

ARTIFICIAL INTELLIGENCE AND MODERN DIGITAL MARKETING

Katarzyna POSTRZEDNIK-LOTKO

Silesian University of Technology, Faculty of Organization and Management, Department of Applied Social Sciences; Katarzyna.Postrzednik-Lotko@polsl.pl, ORCID: 0000-0002-8703-3344

Purpose: The main goal of this article is to highlight the application of artificial intelligence, primarily in digital marketing. Analysis of this topic is particularly relevant today, especially given the increasing focus on the development of artificial intelligence and its use in digital marketing.

Design/methodology/approach: The article uses the method of analyzing research results on the use of artificial intelligence in digital marketing, available in the literature and online sources.

Findings: Today, artificial intelligence is becoming an inseparable element of modern digital marketing. For companies, this means not only access to new tools, but above all the need for a thoughtful and conscious transformation of the approach to the customer, content, and marketing strategy. What until recently seemed like a futuristic vision is now a real standard in the activities of many modern organizations.

Research limitations/implications: This article presents case studies confirming the use of artificial intelligence in digital marketing, both in Europe and globally. It's worth noting that these analyses are ongoing, as the factors directly influencing the development of digital marketing and its application of the ever-evolving artificial intelligence are constantly evolving.

Social implications: The examples of AI applications in digital marketing presented here are significant for the development of society. They also provide guidance and guidance for the future, suggesting that it's important to be prepared for all situations, including those involving manipulation. This is crucial for the further development of digital marketing and the use of AI.

Originality/value: This innovative article is based on an in-depth analysis of examples from digital marketing showing the use of artificial intelligence achievements, which on the one hand has a positive impact on the human perception of the presented content, but can also have a negative impact on it, for example through fraud and manipulation, and this is what the recipient of content presented through digital marketing should always be aware of.

Keywords: digital marketing, artificial intelligence, management, cognitive technologies, manipulation.

Category of the paper: research paper.

1. Introduction

Artificial intelligence is increasingly entering the world of modern digital marketing, completely changing the way brands communicate with their audiences, analyze data and conduct promotional activities (Deloitte, 2023; Kotler, 2021). Thanks to the use of advanced algorithms, machine learning and analysis of large data sets, digital marketing is becoming more precise, automated and effective (McKinsey & Company, 2023; European Commission, 2018). Artificial intelligence allows for the creation of personalized marketing messages tailored to specific users - taking into account their shopping history, online activity or preferences expressed on websites. Customers receive content that is more relevant and interesting, which increases their engagement and willingness to buy. In parallel, chatbots and virtual assistants are developing, which take over some of the customer service duties, operating quickly and continuously. They can answer questions, suggest products and guide the user through the entire purchasing process - all without human involvement (Kaplan, Haenlein, 2020; Rust, Huang, 2021).

Companies are increasingly using the possibilities of artificial intelligence in the field of data analysis. Systems can predict customer behavior, assess the effectiveness of marketing campaigns and indicate the best moments to publish content or launch ads. Thanks to this, marketing activities are based more on knowledge than on intuition. At the same time, challenges are also emerging, including the need to protect user privacy, responsible data management, and an ethical approach to automation, which can sometimes lead to bias or manipulation (Wedel, Kannan, 2016).

Therefore, the structure of this article was designed to provide a clear and comprehensive presentation of the analyzed issues. The first part presents the definitions and essence of digital marketing, its main forms, communication channels, and tools used in business-customer relationships. The importance of digital marketing in the context of dynamic technological changes and growing consumer expectations is also discussed.

The second part of the article is devoted to the characteristics of artificial intelligence and an analysis of its role in shaping contemporary marketing strategies. Particular attention is paid to content personalization mechanisms, the use of machine learning algorithms to predict consumer behavior, the automation of communication processes, as well as challenges related to ethics, data protection, and responsible technology management.

The third part presents case studies and examples of practical applications of artificial intelligence in marketing, encompassing both solutions commonly used by businesses and emerging phenomena such as computer-generated digital influencers (CGI). The impact of these tools on building brand image, audience engagement, and shaping new models of relationships between consumers and market players is analyzed.

The final section summarizes the discussion, draws synthetic conclusions, and identifies potential risks and limitations resulting from the implementation of AI technologies in digital marketing. It also highlights possible directions for future research, including the development of hybrid models of human-AI collaboration and forecasts for the further evolution of marketing communications in the era of digital transformation.

2. Digital marketing and its types

For many years, the vision of humans coexisting with robots and their interactions has captured the imagination, not least because numerous films, books, and games have explored this topic. People have often asked themselves the following questions:

- Where will humanoid beings be able to replace humans?
- How far in the future will this happen?

This future is becoming a reality with advances in computer graphics. Its current capabilities, applied to influencer marketing, have allowed for the creation of a new form of life – digital influencers (Davenport, Guha, Grewal, Bressgott, 2020).

Any marketing that utilizes electronic devices and can be used by marketers to convey promotional messages and measure their impact throughout the customer journey. In practice, digital marketing typically refers to marketing campaigns that appear on a computer, phone, tablet, or other device. It can take many forms, including online video, display advertising, search engine marketing, paid social advertising, and social media posts (Kietzmann, Paschen, Treen, 2018). Digital marketing is often compared to "traditional marketing", such as magazine ads, billboards, and direct mail. Surprisingly, television is often lumped into traditional marketing.

Digital marketing, also known as internet marketing, is the promotion of brands to connect with potential customers using the internet and other forms of digital communication. This includes not only email, social media, and online advertising, but also text and multimedia messaging as marketing channels (Technologie kognitywne ..., 2025).

Essentially, if a marketing campaign involves digital communication, it is digital marketing.

There are as many specializations within digital marketing as there are ways to interact using digital media. Here's an example: Search engine optimization.

Search engine optimization, or SEO, is technically a marketing tool, not a form of marketing in itself. Balance defines it as "the art and science of making websites attractive to search engines". The "art and science" of SEO is what matters most. SEO is a science because it requires examining and weighing various factors that contribute to achieving the highest possible ranking.

Today, the most important elements to consider when optimizing a website include: Content quality, User engagement level, Mobile friendliness, Number and quality of inbound links.

The strategic use of these factors makes SEO a science, but the unpredictability inherent in it makes it an art. There is no measurable measure or consistent rule for achieving a high ranking in SEO. Google changes its algorithm almost constantly, so accurate predictions are impossible. What we can do is closely monitor our website's performance and make appropriate adjustments.

According to statistics:

- 90% of consumers find personalization "very" or "somewhat" appealing,
- 81% of consumers would like the brands they interact with to understand them better,
- 77% of companies believe in the value of real-time personalization.

For example, in the United States, there are currently over 40,828 Digital Marketing Managers.

42.0% of all Digital Marketing Managers are women, and 53.9% are men. The average age of a Digital Marketing Manager is 38.

3. CGI examples

Digital influencers are virtual characters, computer-generated images (CGI). They are a unique substitute for human influencers. We've often seen the effects of CGI technology in film productions, bringing fantastical characters to life (Chatterjee, Rana, Dwivedi, Kumar Roy, 2021), such as Steven Spielberg's "Avatar". The goal is to create an image that closely resembles a real person.

A "living" example of how this can be achieved is influencer Miquela Sousa, also known as Lil Miquela. The character was created in 2016 by Trevor McFedries and Sarah DeCou of Brud. Her portfolio includes brands like Prada and Calvin Klein (Drenten, Brooks, 2023). She boasts several music tracks available for streaming on Spotify.

Miquela's greatest and most surprising achievement in 2018 was being named one of the twenty-five most influential people in the world in 2018, according to the iconic American socio-political magazine "Time".

If you want to get to know her, check out the "I Am Miquela" commercial: <https://youtu.be/TQvUwghIOcQ>, and below you can see her photo (Figure 1).



Figure 1. Digital influencer Miquela Sousa.

Source: <https://youtu.be/TQvUwghIOcQ>

Another example of a digital influencer is Shudu. The world's first digital model. Created by photographer and artist Cameron James Wilson in 2017, it has gained over 200,000 followers on Instagram. However, its popularity has sparked much controversy over its promotion of an idealized standard of African beauty and its creation by a white male (Netizens, 2019). The following video explains the secrets of "producing" digital fashion: <https://youtu.be/Dyhp8E4WcLM>, and below you can see also her photo (Figure 2).

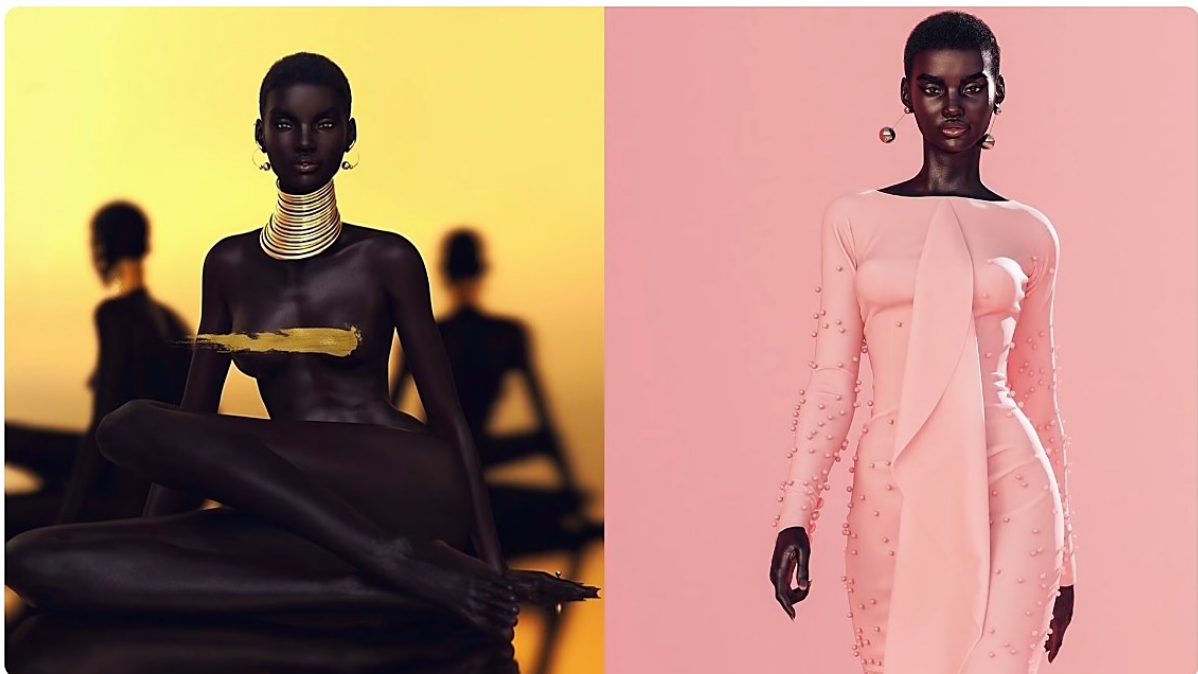


Figure 2. Virtual Supermodel Star Shudu.

Source: <https://youtu.be/Dyhp8E4WcLM>

Their greatest advantage is the ability to design completely from scratch, without a specific background (unless a specific marketing concept calls for a different scenario), which reduces the risk of controversy surrounding the character.

This demonstrates complete control over the influencer's message, the values, "behaviors", and style they promote.

Digital influencers can be tailored to perfectly fit the brand, including their appearance. They are known to visually attract individuals with atypical looks, evoking sympathy (Miquela's restless face) or a certain fascination (Shad's deep skin tone).

The advantage of a digital influencer is their complete willingness to work in any conditions, their ability to get sick, their lack of down days, and their lack of personal problems.

The use of digital influencers in marketing is not without its drawbacks, however. A computer-generated character can trigger a phenomenon known as the "uncanny valley" in audiences. This term describes the anxiety experienced when interacting with a human-shaped robot. The more closely a robot imitates a living being, the greater its anxiety will be, especially when it comes to moving objects. Digital influencers are still a new and rare phenomenon in the online world, which can exacerbate this rather unpleasant effect, especially since humans tend to approach innovative concepts with trepidation.

4. Conclusions

The use of digital influencers in marketing undoubtedly deserves special attention, as it represents one of the most striking manifestations of how artificial intelligence and digital technologies are transforming communication strategies (Kwiliński, Tkachenko, Kuzior, 2019). Virtual brand ambassadors, created entirely with CGI or powered by AI, already function in social media ecosystems, gathering thousands or even millions of followers. Their popularity results not only from technological curiosity but also from the way they perfectly reflect and embody the values of the brands they represent. They can be designed to meet precise aesthetic expectations, maintain flawless consistency in communication, and remain available at all times, which makes them attractive tools for companies striving for absolute control over brand image.

With the further development of CGI and AI technology (Nowak, 2018; Deloitte, 2018), the role of such digital influencers may fundamentally reshape the face of online marketing. Unlike human influencers, they are immune to scandals, controversies, or sudden shifts in personal beliefs that could damage a brand's reputation. Brands gain a tool that combines creativity with predictability, offering an opportunity to build long-term, carefully managed narratives. Moreover, these virtual figures may gradually evolve beyond traditional marketing roles, becoming cultural phenomena in their own right—icons of a new digital era.

However, this innovation is not without controversy. For some, digital influencers spark admiration for their precision, futuristic design, and the sheer scope of technological possibilities they embody. They illustrate the progress of AI and blur the boundaries between fiction and reality in a way that captures the imagination. Yet, for others, they create a sense of distance and even alienation. The interactions with artificially generated personalities, no matter how sophisticated, may lack authenticity and emotional depth. In an age where consumers increasingly seek transparency and human connection, there is a risk that such figures could be perceived as manipulative or superficial. This ambivalence will likely define the future discourse around their use in marketing.

It is worth noting that although these solutions exist today, they are still more of a projection of the future (Kuzior; Sobotka, 2021). Virtual influencers and AI-driven marketing campaigns remain experimental fields rather than fully mainstream practices. Most consumers continue to follow and interact primarily with real people whose authenticity, life stories, and unpredictability form an essential part of their appeal. Nevertheless, trends in digital marketing suggest that the boundary between the real and the artificial will increasingly blur. As AI technology advances, virtual personalities will not only look and act more realistically but also respond to user emotions, adapt to individual preferences, and simulate empathy at a level that is difficult to distinguish from human behavior.

From a strategic perspective, the future of digital marketing may lie in hybrid models that combine the advantages of human and virtual influencers. Brands might employ CGI figures to maintain consistency and innovative appeal, while at the same time collaborating with real personalities to preserve credibility and authenticity. Such coexistence could create richer, multi-layered campaigns that speak simultaneously to rational curiosity and emotional needs.

In conclusion, artificial intelligence is not just a supporting tool in modern marketing—it is increasingly becoming a driver of innovation that redefines the very foundations of communication. Digital influencers, as one of the most visible manifestations of this process, embody both the promises and the risks of the technological revolution. They demonstrate how far marketing can go in adapting to digital realities, while also reminding us of the importance of human authenticity in a world saturated with simulations. Whether they remain niche curiosities or evolve into the mainstream, their role will certainly grow, and their existence will continue to provoke reflection on the boundaries of authenticity, creativity, and human interaction in the age of artificial intelligence.

In summary, artificial intelligence is one of the key factors shaping contemporary digital marketing. Its application not only enables the automation of communication processes, the analysis of large data sets, and message personalization, but also redefines the relationship between brand and audience. Companies that consciously utilize the potential of AI gain a competitive advantage, can respond faster to consumer needs, and create more engaging user experiences.

On the other hand, it is important to emphasize that the dynamic development of technology is not without challenges. Among the most significant are threats related to privacy protection, algorithm transparency, audience manipulation, and limiting the authenticity of the message. The example of digital influencers demonstrates that the boundary between the real and virtual worlds is increasingly blurred, which can lead to both innovative forms of communication and ethically questionable phenomena.

The analysis indicates that the future of digital marketing will depend on the skillful combination of technological potential and social responsibility. Developing standards for the ethical use of artificial intelligence, educating users, and creating transparent communication models is essential. In the longer term, we can expect the development of hybrid solutions in which human skills and AI-based systems coexist, enabling a balance between technological efficiency and authenticity of the relationship with the recipient.

For this reason, artificial intelligence should be viewed not only as a tool supporting marketing activities, but also as an element initiating a new stage in the development of communication, requiring reflection, responsibility, and conscious management.

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