indirect impact of applying artificial intelligence on economic prosperity                         | 2023 |

Table2: A literature review on artificial intelligence in marketing.

## 5. Conclusion

In the realm of digital marketing, the transformative influence of artificial intelligence (AI) and machine learning (ML) is palpable. This study observes a discernible impact of these technologies, ushering in substantial advancements within marketing processes. Key features encompassing refined target market identification, adept customer attraction and retention strategies, augmented personalization experiences, real-time optimization in marketing procedures, and facilitation of data analysis underscore the substantive advantages afforded by AI and ML in this domain. The judicious utilization of artificial intelligence and machine learning empowers organizations to cultivate a competitive edge, refine their marketing strategies, and augment conversion rates. Notwithstanding these commendable advancements, the trajectory of their implementation is accompanied by inherent challenges. Principal among these challenges are the imperative considerations of maintaining customer privacy, seamless integration with conventional software infrastructures, and the prerequisite for an astute comprehension of artificial intelligence nuances. In summation, the synthesis of artificial intelligence and machine learning technologies engenders progress in the realm of customer experience, amplifies operational efficiency within marketing processes, and ultimately bequeaths a competitive advantage. However, prudent management necessitates that organizational managers acquaint themselves with the intricacies of artificial intelligence and adeptly navigate the attendant challenges to effectively chart a course towards success.

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