IMPACT OF ARTIFICIAL INTELLIGENCE ON MARKETING

Artificial Intelligence and Marketing

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Abstract: The purpose of Artificial intelligence (AI) in marketing is to continually monitor and anticipate the next purchase decision of the consumers in mind and improve their overall "journey." The potential of AI can be seen in its primary components: big data, machine learning, and robust solutions. The idea"big data "big data" means that marketers can combine and categorize massive quantities of data using a minimum of manual effort. Utilizing this data, they can be confident that they will send the correct message to the appropriate people at the right moment through the preferred channel. Machine learning (deep learning) lets marketers comprehend and draw logic from huge data collection. They can predict consumption trends, track and analyze customer purchases, and predict future customer behavior. Producing robust solutions means that we are in a time when machines can comprehend the world the same as we do. Devices can recognize concepts and themes in the spectrum of data, interpret emotions and human communication, and provide appropriate responses to the needs of consumers. They can quickly determine the behavior and choices of buyers and then use the data to address issues in the future.

In the years to come, marketers can expect more significant AI impact through better-informed searches, more effective ads, improved content delivery, reliance on bots, and continuous learning. They protect against fraudulent activities and data breaches such as sentiment analysis, image and voice recognition, sales forecasts, and language recognition, as well as predictors of customer services, segmentation of customers, and more. This paper seeks to determine the relationship between marketers and AI machines.

Kewords - **Artificial intelligence, marketing, machine learning, powerful solutions, bots, marketers, big data**

1. INTRODUCTION

Companies now appreciate and use business intelligence. Business data can achieve multiple purposes: system log analysis, analysis of comments and opinions posted on social media, and risk assessment. Consumer retention. Brand management. (Tjepkema, 2017). Different systems can perform these other tasks. Separate systems can be expensive and slow, however. Extensive infrastructure is needed to manage large heterogeneous data from multiple-multi systems.

The "big data," or big data, profoundly impacts how people live and work. It can be used to do business, shop in the store, and even buy movie tickets. Each piece of data is then segmented to help analyze how consumers think and make buying decisions. It is important to discard old and inefficient solutions to take advantage of this opportunity. New technologies can identify future consumer trends quickly and provide deeper insight into how consumers make purchases.

Developed countries increasingly rely on high-speed data processing. The number of data-intensive technologies is increasing. 4.6 billion mobile phones around the world, as well as between one and two billion users who use the Internet (Schulterbraucks 2017, 2017). This means that the latest technological advancements and artificial intelligence are becoming more widely employed. Artificial intelligence is an area of computer science where computers can perform the tasks of reasoning and common sense, like understanding and vision, which were previously only performed by humans. It covers functions like watching, learning, understanding, communicating and socializing, planning, thinking, creativity, and problem-solving. It is believed that 63% of firms are already using artificial intelligence software and do not even know they do. 47% of customers utilize bots to communicate when purchasing online items. 40% of customers don't mind if they receive an answer to their queries via an artificial intelligence

program, provided they get a satisfying, fast, simple solution. What does this mean to marketers? Because of the bots, customers can get customized shopping suggestions, and there is all-time customer service.

2. Big data

"Big data" is an explosion in high-frequency, high-quality digital data. Large amounts of data can come from all company corners: comments and posts on social media, digital images and video, electronic catalogues and reports on cash and consumer transactions. These data are complex and large, which traditional data processing software cannot process. Extensive data presents many challenges. They must be stored, analyzed, searched, shared, transferred, visualized, updated, and privacy protected. The current technologies are becoming obsolete due to the rapid increase in data. Complex coding skills are required, as well as domain and statistical knowledge.

The 3V dimensions of volume, velocity, and variety can help to explain big data (Laney 2001).

Volume: Every day, companies produce terabytes worth of data! Many data still need to be processed despite the increased data volume. The company may have all the data they need to answer consumers' questions, but it needs to be able to provide the correct answers. This is a red flag that the company must act on. Variability: The volume of data is one of many problems. Traditional tools are not able to handle the variety of data. For structured data, conventional processing tools work best. They only process structured data. Today's data comes from many sources, including e-mails and consumer comments, social media, website experiences, call centres, consumer feedback, and unstructured or semistructured.

The volume of data is just an initial issue. The biggest issue with conventional tools lies in the variety of data. Traditional processing tools can be employed for structured data. They can only process data that is properly organized and formatted. However, the data that is collected today from a variety of sources, such as e-mails consumer feedback, comments from consumers, social media and consumer experiences on websites and call centers are not structured or semi-structured.

Velocity is the speed of data creation is as important as the other two elements. The speed at which a company analyzes its data is its advantage.

Each of these V-dimensions could be accomplished with conventional solutions. For instance, if the business, most data is structured, then it is possible to achieve between 80 and 90% of the business value using traditional tools. However, if the business is confronted with the three dimensions of data at once the company is facing the problem with "big big data". Therefore "big data" technologies are described as a brand new generation of technology and infrastructure created to extract benefits from massive quantities of data that are diverse with the speed of data and deep analysis. The amount of data they hold is so huge that the current technologies are unable to handle these data (to gather organize, store, manage, and analyze it effectively and faster).

3. Machine learning

Machine learning can make predictions or offer calculated suggestions based on large amounts of data analysis (Tjepkema 2017, 2017). Netflix algorithms offer recommendations for movies to customers based upon what they've seen in the past, and Amazon algorithms that suggest books to users based on books that have been purchased in the past are two of the best examples. Machine learning, an advanced area in artificial intelligence, allows programs to take large amounts of data and develop predictive algorithms that can improve over time. Machine learning will enable marketers to provide their customers personalized content and product suggestions. Marketers have the data to offer consumers what they want.

Machine learning algorithms can be divided into three categories: supervised, unsupervised, and reinforcement learning (Sterne 2017, 2017). Supervised learning can be used when a specific set of data is missing certain data. It should be accurately predicted. Unsupervised learning can be used to discover the connection between disparate, unrelated data in large numbers of data. Reinforcement learning lies between these extremes. It predicts what will happen when there is a connection between two events or data.

Machine learning is an interdisciplinary the sense that it incorporates techniques from different disciplines, including statistics, computer science artificial intelligence, mathematics, and so on. The primary goal in machine-learning is the ability to collect experience data using algorithms that depend on artificial intelligence, computer vision and data mining.

4. Powerful solutions

Two main tasks are required for decision-making: tree planting and tree pruning (Davis 2016, 2016). Creating a "tree" from data and introducing trees is when many data are separated by their characteristics. The ultimate goal of the data tree is to have the smallest amount of data possible that has been split across all the data. The concept of information is used to measure purity. It shows how much one must know about a particular topic. If the data tree is too complex and has many unnecessary structures, it cannot be easy to understand and interpret. Tree pruning removes any excessive forms from a decision tree to make it more efficient, accurate, and accessible for people to make better decisions.

5. The future of AI marketing

Artificial intelligence marketing will affect marketers in the future (Tjepkema 2017, 2017).

A) Smarter searches: Technology solutions are becoming more intelligent and better. It is important to remember that the public gets more sophisticated in what they want. People can quickly find what they are looking for thanks to search engines such as Google and social media. Big data and artificial intelligence can analyze these search models to help marketers pinpoint where they should focus their efforts.

B) Smarter ads: While marketers are still trying to reach consumers today with innovative advertisements, artificial intelligence allows them to do so faster and more efficiently. Online ads are more intelligent and more efficient thanks to big data. Artificial intelligence can dig deeper into data, social networks and profiles to find human solutions.

C) Refined content delivery: Marketers can target consumers at different levels with artificial intelligence. Marketers will be able to understand consumers individually by analyzing the demographic characteristics of the targeted consumers. Marketers can now use artificial intelligence to identify potential customers and provide the most relevant content. This can be achieved by combining machine learning and big data and their combination.

D) Relying on bots: Retention and care for consumers is another field where artificial intelligence will play a significant part. Soon, conversation functions and other direct-to-consumer interactions will be handled by bots that use artificial intelligence. By doing this, companies will reduce the time of employees as well as reduce expenses. Artificial intelligent robots can access the whole web of information and data and search history to ensure that they will be more efficient than human beings.

E) Continuous learning: With the aid of artificial intelligence, it will not only discover the hidden information but also educate them, integrate it into new promotions, and tailor the message for the most relevant audience. As time passes, artificial intelligence systems will grow more effective and efficient and help make real-time decisions.

6. Conclusion

Artificial Intelligence, in the form of extensive data machine learning, machine learning, and other perfect solutions, is already changing the technological landscape of businesses. Businesses are changing how they conduct business by making it more flexible, efficient, productive, and competitive. Technological advances have continually brought new marketing opportunities. Similar to how the introduction of television brought a new era of real-time mass marketing and the ability to reach a large audience, while the Internet and mobile phones brought a new level of reach, the Internet, as well as mobile phone provided an entirely new level of targeting and contextualization as well, artificial Intelligence is expected to transform the way that people use technology, information and brands as well as with services.

Artificial Intelligence is the research study on how to make machines intelligent or able to solve problems just like humans do. Machine learning is a novel method of developing these solving systems. For years, computer programmers wrote computer programs manually to produce outputs in response to an input. Machine learning allows us to can teach computers to learn without programming them according to a system of guidelines (Sterne, 2017).

How is this going to affect marketers? With the further integration of technology into the real world, New interactions are being created with customers that are simpler and quicker. The expectations of consumers will be more than ever before. This presents an entirely new challenge, offering a unique opportunity to companies and marketers. Artificial Intelligence helps marketers to achieve full-on personalization and relevancy. With platforms such as Search, Facebook, YouTube, and Google reaching billions of users every day, along with the advent of digital advertising platforms, it's possible to get a mass audience for communication. The scale of these platforms, combined with the personalization that can be achieved by artificial Intelligence, means businesses are likely to be soon able to personalize their campaigns in real-time. The future of marketing is in the use of AI.

REFERENCES

Davis Ben (2016). 15 Examples of Artificial Intelligence in Marketing, EconConsultancy, Manchester, UK, 19 April 2016

Korada Prasanthi (2018). Impact of Artificial Intelligence on Digital marketing, Andhra University, India

Laney Doug (2001). Controlling Data Volume, Variety and Velocity, in 3D Data Management, Meta Group, (https://blogs.gartner.com/douglaney/files/2012/01/ad949-3D-Data-Management-Controlling-Data-VolumeVelocity-and-Variety.pdf)

Lasse Shulterbraucks (2017). A short history of Aritificial Intelligence, December 2017, https://dev.to/lschultebraucks/a-short-history-of-artificial-intelligence-7hm

Marvin Chow (2017). Artificial Intelligence and Machine Learning get us one step closer to relevance at scale, Emerging Technology Mobile, September 2017

Johnsen Maria (2017). The Future of Artificial Intelligence in Digital Marketing – The next big technological break, USA