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## Exploring The Barriers of Artificial Intelligence Adoption in Digital Marketing Landscape

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**Abstract:** *The growing capacity of artificial intelligence (AI) has been compared to how electricity transformed our world and industries a hundred years ago. AI is changing the rules, roles and tools of marketing, as marketing is one of the most prosperous areas to implement AI in. The purpose of this paper is uncover the reasons behind the adoption of AI within the field of digital advertising. It seeks to understand the motives that drive the AI adoption and identify the potential benefits and challenges that this process may entail. The authors strive to identify the key incentives for AI adoption and observe the benefits and challenges arising from this process with the help of qualitative analysis. An analysis of interviews with 20 experts from different industries related to Marketing and AI shows that AI have impact in Marketing processes and the impact will be bigger in the future. The research questions are how to use AI in digital marketing, secondly what are the future predictions in the field of digital marketing and AI and finally what are the potential AI enabled solutions in digital marketing. The conclusions of this study indicated that companies which leverage technology in their business strategies can gain an advantage over their competitors who remain to work in traditional ways. AI can predict, analyze and personalize one to one marketing messages to consumers at scale and with precision that humans are incapable of. Companies should not fear technology but embrace it throughout the core functions of the business bearing in mind the issues around ethics and data privacy. The best time to begin gathering business data is today.*

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## INTRODUCTION

Over the last years the digital transformation of the Marketing and in particular of the retailing activities has become very important to stay competitive in the increasingly dynamic

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markets. New technologies make it possible to increase sales growth, reduce costs, work globally, interact constantly and more direct with the customers (Ianenکو, Ianenko, Huhlaev, & Martynenko, 2018). As AI quickly becomes more sophisticated and widely adopted in marketing, the ability for marketers to effectively implement and manage it will become an ever more important skill. Likewise, individuals' understanding of their role in creating and distributing value in an AI-powered workplace is pivotal to the success of their career, the companies they work for, and the consumers with whom they interact. It thus stands that AI may soon insinuate sweeping change to the nature of marketing itself. The alternative opportunity that AI offers to social media marketing is using technology such as Influential. This AI application is based on augmented intelligence. It helps brands to connect with the right influencers from all social media platforms to boost their brand image. The way this technology works is by using AI to examine and categorize text written by every influencer on the platform. The analysis allows companies to be aware of possible results of influencer campaigns as well as which influencer suits their organization the best. For such technology to work, it is essential to acquire application programming interfaces (API) such as personality insight, natural language processing (NLP), and tone analyzer that can be provided by IBM Watson. Companies that are taking advantage of such an AI tool include Coca-Cola and BMW. (Influential 2019.)

AI may also be used to create viral content. As previously mentioned, personalized content is the key to maintaining long-lasting relationships with customers. However, generally, marketers have an obstacle of creating viral campaigns that reach millions. Presently, when we have an endless amount of content surrounding us on social media, viral content may seem almost impossible to accomplish. Yet, Blasmetric (2019), the tech company from Thailand, has discovered that AI technology helps to produce a viral campaign. This specific technology works approximately in the same manner as Influential as it can also identify appropriate influencers that reach the desired audience for a campaign to turn viral on social media platforms.

Emerging technology is being used in new creative ways to get the customers' attention by hyper personalizing content and making the entire process of purchasing smoother and faster. Everything in the data-driven world will constantly be learning with sophisticated algorithms, by tracking, listening and watching us and gathering massive amounts of user data, what is called big data. Digitization as a process consists of everything, we do but with intelligent data integrated into it. (Reinsel et al 2018.) Companies all over the world are using new technology and data to become more competitive, improve customer experience and even new business models are being introduced, thanks to the vast amounts of data and access to it with cloud computing. Researchers and scientists are sharing data with each other, in order to be able to advance faster and gain better, more accurate results with for example robotics, machine learning and artificial intelligence in general. (Reinsel & et al 2018.). Companies all over the world are using new technology and data to become more competitive, improve customer experience and even new business models are being introduced, thanks to the vast amounts of data and access to it with cloud computing. Researchers and scientists are sharing data with each other, in order to be able to advance faster and gain better, more accurate results with for example robotics, machine learning and artificial intelligence in general. (Reinsel & et al 2018.). The early adopters of new technologies were gaining an advantage from big budgets and solid IT infrastructures in the beginning, but now these big companies are bringing cloud based Artificial Intelligence (AI) services to the masses as well, which enable small companies to utilize AI. Artificial intelligence has become interesting for companies in all fields, especially the marketing sector. (Loucks 2019.).

**Research Problem:**

The research problem is formulated from the fact that many company leaders have not familiarized themselves with artificial intelligence and there is a huge gap between early adopters of technology and all the other companies. The companies that embrace technology have an advantage over their competitors. Often the company lacks innovative people who know about new technology and can drive the company into this direction. The implementation of technology into marketing processes is the key issue at hand. Technology is often seen as expensive, difficult, time consuming to learn to use and thus not cost efficient. In addition to these problems, some companies do not even realize technology, that could help them, exists. By exploring artificial intelligence, and understanding the basic concepts, one can begin to ask the right questions which can lead to successfully implementing AI into marketing processes and the gathering of relevant data. By exploring AI and AI software solutions, applications and digital marketing platforms it is possible to gain a better understanding of the options a company has to begin this journey of automation and utilizing technology to optimize the use of resources and create personalized content to customers in marketing and remain competitive in the changing markets of today.

**Aims of this Research:**

Given the significant importance of digital advertising and market trend of adopting artificial intelligence solutions to businesses, the authors of this study decided to conduct the research to address the perspectives of the artificial intelligence adoption in digital advertising. As authors of this study have identified a significant lack of research in the field of applying the concept of artificial intelligence in digital advertising environment, this particular research strives to investigate the phenomena by formulating three main research questions presented below: :RQ1: Which approaches of AI is used in Digital Marketing?

:RQ2: What aspects or phases of Digital Marketing are impacted using AI?

:RQ3: How is AI changing the Digital Marketing processes?

The first research question helps us understand how and which AI features can be applied to Digital Marketing. The importance of this question relies on capitalizing on AI aspects in terms of better understanding and usage of data analysis in Digital Marketing. In other words, marketers will have more precise insight into bringing decisions in the Digital Marketing field while relying on AI capabilities that affect data. The second question refers to which phases of Digital Marketing have AI been used. By this, the significance of this question can provide a better comprehension of how the usage of AI impacts Digital Marketing phases such as Exposure (Awareness), Discovery, Consideration, Conversion, Customer Relationship and Retention. It is essential to regulate a stronger cohesion among phases with AI help and simplification of implementing phases by wider usage of AI and less usage of human interaction. The third question relies on an understanding of how AI has enabled redesigning Digital Marketing processes. The concept of this question is central to investigate Digital Marketing processes of how they are changing under AI. In this way, we can grasp how AI should reshape these processes to get improved planning of Digital Marketing processes, which is most relevant to this question.

**LITERATURE REVIEW  
Artificial Intelligence (AI)**

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Artificial intelligence is a branch of computer science that aims to create computer systems that can act intelligently mimicking human like actions. A machine performing a task, as such when performed by a human, it is seen to have intelligence. In the business context, AI, more specifically machine learning, can be defined as the continuously declining cost of prediction. (Merilehto 2019.) AI is often referred to as intelligent code rather than artificial intelligence as the definition still varies depending on the perspective of the respondent. Computer scientists often seem to speak about intelligent code while marketing-oriented people like to use the words artificial intelligence. (Future Computed 2018.). Artificial intelligence (AI) is the ideology as well as the growth of computer systems that are able to undertake jobs typically requiring human brainpower. Examples include the ability of visual recognition, voice recognition, making tough decisions on difficult problems and aptitude to interpret languages. (Oxford University Press 2019.).

Strong AI (Artificial General Intelligence) is a machine with consciousness and mind, and this machine has intelligence in more than one specific area. Weak AI (Narrow AI) focuses on specific tasks (autonomous cars derive from Narrow AI) [5]. In addition, there are authors who hypothesize that computers may be better or smarter than humans, so there would be a new AI term, called Artificial Super Intelligence, but right now it's hypothetical.

According to Rosenberg (2018), based on the Constellation study, looking at investment in all sectors of the market, there will be an investment of over 100 billion euros per year in Artificial Intelligence in 2025, while in 2015 only 2 billion was spent. The Marketing industry will be no exception and there will be increasing investment in AI from McKinsey & Company's analysis of more than 400 AI use cases in 19 industries and 9 business functions, the authors Chui, et al. (2018) found that the greatest impact on the potential value of AI use is in marketing and sales, supply chain management and production. Consumer industries, such as retail and high tech, tend to see more potential in AI applications in marketing and sales because frequent, digital interactions between companies and customers generate larger datasets for AI techniques. E-commerce platforms can benefit from AI because of the ease with which these platforms collect customer information, such as click data or time spent on a website page, and can customize promotions, pricing, and products for each customer. Dynamically and in real time. The study uses cases that using customer data to customize promotions, for example, using individual offer personalization every day, can lead to a substantial increase in sales.

### **Digital Marketing**

Digital Marketing is defined as "the component of marketing that utilizes the Internet and online-based digital technologies such as desktop computers, mobile phones and other digital media and platforms to promote products and services". Thus, "the component of marketing" represents an integral part of Marketing among many other Marketing components, "utilizes the Internet and online-based digital technologies" means that Digital Marketing is using online platforms, hardware/software tools and other digital media networks to make marketing more useful and time-performance practical, and "to promote products and services" shows that the

primary goal of Digital Marketing is to digitally advertise commodity in the best possible way.

The Digital Marketing framework by Iliuta et al. [19] has used the model that considers the latest trends in Digital Marketing, and it can be most related to AI and its impact, which can be seen in Figure 1. Other proposed frameworks are also represented, and there are some matches among phases in terms of the content. Still, compared to the chosen one, they also contain some phases that are more considered a part of traditional marketing and/or sales funnel. Thus, due to the clarity and the best description of phases of the last-mentioned division, I will describe these phases more comprehensively for thesis relevancy and a better understanding of how Digital Marketing works.

The phase of Exposure, also well-known as Awareness, serves to aware new customers about the company's brand and product via digital tools such as SEO, search ads, email campaigns, social media, etc. During this stage, customers can learn which values the company represents, and there is a possibility to create trusted relationships. Thanks to the Internet, marketers are now much closer to attract a potential audience than before.

When it comes to the attraction of the prospect, the next phase is to grasp how to keep them on the website and come back. Therefore, in the Discovery phase, customers mainly focus on exploring products and learning more about the company's products and services. The most relevant example for this phase is recommendations. The company site offers recommendations based on previous customer searches to create customized content (good SEO practice is vital in this stage).

In the Consideration phase, customers are familiar with the company's brand, what it represents, and the values of such a product. Also, they know that the company has a solution to their problem to solve. Therefore, the most suitable strategy is to stress the company's benefits and differentials. On the other hand, the company is better engaged with customer's perceptions in terms of what they are looking for. In this way, the company can present facts that can demonstrate the productivity of the solution. Some examples of this phase are FAQ and case studies.

After presenting the product's benefits, the next move is to help customers bring the purchase decision. In the Conversion phase, customized content with sponsored links is the company's focus, concentrating only on its conversion. The completion of purchasing action converts visitors and prospects into customers. Many strategies can be used in this phase, such as free trials, referring friends for free purchase or discount on the larger purchased amount of products or services.

The next step is to get more closed and stronger bond with the customer. Thus, the Customer Relationship phase consists of the best possible customer service, clear communication and after-sales care. In other words, in this phase, the company updates customers about their products/services, provides them rewards and support for purchased products. For instance, using direct channels such as email marketing to communicate with the customers or video tutorials of how to use the product represents a reasonable basis for the long-term relationship.

Finally, it is essential to persuade customers to go back repeatedly to the same website to purchase within the Retention phase. If customers have a good experience and the product offers needed value, they will often return to make new transactions. In this way, customer loyalty is highlighted as the most crucial factor for the company's financial profit. Since regular profit remains stable by regular customers, it is necessary to make current customers as usual ones.

Digital advertising is considered to be one of the most dynamic aspects of businesses. It is a multi-dimensional part of the company's commercial strategy, powerfully shaping consumers interests in brands and their goods with the help of digital channels and Internet. Due to the continuous technological advancements, digital advertising can now provide ultimate effectiveness resulting in faster and more efficient consumer decision-making (Shirisha, 2018). Hence, to establish the importance of the subject, the further subchapters of this master thesis will focus on defining digital advertising as a whole together with briefly introducing its evolution and implications to the businesses. Therefore, due to the increasing popularity of Internet usage, digital advertising, together with digital marketing in general, became an incremental part of many companies' business plans. In order to make sure the brand is recognized among its' target audience and sales are reaching the goals, companies usually decide to deploy digital advertising strategies (Shirisha, 2018). Digital advertising is also revolutionized with the emergence of new technology and advertising platforms. More than 76% of people think that in the past two years, marketing has changed significantly more than in the 50 years before (Chibuzor, 2015).

### **Artificial Intelligence Implementing in Digital Marketing**

AI is playing a significant role in addressing the usage in Digital marketing, and it is generally defined as "science that deals with building intelligent machines that can think and respond like a humans". In this paper, the main AI definition will be presented as "transforming customer-facing services for digital marketers by increasing efficiency and optimizing user experience by data usage ". AI has become an increasingly important area in Digital Marketing to understand our target and collected data in a better way. Moreover, in the past years, AI has been a question of great interest in a wide range of Digital Marketing phases.

The concept of Artificial Intelligence was noted for the first time in Marketing in 1998 at Columbia University in a report on "digital bookshelves." In that time, this kind of algorithm has been used to give simple recommendations to the customers for what the algorithm "thinks" the audience will like. In 2013, marketers started to recognize AI for data analytics purposes in Digital Marketing to make data-driven decisions.

As described by Reitman, 1983, artificial intelligence applications for Marketing are mainly centered around different methodologies that marketers may use to apply such technology to their processes and systems (Reitman, 1983). He offers a view on marketing as a set of systems and processes that may be enabled by artificial intelligence on premises of knowledge base and expert systems. He also strives to present an overview of possible future trends within artificial intelligence technologies applied to business. However, his views are aimed to be applied to general business premises (Reitman, 1983).

Nowadays, Digital Marketing requires the processing of massive data in a more precise and faster way, and AI algorithms have become so progressed that soon they will make techniques by utilizing billions of tons of information. Therefore, the goal is to research how AI can be used in Digital Marketing and why AI is important in the Digital Marketing field. Thus, the importance of this topic comes from the expanded need to develop an immense quantity of data in Digital Marketing. Furthermore, how AI can change Digital Marketing processes such as planning, implementation, measurement or optimization by increasing efficiency through automation is also a question relevant for this topic to investigate.

The study's contribution is applicable as a summary of results that enable marketers to select, implement, or understand how they can use AI to further their marketing efforts. In other words, the summary could help Digital Marketing experts to adopt new ideas of how AI can be

used in their marketing strategy to boost the specific value or to gain a business result.

## **METHOD**

This work is an exploratory and descriptive study on a specific theme. The methodology that supports the research is qualitative and, above all, descriptive. Based on the context of the AI tools applied in marketing, presented in the previous points, this study made an analysis focused on the perspective of the people who work with AI, although consumers always assume themselves as central and structuring figures in research, due to their constant relationship with them.

As this is an exploratory and descriptive study, intend to understand the strategies of companies that use AI, the benefits, the challenges presented, the ethical issues and to understand the impact that these practices are having on companies' income. It is considered relevant to understand which elements are considered essential for the successful implementation of an AI strategy in Marketing, as this research aims to be a contribution to companies and a supporting document in the implementation of a successful AI strategy in marketing.

The first part of the study provided the theoretical underpinnings based on secondary information from scholarly articles, journals, reports and books. In the second part, the primary data collection was performed to be analyzed together with the theoretical bases.

### **Interview Data Collection**

To collect primary data to meet the objectives, interviews were conducted as a qualitative study method. For semi-structured interviews, the interview script was not rigid, and the answers were open.

The questions asked were based on the knowledge obtained during the literature review. The choice of specialists was made through contacts via LinkedIn or by contacting companies directly. In the profiles of respondents there are computer science professionals, data scientists, consultants and marketers. Notes were taken during the conversations with the experts and were extracted and summarized the essential content, and then analyzed according to the research objectives. The evaluation and discussion of the results was guided by the research questions defined and the literature review.

Table 1 show the specialist's profile, with information about their country of origin, their professional area, organization and their acronym.

**Table 1. Experts Interviewed**

Name	Country	Profession areas and organization	Acronym
Geoffrey hinton	UK	Professor in University of Toronto	Exp:01
Gary Marcus	USA	CEO of geometric intelligence	Exp:02
Demis Hassabis	UK	CEO of DeepMind	Exp :03
Nick bostrom	Swedin	Professor in Oxford university	Exp:04

Raymond Kurzweil	USA	Director in Engineering at Google	Exp:05
Cynthia Breazeal	USA	Professor in MIT	Exp:06
Andrew NG	USA	CEO of landing AL	Exp:07
Jurgen Schmidhuber	Germany	Google Scholar	Exp:08
Peter Norvig	USA	Director in Engineering at Google	Exp:09
Fei fei Li	USA	Professor in Stanford university	Exp:10
Richard sutton	Canada	Professor in University of Alberta	Exp:11
Andrew karpathy	Slovakia	Director of AL in tesla	Exp:12
Ian Goodfellow	USA	Director of machine learning in apple	Exp:13
Yann lecun	France	Director of AL research in Facebook	Exp:14
Jeremy howard	Australia	Researcher at Fas.ai	Exp:15
Russ salakhutdinov	Canada	Professor in carnegie mellon university	Exp:16
Alex smola	USA	Director in Amazon web services	Exp:17
Rana Al kaliouby	Egypt	CEO of Affectiva	Exp:18
Daphne koller	USA	CEO of insitro	Exp:19
Michael I jordon	USA	Professor in University of California	Exp:20

## RESULTS AND DISCUSSION

The data analysis of data gathered from in depth theme interviews is a long process that consist of multiple phases from analysis to reporting. The analysis was structured according to the research objectives. First, the benefits of integrating AI into digital Marketing will be cited by respondents and compared with data gathered from the literature review. Next, all factors that influence the slow integration or non-integration of AI in digital Marketing will be collected and described. It will then show how companies are using AI in their digital marketing strategies, and

whether they able to integrate AI into their digital marketing processes and finally will be made an analyze of the impact that AI has on digital marketing costs and revenues.

### **Benefits of AI Integration in Digital Marketing**

In my there is still a lot to come in this field. As far as artificial intelligence has been implemented in the field of marketing practices it has been done within limits of not changing too radically. This is very reasonable since than the change comes naturally and in cooperation with the developments in the customer behavior and environmental factors. Marketing Processes can profit quiet strongly from further implementing the technologies and developing their approaches. It helps marketers to get more insight into the black box that is between the company and its customers. Furthermore, I think that over time the customers will learn to appreciate the opportunities that artificial intelligence provides in terms of interaction with companies and their products and services. As with everything new and unknown there are a lot of concerns and insecurities in the beginning. But if the researchers address them right and develop their practices in accordance, they can lower the barriers and gain the appreciation of the customers.

### **Identifying AI problems in digital marketing:**

The responding experts were asked what ethical issues they see with the advances in AI implementation. They all mentioned the collection and usage of data as being the main Concern, and not the various AI-tools applied to marketing themselves. Alex smola that the technology always opens new opportunities, making it possible to test new things that crosses the ethical line. The explosion of supply and demand in most Fields of business has caused a flow of information that makes marketing very difficult. Identifying the marketing problem helps a company build a AI strategy. In traditional marketing the customer is in a funnel through which the journey progresses. The traditional funnel can also be transformed into a flywheel, which is a modern version of the traditional funnel in which the customer is in the center and everything around it revolves around the customer. An approach is to find the weakest spot in the sales and marketing funnel or flywheel and to utilize AI in it to take control of the customer journey and to become more reactive at all stages from awareness, consideration, evaluation, purchase, loyalty, retention, based on real time data, not just a feeling or based on memory. Microsoft has software that can be integrated to a companies' existing software and can be customized to the needs of the company once the business problem and marketing problem has been recognized. This does not require deep knowledge of the capabilities of AI but nevertheless as many of the interviewees have said, the basic knowledge of AI is relevant to everyone. The companies which do not adopt the change that is happening now and realize that marketing is in fact becoming more important will not succeed as the companies that do.

## **CONCLUSION**

The fundamentals of AI and usage of digital marketing AI framework presented in this study provide a comprehensive base into the field of artificial intelligence and digital marketing. The objective of this qualitative research is to explore Artificial Intelligence in marketing, discover future predictions in the field and to achieve to gather the information needed to deliver

recommendations for experts. 20 in-depth interviews with the some of the most knowledgeable experts in world in the field of computer science, marketing and business were conducted. Accordingly, the findings of this research can only be viewed as completely valid for the investigated cases, in line with our philosophical standpoint.

Thus, the purpose of this study has rather been to attain a deeper understanding of how marketing managers are affected by increased levels of AI-capacity. However, as this is a multiple-case study, the findings can favorably be viewed as stronger as and more robust than would be the case for a single-case study (Herriott & Firestone, 1983, referred in Yin, 2009, p. 53). As such, we believe that these findings might be applicable to similar firms as the ones investigated. However, as this study has been limited to only investigating a few cases, of which all except one are Swedish firms, and directly or indirectly involved in the retail-industry, we suggest further qualitative research on more cases and with different characteristics.

Furthermore, as AI has many different implications on the role of marketing managers, as shown through this study, research should focus on each specific area as showed in the visualization in section 6.7. This is necessary in order to attain a deeper understanding in each area, as this exploratory research only touched upon each of them briefly. Many of the findings relate to research areas of their own, such as data privacy, thus there is already active research in the field. But, for other findings, we have not been able to find previous research, such as the indication of a greater degree of outsourcing specialized solutions in marketing departments. We therefore suggest future research to test this trend quantitatively. For example. the next CMO Survey could include an instrument that measures to what degree marketing departments outsource solutions as a result of higher technology requirements.

Moreover, research should be conducted regarding the skill-set marketing managers will need to possess to be successful, as the findings of this study indicates there will be a great demand of strong technological skills, emotional intelligence and creative and intuitive capabilities. Further, as the findings of this study points in the direction of major labor layoffs in marketing departments due to increased automation, future research should investigate this further as it has major consequences for education and society as a whole.

Lastly, the findings of this study indicate that competition will intensify as of increased AI-capacity, which will lead to more niched and specialized products and brands. This implies that firms need to adapt to this at an early stage, in order to continue being an attractive choice for their customers. Thus, we suggest future research to investigate successful strategies when transitioning towards hyper differentiation.

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