

# Applying Artificial Intelligence to the Digital Marketing: Opportunities and Challenges for the Marketer

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**ABSTRACT:** *The present work aims to explore the role and factors that influence the interaction between marketing and artificial intelligence, the developing role of the marketer in the digital age, and the effects of artificial intelligence on the marketing process. Through a comprehensive marketing analysis, the research highlights the emerging power that Artificial Intelligence is exerting in all the marketing and production phases. The article is divided into three phases: the first phase focuses on the transition from traditional to digital marketing, emphasizing how new technologies had a significant impact on the commercial scene. The focus transitioned to the operational frame of AI into marketing operations, recognizing the latter's ability to add value throughout the modern consumer's conversion funnel. Following that, the inquiry yielded exciting ideas for possible future developments. Finally, the presentation provided a complete overview of the transition of marketing to digital and the function of artificial intelligence in this context.*

**KEYWORDS:** artificial intelligence, digital marketing, digital ecosystem, marketer, consumer trend

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## INTRODUCTION

The digital age is a historical period in which economic issues develop in society, moving from an industry-focused economy to an economy based on telecommunications information technologies, which use the Internet, computers, and other technological devices as a means of communication (Golovtsova & Brezhnev, 2023). Stocchetti (2020) described the digital age as “a period in which information accessible electronically is accessible and easy to share and use” (Stocchetti, 2020). The digital era is therefore a special cultural stage derived not only from the massive spread of different digital products but also from all the economic, social, and political changes associated with the digitalization of information (Stocchetti, 2020). The extraction and transmission of information depend mainly on the Internet,

Publication of the European Centre for Research Training and Development-UK considered being the dominant and widespread technology associated with this historical period (Perifanis& Kitsios,2003; Manavalan & Kandasamy, 2019; Leminen et al.,2018). Information has developed very rapidly and disruptively around the world. Technology has been shown to have facilitated people's daily activities and commercial transactions and has become a part of their daily lives (Radziwill, 2018). Because of the introduction of modern devices such as smart phones, laptops, and tablets, some information has been moved from physical to electronic formats and is essential to this generation (Min et al.,2018). The digital age is a phenomenon that can be defined as highly multidimensional and can be quantified through the three key dimensions of knowledge, personal media, and digital life (Çalışkan et al., 2020). Today, knowledge and production are increasingly synthetic and abstract thanks to the simplification of access and production, especially the spread of digital technologies (Han et al., 2021). The current study will focus on the role and factors that influence the interaction between marketing and AI, the increasing role of the marketer in the digital age, and the effects of artificial intelligence on the marketing process. To the best of my knowledge, this is the first paper that aims to explore the relationship between artificial intelligence, marketing as a process, and the marketer as a role model. Its purpose is to raise awareness of the significance of AI in the macro-policies of marketing.

## **METHOD**

The method of the current work is qualitative. Through a hermeneutical approach, the current work aims to reflect the growth of digital marketing, the dissemination of Artificial Intelligence in the marketing setting, and the emerging role of marketers in the 4:00 Industrial Revolution.

### **From Traditional Marketing to Digital Marketing**

The present-day is marked by the exponential rise of digital technologies, affecting sustainable economic and social development (ElMassah & Mohieldin, 2020; Di Vaio et al., 2020). The quick and unexpected transition of routines and ways of life has significantly influenced the progress of technological innovation. The rapid rise of social media, the widespread availability of smart phones and mobile apps, and the advancement in data transport performance via the Internet are a few examples of this major transformation (Lee et al, 2019). Digitalization has increased people's need to openly express themselves and share content, thoughts, opinions, and everyday experiences (Lee et al.,2018). This new technological stage has influenced even businesses and consumers. The major components of this transition from traditional to digital marketing may be found in four simple steps according to scholars (Pallathadka et al.,2023; Mehta et al.,2022; Loureiro et al.,2021; Li,2020; Kaplan& Haenlein,2019; Mohapatra,2019; Simonsson & Magnusson,2018;Wani,2013).

1. *Traditional marketing* begins with segmenting consumers and divides markets based on demographic, psychographic, and behavioral profiles. It then continues to verify the presence of communities. Following the procedure for segmentation,

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the targeted marketing step begins, which entails selecting one or more market groups (deemed appealing and relevant to the offer) to which the organization plans to promote. Both stages (*segmentation and targeting*) are decisions undertaken unilaterally by the company's marketing team with no regard for the customer's agreement, regarding the latter merely as a "target" for marketing their product or service. Today, communities have developed into novel categories that arise spontaneously within the boundaries defined by the customers themselves and the company. To effectively engage these communities, strategies, and behaviors based on transparency, listening to, and satisfying customer needs must be implemented.

2. *From distinctiveness and placement to brand codes*, while we refer to brands, we mean a collection of visuals, such as a company's name, logo, or slogan, that identify the product or service it provides and communicate its worth to competitors. A brand must be dynamic and adaptable, behaving appropriately in a variety of settings. However, the brand's features and codes must remain constant. This is because the nature of the brand is *its raison d'être*, and only when the core of the brand stays faithful to its roots can the outward image be adaptable.
3. *From selling the 4Ps to marketing the 4Cs*: In traditional marketing, the marketing mix depends on the concept of the "4Ps," which are product, price, promotion, and point of sale. Over time, this notion has grown to include customer interaction, providing a way to the marketing mix centered on the "4Cs": co-creation, currency, community, and conversation. According to this new perspective, the company's development strategy relies on involving customers in the early stages of designing the product or service, transitioning from fixed to dynamic pricing strategies, embracing the concept of community and consumers interconnected with one another, and leveraging connection by actively creating business value through customer collaboration.
4. *From customer service to collaborative customer care*, typical marketing methods rely on a customer service perspective, where clients are first selected, targeted, and then become "sovereigns" after making a purchase. With the evolution of a "customer care" approach, businesses now establish themselves on the same level as their consumers, concentrating on collaboration as the key to success. However, these two marketing methods should not be interpreted oppositely, because traditional marketing plays a fundamental role in spreading the brand and arousing interest in the thinking of end consumers, whereas digital marketing stimulates subsequent actions and word of mouth. As a result, digital marketing must not replace traditional marketing but supplement it in such a way that it involves the entire customer base, thereby promoting the development of word of mouth. Marketing 4.0 is an approach that aims to combine offline and online interaction. It combines style and substance in the creation of the corporate brand and integrates human connectivity allowed by new technological innovations to optimize customer involvement in the final product. The digital age is often referred to as the era of Homo Connexus, Internet man, or even Internet of Word (Li,2020; Ouellet, 2016), highlighting the Internet's pervasiveness, which has radically revolutionized the way people communicate by introducing a common

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Publication of the European Centre for Research Training and Development-UK and shareable digital language. Specifically, the Digital Era is the result of the convergence of four technical macro-phenomena.

- *The sensor* interacts with what is being measured; its energy develops a change in the measured phenomenon's attributes, making it measurable. Today, they are gradually miniaturized and connected to the internet.
- *Telecommunications* refers to the remote transmission of words, images, or impulses between two or more individuals. With the introduction of the Internet, the latter became increasingly efficient and rapid, allowing information to be exchanged in all likely places thanks to the network.
- *IT* thanks to increasingly high-performance HW/SW6 and the micro miniaturization of data processing and storage capacity.
- The *Internet* establishes an international norm and facilitates communication and data sharing among entities situated in diverse nations all over the world. As a result, the Internet plays a critical role in the digital age, acting as the key to opening the economy to digitalization because of its inherent qualities. The Internet faces a very wide market of customers who access it freely (particularly via smartphones and PCs) to create, search for content, and sell or purchase items or services. This platform can be characterized as a general-purpose innovation, permitting the so-called "Digital Era", to become a priority and vital source of the process of socialization trade and data exchange. The primary hallmark of this period is hence the collection of changes linked with all parts of society leveraging the use of digital technologies. Peter Drucker, in one of his studies conducted in 2002, classified the digital age as "*an intense process of socio-economic transformation of such magnitude that it can be placed alongside the industrial revolution*" (Wrede et al., 2020). The element that distinguishes this era is the massive use of data combined with technology, the transformation of traditional business models, and the creation of new products and services, besides the development of new processes and a new managerial culture (Mustak et al.,2021; Sapra,2016; Martninez-Lopez et al,2013).

### **The Pillars of Digital Transformation**

Digital transformation depends on six essential pillars that, when effectively implemented, can provide more profitability than organizations that use more traditional methods and strategies (Nadkarni & Prügl, 2020). Changing the way of doing business can be a difficult and time-consuming process. It is important to have a skilled marketer who can manage this shift and overcome the various challenges and obstacles that may arise along the way(Trunk et al.,2020). The protagonist must have strong leadership skills to better manage the process and affect employees' mentality and the corporate image (Verma et al.,2021;Wamba-Taguimdje et al.,2020). Alongside technology, the change in company culture is critical to the digital revolution's success. The manager is responsible for changing the vision of the organization's members while remaining true to the company's mission, creating an environment conducive to change, and stimulating all those involved in this transformation (Blanka et al.,2022).Digital transformation techniques cannot be

Publication of the European Centre for Research Training and Development-UK implemented without a clearly defined culture and a corporate mission focused on the customer experience. Every customer has unique preferences and subjective perceptions, and it is unlikely that all of those who are accustomed to using a specific product or service particularly will be willing to change (De Bruyn et al.,2020). After identifying the corporate culture and before making large investments, the company must focus on the end client, analyzing their interests and expectations of what the company can provide. Many customers resist change and stay rigid in their thinking. Therefore, it is crucial to establish beforehand the corporate strategy and culture towards customers who don't embrace change. This can be achieved by prioritizing the user experience and leveraging technology for targeted information and customer selection. (Kaushik,2022).The human component is therefore crucial in transformation processes (Soni et al.,2020). To effectively shift to new technologies and a corporate mindset, integration of new resources is necessary. The manager supports the human resources division by specifying the required team members. The new workers and existing ones assist each other, retaining company identity while gaining digital transformation skills (Elia et al.,2020).Embarking on Digital Transformation leads to innovation. The manager's goal is to direct innovation aligned with the company's mission, creating clear objectives and strategies to uncover improved business performance (Çaliskan et al.,2020; Kamaladin et al.,2020). Activating a transformation process acknowledges the presence of change. Change unites all pillars of digital transformation, including innovation. To best deal with this transition, it is vital to become involved and adapt to it, structuring the core company to efficiently deal with change, guide it, and attempt to capitalize on all the great aspects it brings.

### **The Digital Technology Ecosystem**

The term “*digital ecosystem*” is tied to Industry 4.0, where technology enables the production of goods and services (Elia et al.,2020). Many companies focus solely on technology to lower costs and increase efficiency. However, this approach limits technical development. To create a profitable ecosystem, a company must integrate resources, reduce costs, and enhance production efficiency (Paschen et al.,2020).Cloud Computing, the Internet of Things, Artificial Intelligence, Machine Learning, and Quantum Computing are key technologies supporting enterprises' digital ecosystem. “*Cloud computing*” refers to a supplier offering computer services (software, databases, servers, networks) to a client via the Internet. The cloud system involves the customer (end-user), service provider, and administrator (who coordinates new service usage with existing systems). Cloud computing enables customers to use online services anytime, anywhere, without direct communication with the provider or time limitations (Buyya et al., 2009). The provider employs a multi-tenant model for simultaneous, authentic, and customized use by multiple organizations. Cloud systems optimize resource utilization and monitor efficiency, leading to improved business processes (Weinhardt et al., 2009).The Internet of Things applies mainly to areas where things can generate new information, like smart homes, automobiles, industrial monitoring, surveillance, security, healthcare, etc.

Publication of the European Centre for Research Training and Development-UK (Paiola et al.,2020; Leminen et al.,2018; Metallo et al.,2018). The IoT's growth and increased connectivity led to the development of new data systems, extracting insights from Big Data (Paiola et al., 2020; Dai et al.,2019). Data collection expands beyond the firm's internal analysis to encompass external factors like consumer preferences and market trends (Dai et al.,2019). Additionally, through data analysis, the IoT enables businesses to develop more efficient machinery, driving progress and innovation. Artificial intelligence, machine learning, and quantum computing complete the digital ecosystem, all of which are interconnected. Machine learning (ML) uses algorithms to learn from data and make predictions (Chintalapati & Pandey, 2021). ML discovers data structures to enhance future tasks (Kietzmann & Pitt, 2020). Machine learning and artificial intelligence are closely linked (Kietzmann & Pitt, 2020). The term "*Artificial Intelligence (AI)*" has been used for over 50 years, but recently caught the attention of corporations because of technological advancements (Mehta et al., 2022). AI can be defined in various ways, all relating to the interaction of human action, thought, and logic (Sestino & De Mauro,2021). It is a field of computer science exploring how computer systems can store and apply human mental behavior in different contexts (Camerer,2019).AI technologies are systems that reason and act like humans, a field of computer science that envisions a superhuman intellect. However, AI's goal is not to replicate humans, but to assist in professional duties (Triberti et al., 2021). Its strength lies in continuous improvement through automated learning processes and analyzing big data to optimize decisions based on business goals (Xu et al., 2018).AI simplifies tasks, saves time, and money, and boosts business efficiency (Bharadiya et al., 2023; Soni et al.,2020).In recent years, AI-enabled device accessibility has grown, with the widespread adoption of smart home devices and intelligent robots like R1 (Haenlein & Kaplan,2021; Dirican,2015).

### **Marketing and AI**

Marketing is the focal point of the business. It materializes ideas, connects with consumers, challenges products/services, and grows with marketers (Steward & Zhao, 2000). Artificial intelligence is vital in marketing (Mustak et al.,2021). Despite appearances, humans still play a vital role in the ever-changing process. Creativity and invention are crucial in this industry, as AI has its advantages, but effective marketing strategies require human input. Balancing AI and human ingenuity ensure long-term creativity and sustainability and AI significantly contributes to this procedure (Huang et al., 2020; Di Vaio et al., 2020; Gale,1985).

Research revealed that the application of AI is followed by the deployment of numerous critical phases of the marketing process, such as *customer profiling*, *market segmentation*, *personalization of the user experience*, and *performance analysis of advertising campaigns* (Mustak et al., 2021;Oosthuizen et al.,2020; Soni et al.,2020; Stone et al.,2020; Devang et al.,2019; Kou et al.,2018).

-*customer profiling*: the use of machines equipped with artificial intelligence enables businesses to better the processes of analyzing client characteristics and developing marketing plans based on this data. AI enables businesses to analyze enormous

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amounts of data about customer behavior and preferences, which is useful for detecting purchase patterns and market trends. All of this enables them to construct thorough profiles of their clients, which are then used to personalize the shopping experience and offer specific products and services.

-*market segmentation* is another important application of artificial intelligence in marketing. This technology enables businesses to segment clients into homogeneous groups based on factors such as age, income, geographical location, and purchase habits. All of this enables businesses to produce better-focused communication, reaching customers more efficiently.

- *personalization of the experience*: AI helps businesses create personalized shopping experiences by using gathered information to tailor products and services, increasing customer loyalty and satisfaction.

- *performance analysis*: AI automates real-time monitoring and analysis of campaign data to identify the most effective ones and promptly make changes if needed. This optimizes budgeting and increases the Return on Investments (ROI) for companies. Using AI in marketing optimizes budgeting for campaigns, resulting in higher ROI. Despite challenges like precise data management and business disruption, AI offers significant opportunities for businesses. By deploying a robust plan that includes data management and privacy protection, businesses can optimize AI, customizing products and services for customers while enhancing efficiency and effectiveness.

### **Marketing Automation**

In the past decade, the Digital Marketing sector underwent a significant shift, revolutionizing the way marketers work (Mustak et al.,2021; Nadkarni, S., & Prügl,2020; Feng et al.,2020). This shift introduced new paradigms like Big Data, Cloud Computing, Social Networks, and Web 4.0 (Lourerio et al.,2021; Min et al.,2018;). The Internet and “*Tools*” enabled Marketing Automation (MA), creating new opportunities and benefits for businesses. MA is widely used because of its low cost. To understand the utility of MA in marketing processes, let’s examine its functionality within the marketing world. The MA is distinct from artificial intelligence, as it mechanically executes pre-set procedures without any intelligence (Bagshaw,2015). Marketing Automation combines actions and technologies to automate and optimize marketing campaigns across multiple channels. It serves as a tool for marketing teams to manage complex operations and reach diverse audiences effectively (Biegel,2009).The MA is useful for marketers to prioritize strategic initiatives across various circumstances (Silva et al.,2021; Biegel,2009). Artificial intelligence, a broad field, adds reasoning and continuous learning to the process.

AI can listen, understand, and interact with humans rather than just triggering pre-programmed actions.

Research has argued that the difference between MA and AI lies in two fundamental points (Heimbach et al., 2015):

1. MA automates and optimizes marketing tasks using software and technologies. It enables businesses to handle activities like email sending, ad campaign management, and automated workflow creation more efficiently. The first

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Marketing Automation system, "Unica", was created in 1992 but faced limited utility because the Internet was backward, causing businesses to primarily operate offline (Bagshaw,2015). After the introduction of Web 4.0, the focus shifted online, and new marketing software was introduced (Radziwill,2018). Companies can use these tools to create profiles, save data, and run advertising campaigns (Park et al.,2017). The rise of smart phones revolutionized business, enabling consumers to access information via mobile devices, fostering connection and information growth (Paiola et al.,2020). The rise of applications and social networks introduced new communication channels and user categories, transforming marketers' needs. Artificial intelligence enhances customer engagement through Hub Spot's channels, increasing conversion. The primary goal of the MA is to increase operational efficiency, minimize manual labor, and automate repetitive processes for marketers. AI is a discipline that develops systems to learn, reason, and make decisions like humans. In marketing, it collects, processes, and analyzes real-time data to gain client insights, analyze patterns, personalize offerings, and anticipate preferences. Artificial intelligence's strong computing power improves content distribution and user experience, leading to constant optimization of web pages. As a result, this method is based on specific well-defined facts and produces more exact and personalized outputs than human mental connection processes (Pizzi et al., 2021; Colombo et al.,2019).

2. Marketing Automation and AI-equipped systems can lighten repetitive tasks performed by Marketers, such as customer segmentation, advertising campaigns, lead generation, cross-selling, up-selling, and Return to Investment (ROI) analysis, boosting efficiency and speed (Nygård, R., & Mezei,2020). Automation and Customer Relationship Management(CRM) streamline customer interactions, boosting sales efficacy and ROI (Oosthuizen et al.,2020). "Copy" in digital marketing refers to online content tailored for specific audiences; lead generation is a key function of Marketing Automation. This process is known as "Lead Nurturing" and it enables forming an emotional bond with potential customers to convert them into actual customers (Philipp,2017). It consists of four phases: *awareness (brand promotion)*, *consideration (interest generation through content)*, *conversion (encouraging specific actions)*, and *post-sale*. The "Lead Scoring" activity categorizes leads based on company needs, using specific scores to determine the phases of the customer's purchasing cycle and enable better-targeted interactions. Marketing Automation software offers efficient and widespread features for accurate customer outreach. The major functions that automation systems must entail include the focus on email customization, segmented targeting, automated personalization, monitoring online behavior, creating forms, and landing pages, and integrating collected information (Nygård, R., & Mezei, 2020).

### **AI and Value Generation**

The funnel model, developed by Lewis in 1898 and integrated by Kitson in 1920, shows how consumers make purchasing decisions based on marketing activities

Publication of the European Centre for Research Training and Development-UK (Abolfathi et al., 2022). It consists of four stages: *awareness of the brand, generating and maintaining interest, expressing preference, and finally purchasing*. Over time, the model added two more stages: *confidence*, placed between desire and action to build trust with potential customers, and *satisfaction* as the last phase to encourage consumer loyalty. Investing in AI-enabled technologies is increasingly crucial for businesses. AI deployment allows for easier, more efficient work and enables the creation of innovative products and services that meet customer needs. Scholars have timely confirmed the potential that AI technology has for the business industry (Kaushik, 2022). The analysis stage, for example, is crucial for corporate strategic planning. Although it has been overlooked, it is now recognized as essential because of technological advancements and AI solutions. This stage is vital in achieving end-customer loyalty (Boronenkova et al., 2021).

AI can contribute significantly during the analysis phase because of its multiple functions, which include (Çalışkan et al., 2020; Wamba-Taguimdje et al., 2020; Jaharri, 2018; Benjamins, 2006; Natovich & Vasarhelyi, 1997).

- **Network:** AI's role in monitoring client conversations on web and social platforms to gather perspectives and integrate market research is known as "*social media intelligence*."

- **Segmentation activities:** Machines with AI can segment and target using abundant information, like company data or data from the internet. Analysis of this data creates user personas and tailors marketing strategies for each type of profile.

- **Consumer interpretation activities:** AI is used in stores to analyze and understand customers' behavior by recognizing their faces. This data, combined with existing company data, enhances the customer experience at the point of sale. The presence of privacy rules limits AI potential. The consumer's purchasing process starts with awareness, then moves to consideration and inquiring about other suppliers. In traditional marketing, these initial phases focus on sales and communication, forming the basis of the "*so-called sales funnel*". Today, marketing relies on consumers discovering the brand naturally through customer research and quality content. In the current social context, influenced by social media and digital technology, artificial intelligence greatly contributes to awareness, consideration, and lead generation (Çalışkan et al., 2020; Dirican, 2015).

During the conversion and sales phases, several actions are performed, and systems equipped with artificial intelligence provide particularly high-performance and beneficial solutions for generating value in this situation as well. Among the primary AI uses during these stages, scholars have identified (Bharatiya et al., 2023; Feng et al., 2020; Devang et al., 2019):

- a. **Recommendation systems:** AI algorithms use customer data to generate forecasting systems, enabling targeted product recommendations and personalized content based on preferences.

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- b. *A/B testing*: Consumers' decision-making processes are often guided by instinct and emotion, influenced by factors like color or button placement (Du et al.,2021). To determine the most effective content, AI algorithms use A/B testing to generate multiple message versions.
- c. *Dynamic prices*: AI provides opportunities for companies to gain economically by analyzing variables simultaneously (such as peak times, sales days, purchasing habits, and warehouse stocks). It enables appropriate adjustments to sales prices to encourage purchasing and optimize profit margins (Gautier et al.,2020). For customer care services, AI can utilize widely recognized and prevalent technologies at this current moment. Customer support activities aim to address consumer inquiries, complaints, explanations, and instructions, significantly affecting satisfaction and loyalty (Chen et al.,2023; Cheng et al.,2020).

Research revealed that the principal functions performed by AI within the value-generation process include (Jiang et al., 2022; Mariani et al.,2021; Gkikas & Theodoridis, 2021; Adam et al.,2020).

- *Conversational platforms and call centers*: AI platforms analyze customer emotions in conversations, helping operators avoid conflicts by suggesting appropriate interaction methods in real time.

- *Use of Chatbots*: Companies can use conversational engagement tech to create a real dialogue with consumers, improving the brand-customer relationship. Unlike basic systems that rely on pre-coded question lists, virtual assistants update their responses based on past conversations. Companies increasingly partner with influencers on social networks to boost brand exposure and reputation (Wamba-Taguimdje et al., 2020). These influences can be macro or micro, with the latter being more specialized but harder to identify because of their niche presence on social media platforms (Sands et al., 2022). AI systems also support research processes in this phase (Dwivedi et al., 2021). Specific platforms enable accurate searches based on predefined parameters, automatically producing detailed mappings (Dwivedi et al., 2021).

### **Marketing Automation and E-Mail Marketing**

Marketing automation relies on input-output logic, restricting use to predetermined messages (Silva et al., 2021; Devang et al.,2019).

AI systems, unlike standard automation, use predictive logic to optimize email marketing campaigns, thanks to their calculation and continuous learning capabilities (Silva et al, 2021).

E-mail marketing is different from marketing automation and “current” AI systems (Eid & El-Gohary, 2013); Ellis-Chadwick & Doherty, 2012). Contemporary AI systems may provide within e-mail marketing efforts that are feasible by the automation of tasks such as (Haleem et al.,2022; Yang et al.,2021; Verma et al.,2021; Dumitriu & Popescu, 2020; Marinchak et al., 2018; Siau & Yang,2017):

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- *Demographic data analysis*: AI systems analyze extensive consumer data to facilitate complete segmentation.

- *Behavioral segmentation*: Using machine learning algorithms, AI systems monitor and analyze consumer behavior, generating user personas based on analyzed behaviors.

- *Generation of personalized content*: Based on collected data, AI delivers personalized content to users.

- *Product recommendations*: Using collaborative filtering, AI systems suggest related products in personalized emails based on a recipient's purchase history or interests.

- *Creation of automated workflows*: AI's computing power lends itself to creating automated workflows for sending emails at specific times or in response to events like cart abandonment or membership anniversary.

- *Optimization of sending times*: AI's computing power lends itself to creating automated workflows for sending emails at specific times or in response to events like cart abandonment or membership anniversary.

- *Optimization of email performance*: Using automated A/B tests, artificial intelligence suggests effective content previews to operators based on recipient profiles, maximizing opening rates.

## CONCLUSION

In this hermeneutical study, I have set twin goals: to identify and indicate the function of artificial intelligence in marketing processes and to present an outline of its applications in the field. In the first phase, the shift from traditional to digital marketing was highlighted, emphasizing how new technologies have drastically altered the commercial scene. Following that, a comprehensive overview of artificial intelligence was provided, including definitions, modes of operation, learning, and application areas. Research has demonstrated that AI has a major impact on a wide range of corporate processes, including production, commerce, human resource management, and, of course, marketing (Pallathadka et al.,2023; van Esch & Black,2021; Trunk et al.,2020; Stone et al.,2020; Soni et al.,2020; Paschen, et al.,2020; Wamba-Taguimdje et al.,2020; Oosthuizen et al.,2020; Mesir,2019;Xu et al.,2018).The focus turned to the integration of artificial intelligence in marketing operations, recognizing and highlighting the latter's ability to provide value throughout the modern consumer's conversion funnel. It has been demonstrated that this technology is an ally of marketers in every way, demonstrating how the latter is indispensable during the phases of data analysis, awareness, consideration, lead generation, user conversion, and customer care, contributing significantly to companies' efforts to achieve customer loyalty. The investigation revealed intriguing ideas for potential future advancements, emphasizing how artificial intelligence may further enrich. Finally, the paper gave a comprehensive view of the progression of marketing towards digital and the role of artificial intelligence in this context. The highlight of the present article is in line with a broad literature analysis that argues that AI has been found to play an important role in today's marketing practices (Pallathadka et al.,2023;Golovtsova, & Brezhnev,2023; Mehta et al.,2022;

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Kaushik,2022; Haleem et al.,2022; Loureiro et al.,2021; Gkikas, & Theodoridis,2021; Oosthuizen et al.,2020; Huang et al.,2020; Mohapatra,2019). Companies benefit greatly from this technology's capabilities, which include data analysis, personalization of experiences, task automation, and customer behavior prediction. However, it is critical to examine privacy protection, a delicate and non-negligible matter that is required to ensure the proper implementation of this technology in the marketing environment. Artificial intelligence can be viewed as a crucial resource for businesses seeking to remain competitive in today's digital landscape, helping them to achieve more effective results, increase engagement, and adapt to changing market demands(Elliott & Sofier, 2022; Carmody et al., 2021)).

### **Limitations of the Study and Areas for Further Research**

Although this paper attempted to provide a comprehensive overview of the relationship between digital marketing and artificial intelligence, there are still some gaps in the research that need to be considered:

*First*, this work is only theoretical and does not address the relationship between artificial intelligence and production and digital marketing in research or context.

*Second*, the paper does not include the impact of the use of artificial intelligence on the development of the practical abilities of marketers.

*Third*, the paper is qualitative and does not include any specific data from the EU AI Act (2023) which would provide a full legal framework for the European regulatory framework. The Act has not been fully implemented even in the macroeconomic and single-market economies of Europe, and it has therefore not been included in this article.

Further research should examine the impact of the EU I.A. law on economic and digital marketing, and the role of marketing promoters, and the effectiveness of marketing.

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*Not applicable*

### **Conflicts of interest**

The author declares that she has no known competing financial or competing interests that might have impacted the work reported in this paper.

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### **Availability of data and materials**

The datasets used and/or analyzed during the current study are available from the corresponding author on request.

**ABBREVIATIONS:**

*Artificial Intelligence (AI)*

*Marketing Automation (MA)*

*Internet of Things (IoT)*

*Return to Investment (ROI)*

*Customer Relationship Management (CRM)*

*European Union Artificial Intelligence (EU AI Act )*

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