

# AI and Social media: Marketing's New Frontier

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## Abstract

*In today's era, where technology is omnipresent and most people are active on the social media platforms, we can safely say that artificial intelligence and digital marketing are "a match made in heaven": social media platforms represent the place that gathers the targeted audience, and artificial intelligence offers the necessary tools that impact the way brands can interact with this audience in a more effective and personalized way. This article emphasizes how we, as a society, are influenced by digital marketing, in a competitive landscape where businesses must adapt their marketing strategies to stay relevant. As digital spaces are used to connect people, share information and share engagement, those construct the perfect environment where businesses can achieve their goals: shaping trends, opinions, and consumer behavior.*

**Keywords:** artificial intelligence, digital marketing, influence, social media



## Introduction

Nowadays, social media plays a part in most of our daily lives, connecting various people with similar interests. Social media platforms are often used to communicate with one another, to socialize, or simply to stay connected with what happens around the world or in our personal groups. Given this description you would say social media has no harm to us, but the truth may be different from what it seems. Given the power that it has: gathering a vast amount of people in one place and engaging those people into consuming a lot of content, social media platforms have increasingly become more relevant and of interest for businesses that want to expand their frontier to the digital marketing. Digital marketing is represented by promoting a business online, social media being one great place to attract your audience.

The problem with digital marketing is exactly the number of different interests that people may have for example I might be an artistic soul, that is passionate about music, art and fashion, yet another colleague might be interested in a certain type of video games that has no relevance for me. In this situation, how would the businesses know what to promote and to whom in order to engage and attract people and also to increase their sales? This is where artificial intelligence is a game changer.

Artificial intelligence represents the ability of technology to simulate human intelligence. This technology has the capability to self-learn, being in constant evolution. Ai is composed of complex algorithms and technologies, containing a set of sub-domains:

- machine learning: represents the process of learning based on data and make predictions

- cognitive computing: the ability to process visual input, or to generate visual output (ex. facial recognition)
- natural language processing: represents the ability to process natural language (speech recognition, text generation or feelings and emotions analysis)
- deep learning: a complex set of machine learning based on multiple neuronal networks that can process big chunks of data to find deep insights or patterns

Artificial intelligence is used in multiple fields, such as: healthcare, finance, education, industry and so on. Marketing is not a stranger to artificial intelligence, and neither are social media platforms.

This being told, we now have the technology that can learn different patterns on its own and a place where to gather the targeted audience: this is the digital marketing strategy powered by artificial intelligence. In this article I will state a few steps used by businesses to attract us and how this duo-match is more impactful than we might think.

## **How can we detect AI in our social media?**

When it comes to AI, we can state that it has the ability to change the way things usually work, this also happens on social media platforms. Most of us have already used artificial intelligence within our social media accounts and maybe didn't even realize it. In the case of digital marketing on social media, AI plays quite an important role. Humans are unpredictable, and their interests can change from day-to-day, that is why for businesses is crucial to adopt marketing strategies, so that can detect these changes and stay relevant on the market.

Have you ever felt like the advertisements that you see on your social media accounts are specifically selected for yourself?

If your answer is yes, then there you have it: at least one place where you interacted with artificial intelligence. In this specific case, AI has analyzed your user data (your interests, your browsing history, your online activity, or your interaction on social platforms) to display relevant and meaningful content and advertisements for you. Enhancing personalization is a strategy used by businesses to increase engagement. Besides enhancing personalization, AI also permits to perform targeted marketing campaigns, by segmenting the audience, using the "filters" that businesses need: demographic ones, behavioral ones or just the general interests. AI can also monitor various indices through data analysis, and help businesses make informed decisions. For example, it can analyze your conversation and your social media posts and activity and identify the emotions behind those, informing businesses about the general perceptions. This way businesses can adapt their strategies accordingly, and in case they find certain issues, or possible complaints, they can solve those in a proactive way.

Artificial intelligence has a powerful impact on customer service as well, chatbots being more and more used by businesses to increase customer satisfaction. "A computer, program, algorithm or artificial intelligence which communicates with a person, or another participant of the communication can be called a chatbot" [1]. Chatbots are convenient because they can assist any consumer at any given time, being available permanently, are also easy to maintain and automate tasks. Those chatbots are also present on the social media platforms, increasing customer satisfaction. In the above figure, you can see some examples of chatbots that are present on our social media platforms ( Fig. 2):

	Facebook	Instagram	Twitter
<b>01</b>	Sephora Reservation Assistant	<b>01</b> Nike's chatbot-sales assistance	<b>01</b> Domino's pizza chatbot- ease ordering process
<b>02</b>	Ralph, LEGO's chatbot-sales assistance	<b>02</b> HelloFresh's chatbot-recipeideas	<b>02</b> Amex's chatbot – account related questions
<b>03</b>	National's Geographic chatbot-trivia	<b>03</b> H&M's chatbot-sales assistance	<b>03</b> Weather Channe's chatbot-information about weather

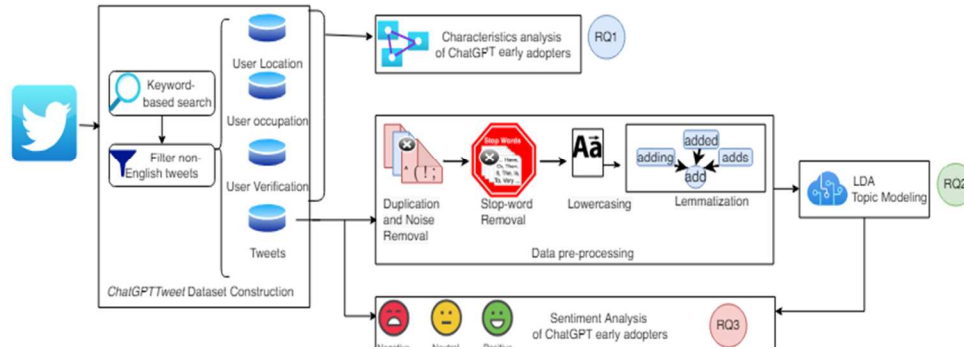


Fig. 1 Overview of the research methodology

Author: "I think this is the most disruptive technology": Exploring Sentiments of ChatGPT Early Adopters using Twitter Data

When it comes to customer satisfaction and if chatbots are useful or not, one controversial and recognized chatbot is ChatGPT. You can have human-like conversation with it, being able to answer various questions from a wide range of domains. In 2022 a study was published in which a sentimental analysis was conducted by Haque et al. [2] to find what was the initial perception of ChatGPT. They used Tweeter as the social media platform, and within this study 10.732 tweets were collected and analyzed. The methodology used to complete this study is described in the above figure:

The general perception was a positive one, but some people (a minor percent) expressed concerns mostly about the impact that ChatGPT could have upon education.

### Why use social media for digital marketing?

As I stated before, social media platforms are gathering a lot of people in the same place, but what does “a lot of people” mean? According to Digital 2024 Global Overview Report [3] several **5.35 billion** individuals use the internet and there are **5.04 billion** user identities on social media. Concerning, isn't it? The number of social media user identities increased by 5.6 % (266 million) throughout 2023 [3].

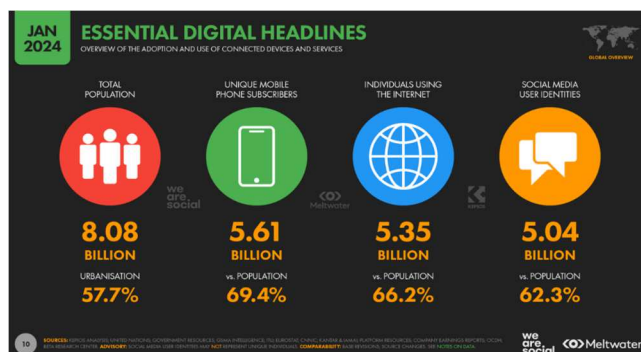


Fig. 3 Digital headlines Author: We Are social

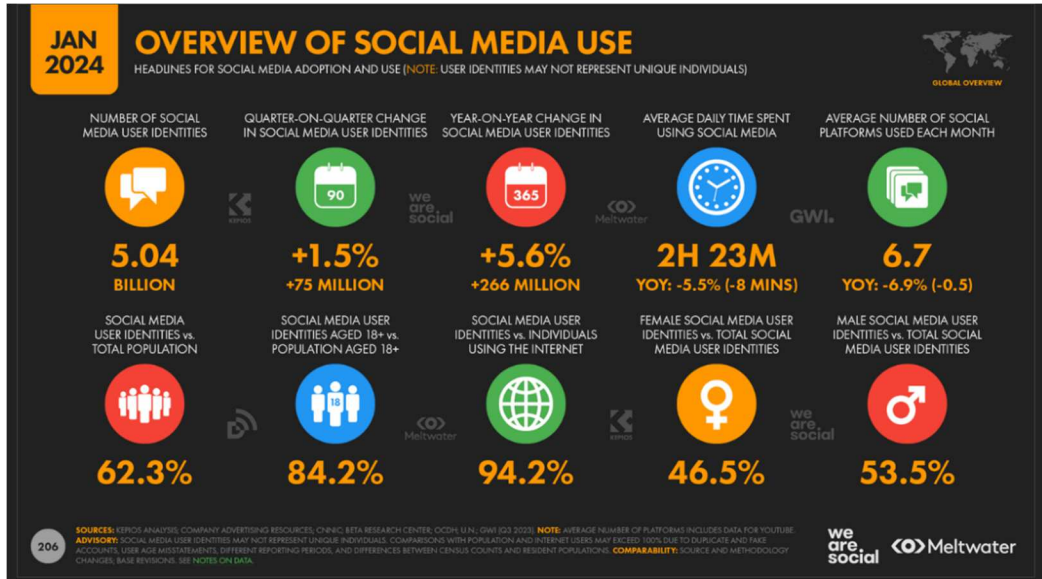


Fig. 4 Overview of social media use

Author: We Are Social

Now, even if we have social media accounts, do we use those? Let’s see according to this report, the average daily time spent using social media accounts per day is **2 h and 23 minutes**, this means **1 in 3 minutes we use Internet is time spent on social media accounts**, and we use an average of **6.7 social media platforms** each month. Below you can see a detailed overview of how social media is used.

So yes, the amount of people that use social media is big, and they don’t only have social media accounts, they also actively use it, being engaged in social media activities. Businesses are aware of this, and they leverage those benefits, using social media marketing to accomplish objectives for businesses growth.

Social media marketing can be divided in multiple domains, and depending on the objectives businesses have, they’ll act towards the specific domain [4]:

Domains	Percentage of companies that are using
Brand building	82.4
Customer loyalty	54.3
Client recruitment	51.1
Brand advertising	48.4
Product launch	45.1
Customer service	38
Market analysis	22.3

Table 1 Domains in social media marketing and business involvement rate

## Are we influenced to buy certain products?

To answer this question, we need to see what influence means: according to the dictionary “*influence is the capacity to have an effect on the character, development, or behavior of someone or something, or the effect itself.*” [5] In essence, the question can also be transposed into “Is someone or something capable of having an effect on our behavior and making us buy a certain product?”. The answer is yes: most of us are familiar with the term “influencer”, which is a profession in which a person that is popular on social media platforms promotes certain services or products for brands. Influencing has become a controversial subject, as it is still not properly regulated by law and the consumer cannot have the certainty that the promoted products are meeting the standards that they are supposed to, according to the marketing campaign. Influencer marketing is the proof that these people can actually influence some of us, and they can attract new customers for certain brands.

Now, in my case I wouldn't say I am necessarily influenced by these influencers, but I would say that social media digital marketing made me buy some items along the way. What has always intrigued me, as a customer, was the way ads are selected, as a social media platform user, because it always seemed that these were specifically for myself, in accordance with my interests. This is one of the multiple processes that use artificial intelligence in order to improve user experience: artificial intelligence is already present within social media platforms to select the content that is displayed in the feed and to customize it, to suggest accounts that the user might be interested in or orchestrate comments and content to avoid unpleasant situations.

When it comes to advertising, artificial intelligence has the capability to analyze a vast amount of data so that it can be able to provide meaningful insights and make data-driven decisions. Artificial intelligence is a powerful tool for digital marketing that can enhance the progress and amplify the benefits of digital marketing on social media platforms: it can generate ads or content in a personalized way, by analyzing your data, and it also can improve your experience as a user by intermediary tools, such as chatbots, or by automating tasks.

But what happens if you combine influencers with AI? Nowadays you have the possibility to use artificial intelligence to generate a realistic digital avatar that can become a social media influencer. This avatar has a similar role as a human influencer does, but the main difference is that is not real, and thus you can actually simulate desired behaviors, create the content that you want without any constraints, and promote it as a normal person would do.

The most famous virtual influencer is Miquela de Sousa, which has a number of 2.6 million followers on Instagram. Harry Hugo, which is a co-founder of the Goat Agency, a marketing agency that works with social media and influencer based strategies, proclaims that the virtual influencers have a three times higher engagement rate than a human one. [6] Miquela de Sousa beside being a successful influencer is also a famous singer, with more than 80000 streams per day on Spotify. Mainly this means that any singer or human influencer might now compete against generated avatars that could be their concurrence on the market. According to a study ran by On Buy, on August of 2020 Miquela de Sousa, known also as Lil Miquela, received around £6550 for each sponsored post, which could potentially rouse around almost 9 million revenue per year. In 2020, when this article was published that was 252 times more compared with an average salary in UK. [7]

Up until 2018, Lil Miquel was presented as a real human being, people thinking she is just a regular girl. After the reveal, businesses started to question their marketing campaigns and they started to rethink those: why hire a model or influencer that is quite unpredictable and needs to be paid, when you can create your own brand ambassador with less money, more efficiency and you can dictate precisely how to behave?

Balmain, a fashion society, adopted this AI influencing marketing, when they asked a British artist to design three virtual models: a white woman, a black one and an Asian one to be used in their campaigns.

The artificial intelligence presented as a normal human being in the context of digital marketing raises quite a few problems: even human influencers cannot be trustworthy in some cases, and promote an unrealistic version of life, and often products or services that do not meet the quality standards that they should, but when a virtual robot that is portrayed as a human being is used in the scope of a brand or a business to engage people, recommend products, advertise for various brands and create trends, can we still hope that truth, or at least a small part of it, is still present in advertising?

## Questionnaire results & ethical considerations

I created a questionnaire to further analyze the general perception about digital marketing and enhanced personalization, having 134 submitted answers.

### *Demographic section*

- The majority of people that answered have their age within 18-30 years (67.2%), live in an urban residence (64.9%), are females(70.1%) and have higher education(76.9%).

### *Social media engagement section*

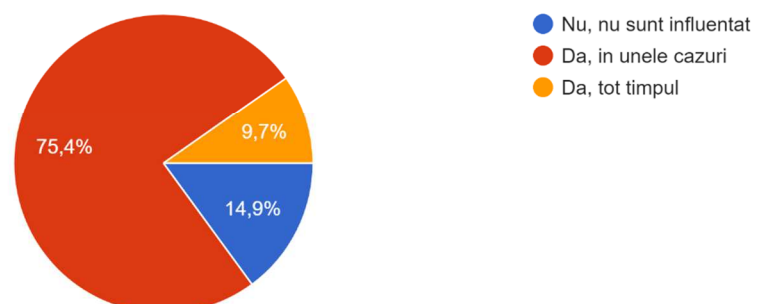
- 97.8 % have a social media account, and most of them use social media daily.

### *Digital marketing section*

- In this section I wanted to see their consumer behaviors, if online purchasing is a common practice and if the advertisements that they see when using social media accounts impact this behavior.
- The general perspective was a realistic one, most of them admitting to being influenced by what they see on their social media. Also most of them identified the personalization in the content and advertisements that is displayed on social media, considering in proportion of 97% that businesses have interests in digital marketing on social media.

3. Considerati ca social media are o influenta asupra dumneavoastra?

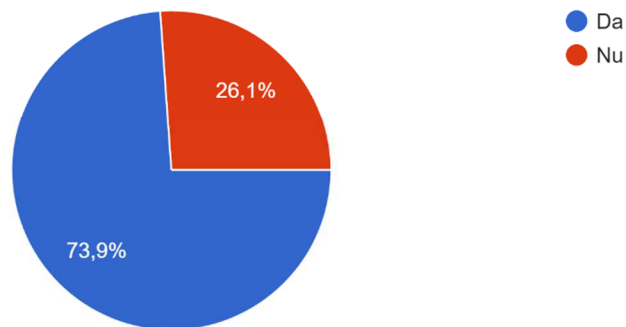
134 de raspunsuri





8. Ati cumparat un produs pentru care ati vazut o reclama pe platformele sociale?

134 de raspunsuri



- This influence was also confirmed by the results of the following question, most of them buying a product for which they saw an advertisement on social media.

*Influencing marketing*

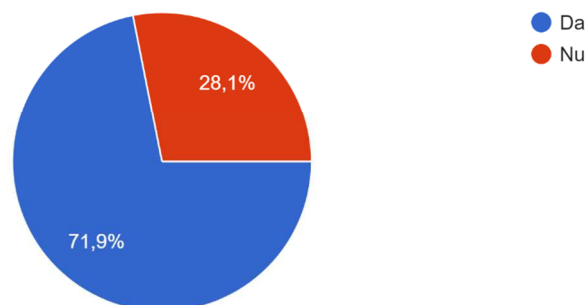
- Most of the people that submitted answers are familiar with the term “influencer” (99.3%) and follow at least one
- When it comes to marketing, 47 people out of 134 bought a product or service that was recommended by an influencer, and 30 were not satisfied with their purchase

*Chatbots & AI influencing*

- 81 people have interacted with a chatbot when using a social media platform and out of those 71.9 % were satisfied with the interaction and considered it useful, so in those cases ai had an impact on the customer service perception
- When it comes to virtual influencing, the majority is familiar with the term, but does not follow them

13. Daca ati raspuns da la intrebarea de mai sus, vi s-a parut folositor chatbotul?

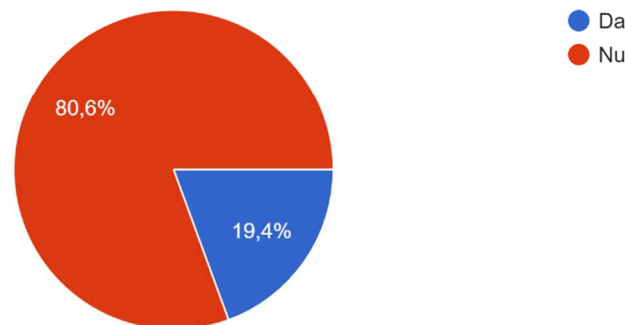
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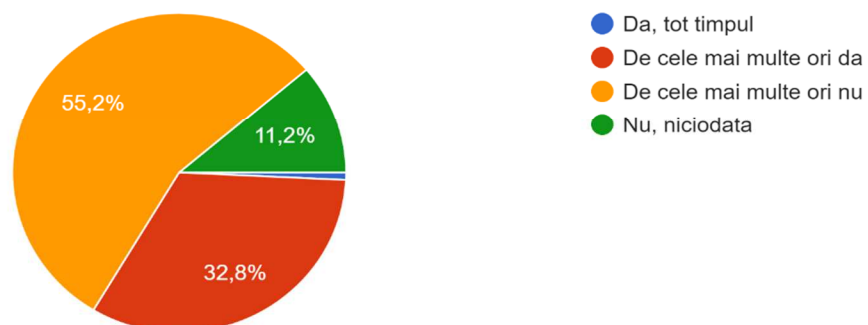
I've let aside two questions that were asked in this questionnaire, which tested the trust that people have in what is promoted on social media by influencers, both human and virtual ones. The overview is a negative one, people lacking trust in this matter:

- Human influencer result: 74 of them considered that in most of the cases influencers don't promote a true version of the product, and 15 consider that influencers never promote a correct version of the product
- Virtual influencer result: the overview in this case is more pessimistic, 108 people considered that virtual influencers don't promote a correct version of the product

22. Considerati ca influencerii virtuali(personaje fictive generate de computer, care pot fi folosite pentru o varietate de scopuri legate de marketing)... adevarul despre produsele pe care le promoveaza?  
134 de raspunsuri



18. Considerati ca influencerii spun adevarul despre produsele pe care le promoveaza?  
134 de raspunsuri



### *Ethical considerations*

Involving AI in digital marketing raises quite some ethical concerns about privacy, transparency, discrimination or accountability. As I previously said, artificial intelligence uses a vast amount of collected data as part of the processes that it manages. In some cases the data is so extensively collected that the user



might not be aware of which data is used, this raising ethical concerns about informed consent. Also, our accounts are continuously tracked for enhanced personalization, but there is a very thin line between personalized content and user autonomy that is not yet properly defined and regulated. Because of the complexity of the algorithms that compose the Artificial Intelligence systems, users are usually not aware of how the displayed content is selected, and this lack of transparency can impact the trust that people have in their content. Beside this, nowadays deepfakes and misleading content are quite common when using social media. AI can create highly convincing fake content. In some cases, the recommended content might promote certain types of behaviors or thinking that can affect public opinion. Also, AI has algorithms to raise engagement, that could lead to addictive use of social media platforms, especially in the case of teenagers.

## Conclusion

In conclusion, AI is a powerful tool that can be used in multiple domains, social media marketing being one of them. It has the potential to enhance the user experience, analyze data, detect patterns, and automate tasks, thus businesses having an increased interest in using it in their strategies. Even though it has multiple advantages, because of its complexity and rapid growth, it is not yet properly regulated by law. This can lead to multiple ethical issues, such as privacy issues, discrimination, or addictive behavior. In a competitive landscape, it is a tool that can completely change the game rules, but, as an analogy, at the moment the “game” (the social media marketing and the use of AI), does not have well written rules. Social media platforms represent an immense potential of gaining new audiences for businesses, but we cannot always trust what we see. Influencing marketing has become increasingly more popular, and as AI is always ready to revolutionize the way of work, virtual influencers started to appear. We must consider that these are created by businesses that want to promote brands, and enrich engagement, so the marketing campaigns are not always speaking the truth. As with everything we see online, we must always analyze and think thoroughly before acting and buying something.

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