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The Use of Artificial Intelligence in Social Media: Opportunities and Perspectives

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For social media, the current problem is not the lack of knowledge or skills to create personalized campaigns, but the lack of time. With so many different ways to collect as much data from customers, it's impossible for one person to capture this data, discover information, and then set up automated marketing campaigns for each person. Artificial intelligence is the solution to this problem, which focuses on the exploitation of customer data and machine learning in marketing strategies to anticipate the next move of customers and improve its experience through customize content and automation. This article aims to understand in an explicit way how artificial intelligence works on social media to ensure the maximum automation of marketing.

Keywords: Social media, Artificial intelligence, Marketing automation, Content marketing, Machine Learning

JEL Classification: M31

1. Introduction

The high speed of data has pushed marketing to take ownership of new forms of exploitation for rapid processing of this information and to better meet the expectations of users. Today, the problem is not the lack of information or the lack of processing tools but rather the lack of time. Internet users do not want to wait any longer, they prefer that their requests be processed instantly without conditions.

According to Kotler et al. (2017), the time of concentration of Internet users has decreased in a obvious way from 90 seconds to 30 seconds in just five years. The brand that will offer the product or the service first will certainly have user's attention. However, in an era where data is presented in terabytes, this task seems very difficult or almost impossible (Kotler et al. 2017).

Artificial intelligence has appeared to make this task possible. With the great opportunities that it offers, the management of these large masses of data has become a very easy thing and now marketing has been opened new doors to reach in a precise and immediate way all Internet users. However, many of us have a bizarre view on artificial intelligence, which is shaped by American films, in which a robot from the future will eradicate the human race or control it, but outside these well-scripted stories. Artificial Intelligence has nothing to do with it, but rather to make the experience of each day more intuitive and smarter by integrating predictive intelligence with the platforms we use.

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Social media does not escape this rule, the use of artificial intelligence on these media has become a basic and everyday thing. YouTube, for example, recommends videos based on the user looking and searching on his platform. Facebook suggests some people on its platform based on the location of people. Artificial intelligence is starting to take place in social media as we find ourselves in a period of transaction. The latter slowly but surely infiltrates our daily habits on social media.

2. Definition of Artificial Intelligence

John Haugeland (1989) argues that the concept of artificial intelligence has not come out of nowhere, nor does it come from computers, but from its own intellectual heritage. But in the meantime, we can distinguish two well-known and well-developed themes on the intelligent artifacts of science fiction. One is the "creature characteristic" genre featuring monsters or androids, which is basically the same as natural animals expect to be created by humans. The other genre is populated by various mechanical "robots": rattling gear, flashing, with springs and pulleys instead of flesh, son for nerves and maybe wheels instead of legs - more emotional limitation even more serious than androids (Haugeland, 1989). Haugeland says that contemporary artificial intelligence is anchored in sophisticated programmable electronics. In particular, no current work is based on chemical magic or bioengineering. The real problem has nothing to do with advanced technologies (or business specialties), but with deep theoretical assumptions (Haugeland, 1989).

In other words, artificial intelligence is new and different. Indeed, if this traditional theory is correct, our imagined computer should have a mind of its own: an authentic artificial mind. Nilson (1998) explains that artificial intelligence (AI) in the broad sense is a little circular, concerns the intelligent behavior of artifacts. Intelligent behavior, in turn, involves perception, reasoning, learning, communication and action in a complex environment (Nilsson, 1998).

The term artificial intelligence arouses emotions. On the one hand, there is our fascination with intelligence, which apparently gives us a place of choice among life forms. On the other hand, the artificial attribute could give rise to very different associations. This makes intelligent cyborgs fear. It recalls images of science fiction novels. This raises the question of whether our greatest good, the soul, is something we should try to understand, model or even reconstruct. He quotes and explains many definitions of the term artificial intelligence according to several authors (Ertel, 2017).

John McCarthy, one of the pioneers of AI, was the first to define the term artificial intelligence, which was intended to develop machines that behave as if they were intelligent (McCarthy, 1955). Artificial intelligence can be define also as follows: "artificial intelligence (AI) is a variety of intelligent human behaviors, such as perception, memory, emotion, judgment, reasoning, proof, recognition, understanding, communication, conception, thought, learning, forgetting, creating, etc. which can be achieved artificially by machine, system or network" (Deyi et Al. 2017).

3. Artificial Intelligence Marketing

The application of artificial intelligence in marketing mainly means AI applications that are able to process, analyze and interpret a large amount of data in the same way as humans. Although these practices are new, these applications already have a great impact on marketing techniques and campaigns deployed by companies.

Artificial intelligence offers a multitude of management solutions. We now have the opportunity to side-by-side comparisons of incoming communications from highly advanced customers and traditional metrics for strategic solutions. With the marketing of artificial intelligence, it is no longer a question of wondering if a user is ready for a discussion or a sale; it is now up to the data to provide the answer (Tjepkema, 2018). With the opportunities of artificial intelligence, we have a global idea of what people think, say and feel about a brand or product, and of course, this occurs in real time. Likewise, with the rise of social networks, this task has become even more fluid and complete.

Certainly, there are many ways to optimize digital advertising and digital strategies in general; the solutions of the application of artificial intelligence in marketing can go even further in the in-depth analysis of data to large scale. This technology makes it possible to exploit the data of hidden Internet users in searches by keyword, profile on social networks and other existing data online, all this, in order to have a better offer and solution (Tjepkema, 2018). This splendid data offers marketing specialists the power to feed consumer profiles. Solutions that use artificial intelligence provide an in-depth view of Internet users and potential customers, enabling the right message to go at the right time and to the right person. The secret lies in collecting data from each user's interaction.

The most important feature of artificial intelligence is its ability to manage and analyze large amounts of content, thus, identify trends. This approach allows brands to stay in active, real-time interaction with users through online events or conversations. Communicating with users in a timely manner directly influences their purchasing decisions. Artificial intelligence also makes it possible to make a strategic watch on social networks and other digital platforms (Tjepkema, 2018).

In the end, artificial intelligence is the Eldorado of futuristic marketing. Today we confront the immense opportunities that artificial intelligence allows for marketing. Thus, taking advantage of this technological advance will allow a certain evolution towards this discipline.

4. Characterization of Social Networks

Social networks have had a giant rise in recent years. They have evolved so much that everyone begins to ask themselves a typical question: Are they just a passing fashion phenomenon or are they of real use to individuals and brands?

4.1. Definitions of Social Networks

The notion of social network appeared in the middle of the 19th century in an article by the British anthropologist John A. Barnes (1954). It is a collection of people who build relationships with each other. (Barnes, 1954). We can also define the social network as a group of individuals who have links of origins, interest, need and similarities. In addition, the term also refers to the interactions of communities in a virtual world (Briard et Al. 2011).

A social network is also considered as a web service which allows certain functionalities to individuals such as the creation of a profile, the articulation of a list of users or even the display of a list of friends (Boyd et Al. 2007).

In addition, social networks are also an effective means and a very powerful channel that allows customers to create profiles and communities and even post comments (Lenhart and Al. 2009). Ultimately, social networks allow customers to easily exchange opinions and information on products or brands in a community without any time or even legal constraints (Graham et al. 2007).

4.2. Differences between Social Networks and Social Media

Nowadays, social networks remind us directly of known websites in this area such as Facebook, Twitter, and Instagram... Social networks are an integral part of social media. Social networks allow us to share all daily activities with a group of people who live in a virtual world (Rissoan, 2011).

In addition, we need to differentiate between a social network and social media. Media such as television, radio or even the press are also social networks because they have the ability to connect people and share diverse information. However, these media are limited and static because they do not have the ability to interact with viewers. So, we call them static media (Balagué et al. 2010).

Today, we use the terms social network and social media every day without knowing the difference between the two. So, to keep it simple, social media includes the social network as well as forums, blogs and even questions and answers platforms. In summary, social networks are only a part of social media.

We can define social media today as a way of communication that is characterized by social interactions between users and uses content as a sharing tool. This definition is the same for the social network (Rissoan, 2011).

Indeed, each individual can now create a personalized message with unique content in the form of text, photo, video ... The network is said to be social if it allows sharing with other individuals on the same network a content under various forms. In addition, social networks integrate the possibility of adding friends and weaving new relationships in order to create a diversified contact list (Ziryeb, 2011). Ultimately, social media has a multitude of tools that allow Internet users to express themselves, have fun, build new knowledge, create a new community and share opinions.

5. Applications of Artificial Intelligence in Social Media

The data gathered by social networks is immense that it is almost impossible for a human being to sort and analyze them or even to exploit them. This is why the application of artificial intelligence is paramount on these social media. As a result, the application of this new technology takes different forms.

a. Chatbots

The chatbot is an artificial intelligence software that is able to maintain a conversation or a discussion with a user using natural language on different platforms such as email applications, websites or mobile applications (Dagnon, 2018; Frankenfield, 2018). Chatbots react as very advanced and fully promising expressions in interaction between humans and machines. However, on the technical side, chatbots are only a basic evolution of a question-and-answer system based on natural language processing (Frankenfield, 2018). Applications that use chatbot technology humanize conversations between machines and people, thereby improving the customer experience. Likewise, they offer companies great opportunities to develop the customer integration process while optimizing the cost of customer services.

In order to achieve good results, the chatbot must be able to perform two tasks. In addition, human support is essential. Regardless of the type of task or platform used, human intervention is important for the development, monitoring and optimization of the chatbot's technology system (Dagnon, 2018).

Chatbots serve for several reasons; they can guide users to brands and products in instant messaging applications or even accompany them in the navigation on the website and create a very personalized user experience with the brand. Chatbots are also been used on the website and allow you to start an interactive conversation with visitors, as well as offer help and follow-up. On the other hand, even, they are been integrated on order pages or contact pages to guide the user throughout the conversion process (Frankenfield, 2018).

It necessary to know that marketing is not limited to the acquisition of new customers. We must also engage the Internet users with the brand. Chatbots are great for accomplishing this task; they also track and analyze customer-shopping history. With this overview of the behavior of Internet users, the brands can at any time modify and retarget the digital campaigns in favor of the recommendations made by the collected data, thus, to increase the rate of conversion.

The majority of customer inquiries and complaints are resolved quickly with chatbots. They can answer FAQs, track customers through the various processes and provide fast and efficient customer service 24/7. The use of chatbots can handle simple requests, so companies release sales and customer relationship teams to focus on tasks that are more important.

In addition, the marketing of social networks has become widespread; customers now interact directly with the brand on these platforms. The use of chatbots on social media allows you to have a new experience and keep this conversation on social networks. Thus, a bot that runs on a social network application can perform multiple tasks and have a seamless experience.

Although chatbots are large-scale technological advances, they unfortunately cannot replace humans. Their role is limited to automating core tasks and enabling marketing teams to focus on work that is more creative. Chatbots also need updating and regular maintenance. The success of a chatbot technology relies on the collaboration of several teams including IT developers, customer service, marketing department, sales team ... to create at the end a tool that allows solving the key problems of customers.

However, a human customer service is always essential. Chatbots are help tools for customers that will solve small problems. A well-developed chatbot will know when to hand over a human to handle the situation. Thus, chatbots are not unique solutions, but rather landing pages that have a singular and flexible purpose (Dagnon, 2018).

b. Predictive Analytics

Predictive analytics refers to the use of statistics and machine learning to analyze behavior and derive predictions. All the same, humans are very predictable because we all have routines like waking up in the morning, brushing your teeth, taking a shower, getting dressed and having breakfast. This aspect of prediction allows the marketing specialists to know what will happen in the future as well, to adapt the marketing campaigns according to the thing (Stelzner, 2018).

Since we are predictable and we have a general awareness, machines have come to make these predictions more specific. For example, knowing when, the marketing department needs to do more live Facebook or spend less on advertising; they can be more effective and efficient. In addition, if marketing services can predict, they can save a lot of money and save a lot of time.

Predictive analysis focuses largely on the detection of events. For marketing services, forecasts are a time series of events. For example, a marketing specialist can know when to engage a customer service to handle the requests of his target (Stelzner, 2018).

It should be noted that the predictive analyzes are more than 70 years old. Most people are surprised to hear that this discipline dates back so long as they think that learning and automation is a new technology. However, theories and mathematical formulas have existed for several years (Stelzner, 2018).

The biggest change is the power of data processing and the ability of computers today to leverage information. They can process many data in less time. In theory, predictive analysis is feasible on paper, but it will take a huge amount of time.

c. AI Generated Content

The laws of content marketing change every year. Blogs are now longer, web pages and targeted advertising have become a requirement. Google has launched new machine learning algorithms and artificial intelligence is now helping marketers to decipher more data and facilitate digital campaigns. All this is meant to understand the intentions of Internet users and suggest content better suited to their expectations (Kreimer, 2018). Artificial intelligence allows marketers to generate content automatically for simple stories, such as stock information or sports reports. It is nevertheless surprising to know that a machine, thanks to the content generated by the artificial intelligence, writes the following sentence: *"Tuesday was a great day for W. Roberts, as the junior pitcher kicked off a perfect match to give Virginia a 2-0 win over George Washington at Davenport Field."*

Artificial intelligence generates content through rules, however, we need to provide datasets such as a match summary, and it can develop a narrative around this data. For example, report development can take a long time. However, artificial intelligence can help companies save time and energy and push employees to focus on more important tasks.

Although the content of the AI seems to be growing, the challenge is great; computers cannot react on their own. They urgently need human help. Because artificial intelligence is not aware of human emotions, so a machine will not know what we interpret as funny, even if we introduce these aspects into its rules (Kreimer, 2018).

For its limits, the implementation of the content generated by artificial intelligence is very limited, in the sense of development of match report or simple information for users such as financial reports, quarterly activity reports or even a real-time overview of a company's inventory.

d. Social-Selling

Internet users spend more and more time on social networks. Thanks to these platforms, they are also much more informed and autonomous than ever before. In fact, social selling has come to take advantage of these trends in order to build a good brand image, find potential prospects and develop good relationships with Internet users.

Social selling is the art of using social networks to find, interact, understand, develop and take advantage of sales offers. It is the most modern method of developing strong relationships with potential customers so that they can keep the brand in mind (Newberry, 2017).

It is simply the use of social tools to engage in customer relationship techniques. More than that, we have to describe what social selling is not, it is not about fulling people with ads, tweets, or unsolicited content. This is spam and it is definitely not social selling.

Social selling is not just about acquiring contacts, but also developing relationships and listening to customers so that companies can present a solution to the current problem, while meeting an urgent need to make life easier to the client (Newberry, 2017). Social selling also holds its success using artificial intelligence technology, as well as tools such as chatbots already mentioned before. Social selling makes it possible to have an easier and more fluid sales process. The use of these technologies makes it possible to optimize the digital strategies deployed on the social networks and to increase the profiles collected, which is the main objective of the companies (Newberry, 2017).

6. Conclusion

We notice the utility of artificial intelligence when the amount of data is enormous, which can leave the most experienced teams of data analysts and marketing researchers feeling disappointed. However, the processing of all this data is now easy using this technology. Moreover, this applies equally to other aspects of marketing and not just social media marketing. Artificial intelligence presents the next step of marketing campaigns; it allows generating personal information and using them for successful campaigns.

Companies now have the opportunity to use artificial intelligence technology to profile potential customers, analyze their behavior, follow their habits, determine their motivations, etc. In order, to offer a product or service that meets their needs and expectations.

Social networks is a crucial playground for businesses, a personalized relationship with customers, but it does not prevent to know that they are also highly saturated. However, the simple decision to use the strategic

marketing tools of social media marketing is not enough; we must also rely on new techniques and technologies. That said, the word artificial intelligence can scare some people, but really, it excites avant-garde companies. Artificial intelligence technology is able to make marketing campaigns more personalized and smarter.

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