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**ARTIFICIAL INTELLIGENCE IN MARKETING**

**How AI is Revolutionizing Digital Marketing**

**Thesis**

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**ABSTRACT**

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| <p>Artificial intelligence (AI) is an essential part of many sectors, including marketing. The way in which we use data to make important marketing decisions and improve customer experience has been revolutionized by AI.</p> <p>The objective of this thesis was to explore the impact of AI, especially on the marketing sector. This research focused on the implementation of AI, its risks, benefits and its impact on digital marketing and its future. A qualitative research methodology was utilized to address these topics.</p> <p>The theoretical framework discusses the topic of AI while examining its impact in business worldwide, including Finland. With the incredible progress in AI, machine learning and deep learning in its sub-segments, businesses are reaching new levels of data analytics productivity that have an impact on the whole sector. For this thesis, the qualitative research method was applied by examining the marketing use of AI in order to investigate how AI is changing the digital marketing sector. The objective of this approach was to do a broader and more detailed study of AI in marketing.</p> <p>Based on the finding of this thesis, it can be concluded that AI is going to fundamentally change how marketers are doing their work, making ads more personalized, predictive, and automated than it has ever been. It is found that AI is an inevitable part of future marketing and sales environment. The sooner we get acquainted with AI capabilities, the better it is.</p> |                          |                                    |

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| <p><b>Key words</b><br/>artificial intelligence, automation, business, digital marketing, future, machine learning, technology</p> |
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## 1 INTRODUCTION

The World has come a long way in regards of technology over the years. From chatbots, smart devices to self-driving cars, artificial intelligence (AI) is part of our daily lives nowadays. They all are invented to understand customer needs and taste and to deliver unique consumer experiences. In simple word, AI refers to intelligence displayed by machines. AI has been a hot topic for a while. It is already widely used in a variety of fields including marketing. Using automated marketing strategies helps to bring more customized customer experiences as well as saves our time and money.

This thesis aims to explore the various impacts of AI in marketing in the modern world. The key questions that the author considers in this thesis are: What is the impact of AI on marketing sector? How is AI transforming digital marketing? and What is the future of marketing? A qualitative research methodology would be utilized to address these questions.

AI can be seen in our everyday life helping us to research products, make purchasing decisions and influence customer buying habits. AI marketing is a way of using technology to improve customer experience. It could also be used to improve marketing campaigns' return on investment (ROI). This is achieved through the use of large data analytics, machine learning as well as other processes to give an insight into our targeted audience. We can establish more efficient customer contact points with these insights. Whether we are doing email marketing or delivering customer support, AI removes many of the manual guesswork involved during customer interactions. AI can be used on a larger scale to automate procedures that once relied on humans. Pay-per-click (PPC) ads, content generation as well as web design is possible applications for AI marketing.

It is not that hard to argue that marketers will eventually make use of AI in the future. The elements of an AI-based approach are still largely in place even today. Contemporary marketing is becoming more and more quantitative, targeted and linked to business results. Advertisements and offers are constantly being targeted in real time for individual consumers. Companies use multiple channels to reach customers, and digital marketing is widely used by companies nowadays. Companies usually try to recognize and aim at specific consumer or segments, and if there are thousands or millions of consumers, AI is required to reach to detail. Organizations also want to tailor the customer's experience, using machine learning or some other type of AI as well. AI can assist businesses in making decisions across the digital and analog marketing realms with similar criteria.

## **2 OVERVIEW OF ARTIFICIAL INTELLIGENCE**

AI enables machines to think, respond and perform like humans do. Machines also learn from experiences and adapt to new situations. AI analyzes information in more detail resulting in greater insights. AI uses smart algorithms to add more skills to different devices and gadgets, for example voice assistants, GPS trackers and home automation. AI is changing different industries such as marketing, medical sector and banking by its learning ability from different data inputs.

### **2.1 Elements of artificial intelligence**

The word AI refers to computing systems that complete tasks in the same way as humans would do their decisions. AI was introduced first as an area of science in the mid-1950, and it has come a long way since. It has established itself as an important asset for managing businesses and technologies. It is important to note that AI is a constantly moving target. Things in the past that were considered the area of AI, such as computer chess and character recognition are now considered as common in computing. Nowadays image recognition, robotics, real-time analytic tools, natural language processing and many other linked systems in internet of things (IoT) need AI for bringing more advanced attributes and abilities. (Greengard 2019.)

There are many ways AI can be reached and most important of them are machine learning (ML), deep learning, natural language processing (NLP), robotics, vision and autonomous vehicles. ML is a process in which the goal is defined and to reach the goal step by the step is learned by the machine itself through experience and collected data, for example, to distinguish simple object such as, a banana. It is achieved by not teaching it in detailed manner and code it specifically, but by showing multiple images of it and letting the machine define the steps by itself to know if it is a banana. NLP is also known as automatic manipulation of natural language like text and speech by an AI system. For example, email spam detection has been improving mail systems quite a lot which is possible because of NLP. (Bitext 2019.)

Vision can be said as a field which enables the machines to see. It captures and analyzes information with the help of camera, analogical conversion and digital processing. This is achieved with ML so we could say that both of these fields have something in common. Robotics is the field of AI where they perform tasks and assignments that are usually hard or too repetitive for humans to do. Car

manufacturers, hospitals, cleaners or police officers all use some kind of robotics in their respective fields. Autonomous vehicles is realm of AI which includes cars, trucks, ships, trains and autopilot flying drones. (Kumar 2018.)

## **2.2 Types of artificial intelligence**

There are several ways to describe an AI. There are, however, two most common classification methods based on their capabilities and functionality. Type 1 classification is based on ability and Type 2 classification is based on functionality.

AI has three stages in which it can evolve. First of them is Artificial Narrow Intelligence (ANI) also known as weak AI. ANI is phase of AI that incorporates machines that can do narrowly specified tasks. At this stage of AI, the machine does not have the ability to think, it just completes pre-defined functions. Good examples of weak AI are Siri and self-driving cars. Majority of the AI systems built until this day are weak AI. (Reece 2020.)

Artificial General Intelligence (AGI) known also as strong AI is stage in AI where machines are able to think and make decisions as humans do. Artificial Super Intelligence (ASI) would be the phase where machines skills would surpass humans. As for now ASI is just a hypothetical fantasy which is found in the movies and books where machines have taken control of the world. (Reece 2020.)

Apart from phases of AI there are also types that are based on their functionality. These are self-aware AI, limited memory AI, reactive machine AI, theory of mind AI. Reactive machine AI is a type of AI where machine function is based on present data, taking into consideration only the current situation. Reactive AI cannot create conclusion from the information they receive to determine their future decisions. They can only do narrow pre-defined assignments. (Dataflair 2019.)

A Limited Memory AI can improve itself by studying past data from its memory storage. Limited Memory AI has impermanent memory that stores its past experiences and plans future decisions. Self-driving cars are example of this type of AI, by implementing information received in recent past to carry out quick decisions. Self-driving cars use sensors to distinguish civilians crossing streets, traffic lights etc. to make wiser driving actions. This also aids to avert future accidents. (Joshi 2019.)

Theory of mind AI is advanced AI where a machine plays important role in psychology. It is type of AI which concentrates on emotional intelligence so that human thoughts and ethics can be better understood. Theory of Mind AI is being researched heavily but it is not type of AI that has been fully developed yet. In Self-Aware AI, machines have their own consciousness and they are self-aware. (Dataflair 2019.)

### **2.3 History of artificial intelligence**

AI can be traced back way back in time when it was just a dream to develop machines to possess the same abilities as humans do. It was not until the 1940s a school of thought called connectionism was established to research stages of thinking. In the 1950s, Alan Turing, a British polymath, researched the possibility of math in AI. In 1956 Dartmouth Summer Research Project on AI was organized by Marvin Minsky and John McCarthy, who are also regarded as the creator of the word AI. In this event many top researchers were participating in open discussion about AI. (Foote 2016.)

From 1956 to 1974, AI was booming. Machines could store more data and became faster, cheaper and accessible. Algorithms got better and it became easier to know which algorithms to apply to different tasks. Inventions such as Joseph Weizenbaum's ELIZA, Newell and Simon's General Problem Solver displayed important steps towards objective of interpretation of language and problem solving. These successes and support from top researchers convinced government agencies like Defense Advanced Research Projects Agency (DARPA) to fund AI. At the time government was interested in a machine that could type and translate spoken language as well as high throughput data processing. (Anyoha 2017.)

The more breakthroughs were made in AI, the more obstacles were revealed. One of the biggest problems was that machines could not store much information or work fast enough. During the 1980s AI got a new spark and there were two reasons for this: promotion of funds and growth in information and algorithms. Later on, David Rumelhart and John Hopfield made so-called deep learning methods popular, which enabled machines to learn from experience. Edward Feigenbaum found expert systems which copied human expert decisions making. Japan invested excessively in AI, especially expert systems as part of their Fifth Generation Computer Project (FGCP) with the target of revolutionizing AI by carrying out logic programming and computer processing. Sadly, these goals were not met, and the

funding of FGCP stopped and AI popularity declined. On a positive note it inspired many upcoming scientist and engineers. (Anyoha 2017.)

In the early 1990s, research into Artificial Intelligence shifted its focus to something called an intelligent agent. These intelligent agents can be used for web browsing, online shopping and news retrieval services. Intelligent agents are sometimes also called agents or bots. They gradually evolved into personal digital assistants or virtual assistants through the use of big data programs. (Foote 2016.)

AI has been a big help in different sectors such as marketing, finance, technology and entertainment. It seems, AI language is a next big thing coming in the present future. Nowadays it is almost impossible to avoid interaction with machines since they are everywhere. One could see interacting with expert systems in fluent conversation or having conversation in different languages at same time having it translated immediately. The next long-term goal is to develop AI to the point where it surpasses all human cognitive skills in every task. If this would be possible it comes down to ethical questions to make it reality. When that time comes, the conversation of policy and ethics will rise but in the meantime, AI will keep improving and run in our society. (Greengard 2019.)

### **3 ARTIFICIAL INTELLIGENCE ANALYSIS**

There is no question that AI is gaining tremendous attention through businesses of all sizes. But if companies are not familiar with precisely the way the tools and technology operate, the idea of AI can be overwhelming in their own business. It is important that we understand its limits when we think about AI and what it could do. However, it is important to remember how quickly it progressed, so AI's benefits and drawbacks will influence future generations.

#### **3.1 Benefits of artificial intelligence**

Each time AI communicates with a customer, it becomes smarter. Theoretically, people do it too: it is not, however, uncommon for someone to learn a precious lesson each time they talk to a customer. AI allows marketers to reduce manual tasks and allow them to efficiently personalize decisions on a level to enhance their targeting

Machines work better than people, they can work around the clock, they do not sleep, do not need break and do not get bored. We may therefore rely on them for information on important events right now, even in the middle of the night, or for chatting with customers anytime of the day. AI can process massive quantities of data in a blink of eye; a job that takes hours of human labor or is not even feasible. Unlike industrial-era computers, AI automatically automates the repetitive operations. In order to make an informed decision, AI systems take a short moment where a human will take more time. By automating the process, reducing errors and increasing the abilities of AI, businesses can not only save money from otherwise expensive business processes, but also increase income. (Polachowska 2019.)

One of the benefits of AI is that it can identify patterns in consumer browsing habits and purchasing behavior. Using the millions of transactions stored and analyzed in the cloud, AI can deliver highly accurate deals to individual customers. Today, human involvement is expected in many customer interactions such as e-mails, online chat and social media messages. AI, however, helps businesses to automate these interactions. Through analyzing data obtained from previous communications, computers may respond to customers correctly and respond to requests. AI is paired with machine learning, so the more the AI systems communicate, the better they get. AI chatbots, for instance, can

communicate concurrently with limitless customers and can both address and initiate contact on a website or in an application. (Victories 2018.)

AI also supports companies that need to connect continuously with large amounts of customers every day. For example, businesses that have the potential of having millions of passengers per day in the transport sector can use AI in order to send customized data about travel in real time, such as a delay alert. Many bus companies, for instance, are already monitoring where their buses are located and using AI to inform travelers of the location and the expected time of arrival of the bus in real time. This information is provided to the customers on the bus company website and mobile application. In retail, AI is used with monitoring inventories with radio-frequency identification (RFID) and cloud technology. One of the major advantages of using cloud-based AI is the ability to quickly discover relevant and important results when analyzing big data. This can give companies required information that can help them profit on the market. AI also has the advantage of being able to predict outcomes based on data analysis. This predictive ability is not only beneficial for the retail industry. AI is used in many other areas, such as finance, where it can forecast financial volatility and stock price fluctuations. (Victories 2018.)

Increased transparency in AI should allow people to understand why AI draws such assumptions or conclusions in order to inform legal or medical decision-making. In effect, it would encourage people to use their know-how, expertise and intuition to confirm observations or take a decision different from the system proposed. AI may enhance customer service by using chatbots and advice systems, increase revenue through detection and maximization of market opportunities, predict consumer demand, identify and predict customer behavior, test malware, revise documents and conduct research. The AI systems offer a wide variety of advantages to organizations, including individual marketing, customer service, organizational optimization, inventory management and recruitment. So, the main thing in looking for the advantages of AI is to discover what value it can add to the company. (Polachowska 2019.)

### **3.2 Risks of artificial intelligence**

Given the potential of AI, researchers and the general public remain worried about short- and long-term economic consequences, including job loss, human security and safety threats. Experts often point to the social dangers of AI, such as the potential to lead to widespread discrimination and maintain current inequality in biased algorithms.

Deep-learning technology is constantly used by people to decide who gets a loan or a job. Nonetheless, deep-learning algorithms operate in many ways and they do not give people a sense of why AI comes to certain assumptions or conclusions, how errors can occur and how and when prejudices can occur. Applications including mobile phone applications, security cameras and electronic grids can be subject to safety flaws. This may lead to money and identity theft, or failure of the internet and electricity. Developments in AI technology can also lead to new challenges to international security and peace. Machine learning, for instance, can be used to create fake audio and video to manipulate elections, policy making and governance. (ITU News 2018.)

The possibility for fraudsters to use apparently sensitive marketing, health and financial information collected by companies to supply AI systems is also a new issue. If safety precautions are inadequate, they can be combined to create false identities. Although target companies are unwitting accomplices, customer backlash and regulatory consequences can still occur. Due to the increasing amount of unstructured information being absorbed from sources such as websites, social media outlets, mobiles and sensors, it is extremely difficult to ingest, sort and link data properly. In turn it is easy to fall victim to pitfalls like unintentionally using or sharing sensitive information hidden within anonymized data. Such considerations are important for members in compliance with data protection laws, such as European Union General Data Protection Regulation (GDPR) or the California Consumer Privacy Act (CCPA). (Cheatham, Javanmardian & Samandari 2019.)

The critical risk area is the interaction between people and machines. The complexities of automated transport, manufacturing and infrastructure systems are among those most evident. Injuries and incidents are possibilities if heavy equipment drivers, vehicles or other equipment do not know whether they should override or are unable to override the systems because the operator's focus is elsewhere, a clear option in applications such as self-driven cars. The underlying outcomes of the process can also be proven by human judgment. Scripting mistakes, data management failures, and misjudges in modeling data may easily affect equality, confidentiality, protection, and enforcement within the data analytics organization. The performance of AI systems can be negatively affected by engineering and process problems across the entire operating environment. For example, one large financial company got into trouble after its compliance software failed to detect trade problems because all consumer transactions were no longer included in the data feeds. (Cheatham, Javanmardian, & Samandari 2019.)

It is clear that when it comes to working effectively, machines are much better, but they cannot replace the human connection that make the team. Computers cannot develop a relationship with human beings

that is an essential element of team administration. People tend to become dependent on these innovations, which may cause problems for future generations. Machines can do only those tasks that humans have designed so any irrelevant output can cause a significant backdrop. (Edureka 2019.)

## **4 HOW ARTIFICIAL INTELLIGENCE IS IMPACTING INDUSTRIES**

The application of AI is spreading rapidly worldwide. AI is now well known in various industries, from retail, manufacturing and transportation as well as public and scientific research as a transformative technology. This chapter examines the global adoption of AI in different sectors.

### **4.1 Artificial intelligence worldwide**

The common goals of businesses in today's technology environment is to become smarter, to know where market opportunities are, where logjams of the supply chain are and where changes to processes can be made. Data science has accelerated this phenomenon, and now data science is itself becoming smarter. AI adoption will grow significantly in the next 10 years, with AI technology sales hitting almost \$90 billion by 2025. The increase in AI adoption across industries is expected. The emergence of AI attracts both data scientists and corporate managers to let machinery crunch in order to improve the overall intelligence of the business sector. (Rauch 2019.)

The implementation of complex technology, such as AI, needs many considerations. Adopting software is a well-researched area of literature on information systems. AI is applied today to some of the most alarming business issues and almost all applications include forecasting. Machine learning is being used in several industries in order to predict demand, increase storage capacity, automate distribution and maximize sales. (Dasgupta & Wendler 2019.)

According to PwC, the growth and GDP output of the global economy can be enhanced by AI. Improving labor productivity can contribute to initial GDP growth, as companies try to "increase" their labor productivity through AI software and to automate other tasks and functions. PwC research has also shown that 45% of the total economic gains will come from product improvements by 2030, which stimulate consumer demand. AI will lead to a broader range of products with greater personalization, accessibility and affordability over time. The biggest economic gains of AI will be China with 26% increase in GDP in 2030 and North America with 14.5% boost, equivalent to a total of 10.7 billion dollars and accounting for almost 70% of the global economic impact. AI will have a significant impact on its strategic investment in the different types of AI technology. (PwC 2017.)

Tech giants like Baidu and Google invested between \$20B and \$30B on AI in 2016, with R&D and delivery spending of 90% and 10% on AI acquisitions. Since 2013, the global AI investment rate has been rising externally. The AI algorithm used by Netflix has delivered remarkable results in addition to customizing suggestions for its worldwide 100 million subscribers, enhancing search results and avoiding cancelled subscriptions from dissatisfied consumers who cannot locate their wishes, with the possible effect of \$1B per year. The Royal Bank of Scotland recently introduced an AI bot, which will respond to its banking customer queries and perform simple bank tasks, including transfers of money, with the goal of making digital service as effective as face-to-face interactions. The way businesses access and process information is revolutionized by AI and artificial learning to become smarter and productive organizations. (Rauch 2019.)

Geographically, more than 50% of all AI expenses, led by retail and banking industries, will be produced in the United States. Western Europe, led by a banking and discrete industry, is to be the second largest geographical region. China is expected to be the third-largest region for AI expenditure on retail, state and local government and professional services. (Framingham 2019.)

## **4.2 Artificial intelligence in Finland**

More and more countries are starting to notice the fact that AI is important asset to implement into society. Finland has ambitious plans to be one of the leaders in AI. Finland took a big step regarding AI in Finland in the year 2017. Finland's Ministry of Financial Affairs and Employment, Mika Lintsilä planned out a meeting to suggest for AI project in Finland. Lintsilä states that AI is important ingredient of digitalization. Moreover, Finland's Ministry of Financial Affairs and Employment recommends eleven factors how to achieve leading status within AI. (Ministry of Economic Affairs and Employment 2017.)

The report published by The Ministry of Economic Affairs and Employment in 2017 highlights the opportunities Finland has on the global market as well as its strengths and limitations in AI. It explains how AI can change society, and provides Finland with a set of policy initiatives and suggestions to succeed in the era of AI. Finland aims to improve market and industry competitiveness, by providing high-quality public services and enhancing public sector efficiency; ensuring that residents have a well-functioning environment. (Ministry of Economic Affairs and Employment 2017.)

The following policy proposals are being introduced by the Finnish Government to promote AI research and innovation. Developing an AI maturity resource to help companies increase their market prospects by recognizing their most relevant areas for development in AI. Forming a Finnish Center for Artificial Intelligence (FCAI) to support AI studies as well as the use and implementation of AI in businesses as well as in society. The introduction of an AI Business Program that offers R&D innovation funding, networking and internationalization services, and also help in designing essential research environments and research sites. (European Commission 2020.)

In 2018 the University of Helsinki cooperated with technology company Reaktor to provide a free AI based online course to teach and educate more about this popular topic. The online course “Elements of AI” is free English taught course worth two ECTS credits and the course combines both theory and practical assignments that can be done in individuals own pace. The goal of the course is to target around 54000 people from age 20 above to spread knowledge of AI. (Tekoalyaika 2019.)

Finland’s business sector needs to start implementing potential AI benefits into their practices. In AI, data is very important therefore the data must be used effectively in all business sectors. Making AI easier to understand, helps businesses to incorporate it more faster and easier. To succeed in AI, Finland needs top experts in the field and it is important to attract people who are qualified to research AI. Finland to be a leader in AI needs to remove obstacles and provide benefits for investments to grow and do brave decisions. Public sectors need to be high level so that society learns about their wellbeing, services and information comes to them in effective way. Establishing great deal of commitment and discussion will help to progress and experiment new things more quickly. There is also no doubt that AI will replace some of the jobs therefore it is vital that people learn new skills. Preparation for development and security challenges is key to avoid being latecomer in AI.

## **5 RESEARCH PROCESS**

Knowing the research process is an important step towards a thorough study or research. An in-depth analysis of the research process will allow us to recognise the similar characteristics in various fields and the variety of objectives and approaches to certain studies. Knowing the research process would also allow us to understand how effective and ineffective research involves deviation from the consistent approach to science, together with its related consequences.

### **5.1 Research methodology**

Data collection and analysis are based on two approaches: qualitative research and quantitative research. Quantitative research addresses numbers and statistics, and qualitative research addresses concepts and terms. Both study styles have different goals and techniques, both of which are important for different types of expertise.

For this research, the qualitative research method was applied by examining the marketing use of AI in order to investigate how AI is changing the digital marketing sector. The objective of this approach is to do a broader and more detailed study of AI in marketing.

Qualitative research is a way of interpreting things, organizations or societies more thoroughly. Qualitative research can provide us with a wide understanding of events, information on human groups and specific trends behind events and people, according to which form of phenomenon we are researching. While traditional laboratory research seeks a certain something, in the testing environment, qualitative research makes it possible to derive meaning, subjects or data from the study. Qualitative research uses approaches that are not quantitative in order to gain understanding about a population. (Stephanie 2016.)

It tries to understand a given research problem or topic from the perspectives of the local population it involves. In particular, quality research is useful in obtaining information on the beliefs, attitudes, behaviors and social contexts of specific populations from a specific cultural perspective. Qualitative analysis can help us view and understand more thoroughly the complex reality of a given situation and the consequences of quantitative data when it is used together with quantitative methods. Although

qualitative observations can often be applied to people with characteristics that are similar to those in the study population, the interpretation of a specific social background or phenomenon is generally rich and complex than the generalization of information to other geographical regions or populations. Qualitative research in this context is somewhat distinct from scientific research in general. (FHI 2015.)

Quantitative research involves data collection and analysis to clarify phenomena. Survey data is used to generalize or forecast the population. The designs of quantitative research are descriptive or experimental, whereby the association between two variables is measured (independent and dependent). (Stephanie 2016.)

The models for quantitative research are analytical, detailed and often investigated. The findings of this research method are logical, empirical and unbiased. The collection of data took place using a systematic process and was carried out using larger samples representing the entire population. Tables, graphs, or any other non-numerical formats are usually used to display the quantitative data. This facilitates the understanding of the data collected and proves the validity of market research. The results of this research method can therefore be generalized to the whole population in order to take suitable measures for improvement. (Bhat 2019.)

## **5.2 Document analysis**

This approach is used by sociologists to analyze social life, by analyzing documents, art, music and other cultural goods and media in terms of words and images. The researchers examine the use of the words and images and the context in which they draw inferences about the underlying culture. Digital content analyzes, especially those generated by social media users, are now becoming a popular social science technique. (Crossman 2020.)

Document analysis is a systematic approach to analyze or assess records, printed as well as digital files. Like other forms of qualitative research, the analysis of documents requires data to be analyzed and interpreted to produce elicited meaning, gain understanding and analytical knowledge. Documents include text and photographs captured without the involvement of a researcher. Researchers usually study the previous literature in their studies and include it in their articles. Nevertheless, if a list of documents examined is given, preliminary studies are often omitted. Previous studies are definitely a source of data, allowing researchers to rely on the definition and the interpretation of data instead of using the raw data

to analyze them. The analytical procedure involves the compilation, distribution, analysis and synthesis of the information in the reports. Text analysis produces data excerpts, quotations, or whole passages that is then grouped by content analysis into major themes, categories and case examples. (Bowen 2009.)

### **5.3 Articles and publications used in the study**

Intensive studies providing rich descriptions of a single occurrence, activity, organization or project, information analytics are particularly relevant to qualitative case study. The researchers can find meaning, develop understanding and learn from documents of all types, and learn about the research problem. In short, documents include background and context, more questions, additional data, a means of monitoring progress and growth, and the confirmation of results from other sources of information. Documents may also be the most efficient way to collect data if incidents can not be identified or informants have forgotten the details. (Bowen 2009.)

To carry out the research, many keywords relating to AI and marketing were used. This study looked at several online documents listed under the following keywords: artificial intelligence, digital marketing”, use of AI in marketing, future of marketing, benefits and risk of AI in marketing. The following table lists the articles and publications which were used for the research:

TABLE 1. List of articles and publications used for the research

|     |   |
|-----|---|
| 1.  | The Future of AI in Digital Marketing. Barker, S. 2019.   |
| 2.  | Five Essentials benefits of AI for digital Marketers. Brenner, M. 2019.                           |
| 3.  | Influence of Artificial Intelligence in Digital Marketing: A New Beginning. Colan Infotech. 2019. |
| 4.  | Should CMOs incorporate artificial intelligence in digital marketing budgets? Infosys. 2018.      |
| 5.  | Drop Into The Future of Digital Marketing. Inkbot. 2019.  |
| 6.  | Chatbots are the Future of Digital Marketing. Kim, L. 2019.                                       |
| 7.  | The 10 Best Examples Of How Companies Use Artificial Intelligence In Practice. Marr, B. 2019.     |
| 8.  | How AI Will Shape the Future of Marketing. Stefanuk, A. 2019.                                     |
| 9.  | The 5 Most Impactful 2019 Predictions for the Future of Digital Marketing. TechToday. 2018.       |
| 10. | Artificial Intelligence: Challenges, Benefits, and Risks. LuxTag Project. 2019.                   |
| 11. | The Future of Digital Marketing: Predictions to Thrive in 2019. Vaknin, M. 2018.                  |

## **6 RESULTS OF THE STUDY-ARTIFICIAL INTELLIGENCE IN MARKETING**

In recent years, many of the marketing practices are affected by AI tools. Many marketers agree that AI improves all areas where predictive analysis, decision-making and automation efforts are required. This chapter will discuss how AI is particularly impacting the marketing field.

### **6.1 Influence of artificial intelligence in marketing**

Nowadays AI is a popular topic. Everyone is talking about how this new technology is going to revolutionize multiple industries and this is true. AI can be now found in various application from facial recognition to language translators and virtual assistants like Siri. It is so common in everyday life that we hardly notice it. Multiple organizations in different industries are implementing AI technology into their practices. Implementing AI will bring multiple benefits to organizations and economies in case of productivity and innovation potential. However, the more AI will grow, the more professions will decline and the need for more versatile skills will be needed. (LuxTag Project 2019.)

AI has deeply affected online searches and the reliability of the overall user experience. In 2015, Google's experimentations with AI led to their machine learning-based algorithm RankBrain, which helps process search results. Amazon and other big e-commerce sites have since been accompanied by the use of AI in their search engines, which make consumer search more intelligent. Search engines will scroll through various sites with technologies like semantic search and natural language processing, and connect similar links, auto-correct errors and find relevant search results. Equipped with these innovations, consumers will find products that suit their criteria and expectations even though initially they were not sure what they needed. When big information technologies and social media platforms proliferate, advertisers are already working overtime to produce smarter and more successful advertising. Marketing teams dig deeply into keyword searches and social profiles using AI-based solutions. In the end, markets will deliver human-level results using this information collected by AI. (Stefanuk 2019.)

Customization was certainly the buzzword in the 2018 marketing world. We will find this trend even more important over the next twelve months and beyond,. The way customers react to marketing campaigns and interact with them is evolving. Traditional marketing approaches such as advertising in the print media and direct mail are not as powerful as before. One of the causes is that nowadays

customers prefer brands to tailor their location, demographics and preferences to communicate. According to Brenner, 40% of customers switched their brands in 2017 because of lack of confidence and lack of personalization. The 43% of businesses that customize the customer experience make many possible purchases. At the same time, 90% of brands will make use of some form of personalized marketing by 2020. (Brenner 2019.)

## **6.2 Implementation of artificial intelligence in digital marketing**

Implementing AI in different digital marketing strategies can change the way businesses interact with their customer. AI will help drive relevant traffic, get new consumers, boost sales and keep existing consumers.

Businesses are constantly considering using AI to control their marketing budgets. In line with industry forecasts, advertising spending on digital channels has risen by 20% per annum. By skipping intermediate system development, digital marketing itself implemented AI. Current tools for marketing automation already include customer interaction chatbots, speech recognition, translation on their websites and semantic search in the brand catalogues. (Infosys 2018.)

### **6.2.1 Personalized product recommendation**

Several companies in retail and ecommerce use AI technology to monitor consumer habits, preferences and buying behavior. This information assist them to make suggestions on services and goods that consumers might be interested in. The more information a company has about consumer behavior, the easier it is to plan a marketing strategy. This saves time and money when a company knows exactly what products to promote so that the consumer will make a purchase.

The use of AI in digital marketing and data analysis is more effective, faster and accurate to create a strategy than humans. It enables to design unique user experience for consumers, interact with them and boost ecommerce sales. One of the biggest ecommerce company, Amazon uses AI in its search engines to provide customized suggestions more efficiently. These suggestions by search engines help boost sales and revenue and it plays a major role in their system. Amazon's search engines collect data

regarding users items in chart, previous buying history or items they have like or viewed or others liked and viewed. (Barker 2019.)

### **6.2.2 Enhanced user experience**

The use of AI in digital marketing could transform the way people shop. Several companies are already implementing AI in digital marketing in their practices to better customer's shopping experience. Customers can now try products before buying them than just browsing them with an augmented reality tool.

Clothing retailer giant TopShop uses this AI technology to invent virtual fitting rooms to their newly opened shops. These shops enables consumers to see how different clothes look on them by simply standing in front of the big screen. Being in front of the screen, they will see a virtual version of themselves. This kind of AI technology will help consumers to try different goods without having to try them actually on. Apart from retailers, other industries are also slowly implementing AI technology in their marketing practices. Swedish furniture company IKEA takes this technology to a whole new level. IKEA is planning to launch an app that will allow consumers to visualize products in their homes before buying. This app will allow people to put dimensions in their rooms. Then they will be able to see how different products furnitures look based on designs. Consumer will select a product and then be able to see it as it would appear in their own home. Purchases can be made through the app, so customers do not have to leave their home. (Barker 2019.)

### **6.2.3 Better advertising**

AI in digital marketing helps businesses to reach target audience. Implementing AI in their systems will make it easier for organizations to target people. AI collects user information, analyzes it and forecasts its future behavior. With this data, companies can provide advertisement based on customer preferences. Moreover, using AI in digital marketing opens up new chances of creating successful advertisement campaigns.

Shoe manufacturer Airwalk used augmented reality and geolocation to promote their limited edition shoes Airwalk Jim. They used augmented reality to create invisible stores in New York and Los Angeles

for this campaign. For people to get access to these shops they had to download Airwalk app and go to Washington Square Park or Venice Beach. People going to these locations could discover virtual shoes that were connected to GPS. People who found these stores were taken to Airwalk's website. To make a purchase they would put a code that was given to them on site. These innovations are made possible with AI in digital marketing. (Barker 2019.)

#### **6.2.4 Chatbots**

Chatbots are a good example of AI. They can help customers virtually, for example asking Siri to set an alarm or Alexa to play a song. Many of them can assist interacting with consumers in an effective way. Chatbots can be used for websites, emails, text messages and apps. By using chatbots, businesses can reach their costumers in a more effective way. Chatbots have the capacity to answer most of the queries asked by consumers. They are also able to interact in human-like conversations to enhance better consumer experience. (Kim 2019.)

For instance, Starbucks is using AI technology effectively for its marketing purposes to supplement its employees. The Starbucks Barista bot helps consumers order their favourite coffee with minimal human interaction. It even understands complicated orders with special requests for example "small cappuchino nonfat mild hot with whip".

### **6.3 The Impact of artificial intelligence on digital marketing**

Nowadays, we can already see AI impacting every industry. AI have already shown us so many features such as its impact on businesses marketing growth displaying unique customer behavior. The real impact of artificial intelligence on digital marketing is experimented daily and marketers are still studying more ways to use AI in marketing. AI gets a lot of hard tasks done and is extremely convenient. AI benefits are many and it just keeps growing. Not every consumer wants the same content, since every consumer will be at a different situation of their life and also having the same kind of content for every consumer might not be very interesting to everyone. AI will help in this matter by helping to distinguish consumers from each other and by creating personalized content for each and one of them, and this way customer will get closer and closer to the business brand. AI tools are effective especially when used in e-commerce sites. One thing every e-commerce site has in common is a search bar. When a search bar is

used right, customer engagement becomes easier. AI will help understand better consumer behavior and then it is easier to make product recommendations to the user. E-commerce websites with the help of AI might increase their sales and consumer loyalty up to 45%. (Colan Infotech 2019.)

Big companies such as Amazon, Google, Facebook and other advertising sites are investing in AI to get the most of it. Right now especially in e-commerce, the benefits of AI is increasing. There are a few important things that AI has affected in an interesting way. It has increased user experience, improved prediction with ROI, helps decision making, sales forecasting, understanding user needs, furthermore, error rates are minimized and tracking users becomes easier. Even though information is available in different digital marketing places, still everything can be combined and implemented using AI tools designed for digital marketing. (Marr 2019.)

Email marketing methods have taken a big step towards innovation as well. Before AI, creating content for consumers through email was quite hard. But now, with AI tools companies can have personalized content written for specific consumer audience. This kind of content creation leads to increased sales by marketing businesses. Everyone will buy something but it will be based on moods and preferences. Therefore using AI in email functions will boost consumer base and purchases.

AI has made an impact on the advertising sector as well. Before AI one of the challenging tasks for companies was to control their advertising spending, but now, with AI automatic tools, predicting outcomes is more accurate and problems can be avoided. AI in advertising lets adjust marketing campaigns in mid-cycle which was not possible before where in regular condition AI marketers had to wait and see the impacts of the changes made earlier. This makes it possible to do quick decision even when campaigns are ongoing and money can be saved with automation tools like ML which are implemented on a daily basis. Although there are many benefits of AI, still many companies think twice before investing in AI. The reason being that benefits are not achieved overnight and its a never-ending process of A/B testing. This cannot be avoided, even if predictions have been made before. (Colan Infotech 2019.)

## 6.4 The Future of digital marketing

Digital marketing trends are constantly evolving and changing. Streaming services are making a big impact in the market currently. In the near future we will see marketers improve strategies to reach more consumers. Businesses that do not adjust will be losing opportunities to benefit with. (TechToday 2018.)

As digital marketing continues to improve, we will see more trends favoring its use in online marketing with the most efficient being brand video. One of the ideal platform to create inexpensive and open place to engage with consumers is social media especially with video content. Videos can help boost credibility of the brands by interesting stories, demos and leadership. The next big challenge for digital marketers is to attract consumers fast enough to catch their attention. Consumers have a short attention span, therefore many videos come in forms of teasers, trailers and snap content. (Vaknin 2018.)

Businesses have to start investing in blockchains as a way to progress strategies in marketing. With the help of blockchain, micropayments can be forwarded straight to users wallets whenever they engage with advertising emails and videos. By incorporating different technologies into blockchain, companies can engage and increase their audience in a new manner. It is predicted, that by 2021 advertising blocking endorsement will cost publishers 40 billion. Moreover blockchain technology enables marketers catch some of the revenue with different techniques: customers get paid by marketers for their attention and block out the Facebook and Google layer. (Vaknin 2018.)

Visual search technology is getting better and many businesses are starting to include it on their websites and apps. Especially for e-commerce retailers this is a big opportunity. Visual search technology could change searching habits over the years; and for retailers to stay relevant they need to adapt. This will enable technology retailers to personalize customer experiences and being able to analyze images, shapes and colours to create more personalized content. (Inkbot 2019.)

One of the biggest concern regarding the future of digital marketing will be customer data privacy. It is inevitable that more regulations are on their way to stricthen up responsibility of customer data. This will most likely effect digital marketing as marketers must follow the rules to succeed. Privacy regulations such as CCPA, GDPR and others have made customers more aware on how their data is used and shared by organizations, therefore, safety and security will be a big concern (Vaknin 2018.)

## 7 CONCLUSION

This thesis was aimed at exploring the impact of AI, especially in the field of marketing. This research focused on the implementation of AI, its risks, benefits and its impact on digital marketing, and its future. A qualitative research methodology was utilized to address these topics.

According to the outcome of the research, it is found that AI solutions will become, over the years, intelligent and promoting real-time decision-making. The digital marketers can significantly improve the performance or ROI of their campaigns. AI allows marketers to bring data and targets to a completely new level. Audience analysis can go beyond the typical demographic levels to understand people on an individual level. Marketers can use AI to recognize potential clients or consumers and to offer them the ideal content that is relevant for marketing campaign.

To have depth understanding of the research topic the following research questions were taken into account: How AI is influencing the marketing sector? How AI is being implemented on digital marketing? and What is the future of marketing? A qualitative research methodology was utilized to address these questions. It is found that AI is easily accessible to companies nowadays, making it a powerful resource for digital marketers. AI can explore wide open content frames and identify trends, allowing brands to communicate directly with customers in real-time via online conversations or events. Communicating with costumers at the precise moment of decision-making can help affect buying decisions. Customer service and retention will be managed by AI bots, many companies will be able to save time and expense on their workplace. AI bots have access to information and search history worthy of a whole internet which will make the internet more efficient than their human partners. However, as the majority of routine tasks and other robots are replaced by AI, human interference is becoming less and less troublesome for the employment standards. The minimum skilled individuals are replaced by AI robots by any organization, which can do similar work with greater efficiency. Because AI updates regularly, the hardware and software must be updated to meet the new requirements which can be challenging and costly to businesses.

Overall, AI is becoming popular due to it being more accurate and precise than humans, which leads to more work efficiency. Visual search, video branding, blockchain technology will determine the marketing sector in the future. Analysis, adjustments and predictions in digital marketing are easier now with the help of AI. Methods can be tested in smarter ways without losing too much money. On the other

hand, users are becoming more aware on how their information is used. Therefore, marketers have to attract customers in meaningful ways without copying too much of their personal information. In spite of marketing obstacles that will emerge in the future such as regulations, digital marketing is ready for possibility and variety.

In the author's opinion, AI is going to fundamentally change how marketers are doing their work, making ads more personalized, predictive, and automated than it has ever been. While the computer analyzes and decides at much higher rates and precisions than before, people still have the skills to challenge the conclusions of the machine and take final decisions.

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