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The impact of AI-powered digital marketing operations: empirical evidence from case studies

Relatore
Prof. Marco Bettiol

Laureando
Maria Vorsobina
n° matr. 2007107 / LMSGC

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ABSTRACT

Background: Artificial intelligence has brought big changes into digital marketing practices during the recent years. However, even if AI-powered technologies and big data allow the development of new innovative solutions in digital marketing, the application of them is still in its beginning. This research topic has been of great interest between researchers but previous studies provide little information related to data that marketing specialists should implement in AI-powered digital marketing operations in order to achieve the best possible results.

Purpose: This paper focuses on the impact of AI-powered digital marketing operations. Therefore, the aim of the paper is to explore what kind of data marketers should use in AI-powered digital marketing operations in order to achieve the best possible results by the theoretical framework developed by the authors. The aim is also to provide an understanding of the factors that affect properties of the data.

Methodology: In order to answer the research question an empirical research was conducted and data was collected through semi-structured interviews using guidelines inspired by literature review. Participants in the semi-structured interview consisted of people who are working with Salesforce Marketing Cloud for their digital marketing operations.

Results: The study largely supports the literature review, but also offers new insights related to data perspective in AI-powered digital marketing operations. The study suggests that in order to succeed in AI-powered digital marketing operations, the data should be high quality data, as well as complete and reliable. In this way, marketing specialists can get deeper, effective and more precise results. The result also revealed that external data is playing an important role, so internal data should be combined with external data. Furthermore, data privacy issues are affecting the data collection process and it is important to keep in mind the trust of customers. However, before implementing AI in digital marketing operations, marketers should understand the company's business goals.

Conclusion: All in all, this research contributes to the AI-powered digital marketing literature in the specific context of data-driven approach. The theoretical framework has been updated by the emerging findings from the qualitative analysis.

Keywords:

digital marketing, AI, data-driven, operations, qualitative research

ABSTRACT IN ITALIANO

Background: L'intelligenza artificiale ha portato grandi cambiamenti in operations del marketing digitale negli ultimi anni. Tuttavia, anche se le tecnologie basate sull'intelligenza artificiale e i big data consentono lo sviluppo di nuove soluzioni data-driven nel marketing digitale, la loro applicazione è ancora in fase di sperimentazione. Questo argomento di ricerca è stato di grande interesse tra gli studiosi ed esperti di marketing operations. Tuttavia pubblicazioni recenti forniscono pochi dettagli relativi ai dati che i professionisti del marketing dovrebbero utilizzare nelle proprie attività di marketing digitale attraverso sistemi informativi automatici basati sull'intelligenza artificiale per ottenere i target aziendali efficacemente con un approccio data-driven.

Obiettivo: Questa ricerca sperimentale si concentra sull'impatto delle operazioni di marketing digitale basate sull'intelligenza artificiale. Pertanto, lo scopo di questa tesi magistrale è esplorare quale tipo di dati dovrebbero essere utilizzati nel contesto dichiarato, al fine di ottenere i target aziendali basandosi sul framework teorico sviluppato dai ricercatori. Lo scopo è anche quello di fornire una comprensione dei fattori che influenzano le proprietà dei dati.

Metodologia: Per rispondere alla domanda di ricerca è stata condotta una ricerca sperimentale basata sui dati empirici con metodologia qualitativa. I dati sono stati raccolti attraverso interviste semi-strutturate utilizzando linee guida dal framework teorico. Il target delle interviste è stato definito nel perimetro di professionisti che utilizzano la piattaforma Salesforce Marketing Cloud, leader del mercato mondiale degli strumenti per il marketing digitale basato sull'intelligenza artificiale, big data e database relazionali.

Risultati: Questa ricerca sperimentale approfondisce il framework teorico e arricchisce questo con nuovi insight circa la gestione delle banche dati in funzione dell'intelligenza artificiale. Questo caso studio suggerisce ai professionisti del marketing che la qualità, completezza e quindi affidabilità delle banche dati è imprescindibile al fine di utilizzare automazioni basate sull'intelligenza artificiale. In questo modo, gli specialisti del marketing possono ottenere risultati efficaci e processi strutturati ed efficienti. Inoltre, i risultati delle analisi qualitative suggeriscono il tema chiave del combinare non solo i dati interni delle aziende ma includere nella pianificazione strategica anche i dati esterni. In aggiunta, il tema della privacy circa le banche dati è protagonista delle attenzioni degli specialisti sul campo poiché la privacy è sempre più un argomento sensibile per la fiducia dei clienti sia in ambito retail che industriale. Infine, data la complessità tecnica in ambito operation dell'IA, gli esperti di marketing dovrebbero coniugare gli obiettivi aziendali con un approccio data-driven.

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INTRODUCTION

Artificial intelligence (AI) is such a familiar concept, but at the same time still so unclear and far away. Artificial intelligence has been a popular topic to discuss and research since it was declared to be the trend both in marketing and in other industries during 2017. Artificial intelligence and its vast potential has brought big changes into digital marketing practices during the recent years and big technology companies invest a lot of money in artificial intelligence research (Campbell et al., 2020). Artificial intelligence is succeeding especially in the field of marketing, where personalization and user preferences are paramount (Campbell et al., 2020). As Vishnoi et al. (2019) are stating, AI is not only creating new opportunities in digital marketing practices but in the end it is awaited that it will reshape marketing in general (Vishnoi et al., 2018).

The reason why companies are interested in investing in the use of artificial intelligence is the new opportunities it brings and possibility to acquire and process huge amounts of data by AI-powered digital marketing tools. Furthermore, companies see the possibility to get competitive advantage by implementing AI in digital marketing operations. The opportunities offered by artificial intelligence make it easier for marketing specialists to focus on tasks that require expertise, creativity and intuition that machines cannot perform like the human brain. However, AI can take a large part of the routine work of marketing specialists. In this way, the ideal balance between marketing specialists and AI would be one where the AI would add value, efficiency and new dimensions to the work (Vishnoi et al., 2019). Nevertheless, Campbell et al. (2020) write in the research article that the development of AI-powered systems will be seen as a gap between companies that implement it early and the ones that will not do so. The researchers identified an importance of a strong digital base for companies in implementing AI in their marketing activities: “Research suggests that early adopters will likely be those

organizations with a strong digital base and, as such, a higher propensity to invest in AI" (Campbell et al., 2020). Particularly interesting technologies for artificial intelligence from a digital marketing point of view are machine learning and technologies that enable machine learning, such as neural networks and deep learning (Davenport et al., 2019). These technologies are of particular interest because they are able to handle incomplete data, learn from errors, and find nonlinear contexts (Davenport et al., 2019). However, even if AI-powered technologies and big data allow the development of new innovative solutions in digital marketing, the application of them is still in its beginning. Artificial intelligence and its implementation in digital marketing has brought some challenges too. One of the challenges is for example that for marketing specialists it is often unclear how they can incorporate artificial intelligence into their own marketing strategy and refine it into the work (Hoyer et al., 2020).

Artificial intelligence has been studied for a long time, but still it does not have one clear definition, and in this way the concept of artificial intelligence suffers from the problem of too many definitions (Poole & Mackworth, 2010, Russell & Norvig, 2016, Haenlein & Kaplan, 2019). Previous research literature on artificial intelligence and its implementation in digital marketing operations suggests further research on this topic even if the AI has existed already for decades. Lately AI and its correlation to digital marketing operations has attracted a great interest of researchers and marketing specialists who are implementing AI-powered tools in their work activities. However, previous studies provide little information related to data and for example its sources that marketing specialists should use in implementation of AI-powered digital marketing operations in order to achieve the best possible results. In fact, Alshura et al. (2018) exactly suggest further research on big data qualities for understanding what kind of data qualities allow achieving the best possible results in AI-powered digital marketing. For marketing specialists it is very important and even

essential to understand the data related issues and therefore the research related to data issues is considered as relevant research.

Data is a very important factor in implementing AI-powered digital marketing operations and since nowadays there is more data available than ever before, it offers great opportunities to marketing specialists. Before marketing specialists were struggling to find relevant data for their marketing operations, instead nowadays they are struggling to extract relevant information from huge amounts of data (Verma et al., 2021). Big data creates new and more successful possibilities for greater performance and better decisions in digital marketing optimization than it was possible before, in order to utilize their investments better. Marketing specialists use AI-powered digital marketing tools for example for the following purposes: sermentation, targeting, positioning, content personalization and recommendations, social media optimization, as well as for creating better customer experience (Verma et al., 2021 & Ansari, 2021).

This master's thesis focuses on the impact of AI-powered digital marketing operations. Therefore, the aim of the study is to explore how a company adopts AI-powered systems in digital marketing operations and what kind of data marketers should use in order to achieve the best possible results. The aim is also to provide an understanding of the factors that affect properties of the data. In such a manner, the data collection methods and the data management practices are explored. Furthermore, the research explores the role of internal and external data.

All in all, this study explores the following main research question:

- What is the role of data in effective AI-powered digital marketing operations?

Furthermore, this study explores the following three research sub-questions:

- What kind of data is needed?

- What is the role of internal and external data?
- How should the data be captured and managed?

The resources used in this study can be divided into two different groups, into primary sources (interviews) and secondary sources (research literature). In order to answer the research question and sub-questions an empirical research was conducted and the data was collected through semi-structured interviews using guidelines inspired by literature review. Participants in the semi-structured interview consisted of people who are working with Salesforce Marketing Cloud in digital marketing operations and are experts in their field. In this study, the secondary sources, so the research literature, are academic texts that have been searched through keywords (for example, artificial intelligence, digital marketing, data) and selected for their relevance to the study.

This study consists of introduction, six chapters, conclusion, reference list and appendices. In the introduction there are discussed the following aspects of the research: background of the research, its purpose and objectives, research questions, materials used and structure of the paper. The literature review is divided into three chapters in order to define key terms in AI-powered digital marketing and several theories and research are discussed. The first chapter takes a closer look at artificial intelligence, machine learning, deep learning and big data. The second chapter explores digital marketing and current applications of AI in digital marketing, as well as benefits and challenges of AI in digital marketing. The third chapter presents the role of data in AI-powered digital marketing, so the data type and data sources that are needed in order to run effective digital marketing operations. Additionally, data capturing and its management are presented. Instead, in the fourth chapter Salesforce Marketing Cloud is presented. The fifth chapter outlines the methodology. Consequently, all the steps that were taken in the research are explained in detail. This chapter starts with introducing the research approach

implemented in this study, followed by the qualitative research and semi-structured interview explanation. Later data collection, analysis, research quality and ethical consideration are discussed. In the last chapter, it presents the data collected through semi-structured interviews and its analysis. The analysis is based on the data collected and the literature review that was presented in the first three chapters. In conclusion, the main outcomes of the entire research are summarized and conclusions are drawn, including limitations and future research suggestions. Reference list presents all the literature that was used to support this master's thesis. At the end of this paper there are appendices that include semi-structured interview questions that were used in order to collect primary data, as well as all interview transcriptions.

1. ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

This chapter presents a general theoretical framework of artificial intelligence, machine learning, deep learning and big data that is built thanks to the existing previous researches that are conducted in the field of the topic. Understanding of these concepts is very important in order to answer the main research question and sub-questions.

1.1. Artificial intelligence

Despite the long history of artificial intelligence (AI), it has been difficult to agree on only one definition. That is why there are several definitions that include different concepts regarding AI over time. In this chapter, there will be presented the most relevant definitions for this research, in order to understand better use of AI in digital marketing.

Artificial intelligence became a field of research after the Dartmouth Summer Research Project on Artificial Intelligence (New Hampshire, USA) in 1956 (Moor, 2006). The goal of the project was to bring together researchers from different fields with the aim of creating machines that simulate human intelligence. During the seminar, AI was defined as a program with common sense and it became a research discipline (Moor, 2006 & Somalvico, 1987). In 1987 Somalvico defined AI as a discipline belonging to information technology, that studies the theoretical foundations, methodologies and techniques that allow design hardware systems and program systems capable of providing performances that for a normal person could seem to be similar to human intelligence. The definition proposes to overcome in some areas the limits of information technology, setting as an objective improving and extending the services offered by computers (Somalvico, 1987). Somalvico

(1987) highlights that AI is an experimental discipline, in the sense that an artificial intelligence system meets the required objectives only when the desired performance is actually measurable.

In 2016 Russell and Norvig defined AI as the following: “AI as the study of agents that receive precepts from the environment and perform actions. Each such agent is implemented by a function that maps percept sequences to actions, and we cover different ways to represent these functions, such as reactive agents, real-time planners and decision-theoretic systems”. So these systems capture the data in order to perform tasks for reaching objectives. Russell and Norvig (2016) also divided and organized AI definitions in four different categories. The four categories are named in the following way: thinking humanly, acting humanly, thinking rationally and acting rationally. Two categories are concerned with thought processes of reasoning/thinking and other two categories with behavior/acting. The definitions are also divided into capability of reasoning, performing and acting as human, or ideal way of reasoning and acting (rationality). “Historically, all four approaches to AI have been followed, each by different people with different methods. A human-centered approach must be in part an empirical science, involving observations and hypotheses about human behavior. A rationalist approach involves a combination of mathematics and engineering.” (Russell & Norvig, 2016). So in other words, each approach was developed further by different scientists that were implementing different kinds of methods related to artificial intelligence in different fields.

Thinking Humanly	**Thinking Rationally**
"The exciting new effort to make computers think . . . *machines with minds*, in the full and literal sense." (Haugeland, 1985) "[The automation of] activities that we associate with human thinking, activities such as decision-making, problem solving, learning . . ." (Bellman, 1978)	"The study of mental faculties through the use of computational models." (Charniak and McDermott, 1985) "The study of the computations that make it possible to perceive, reason, and act." (Winston, 1992)
Acting Humanly	**Acting Rationally**
"The art of creating machines that perform functions that require intelligence when performed by people." (Kurzweil, 1990) "The study of how to make computers do things at which, at the moment, people are better." (Rich and Knight, 1991)	"Computational Intelligence is the study of the design of intelligent agents." (Poole *et al.*, 1998) "AI . . . is concerned with intelligent behavior in artifacts." (Nilsson, 1998)

Table 1: Some definitions of artificial intelligence, organized into four categories (Russell & Norvig, 2016).

The definitions "thinking humanly" focus on creating machines that think like humans and they try to replicate processes, representations and results of human thinking in a machine. The second type of definition related to "acting humanly", focuses on action itself and not only on thinking, so the process for arriving at the action. So in other words, the definitions focus on creating machines that act as humans. Instead, so-called "thinking rationally" concentrates on creating machines that think rationally, so their decisions should be optimal. The last "acting rationally" definitions focus on making machines that act rationally. So these AI systems have to make the right choice and so act in a correct manner thanks to the ability of rational acting. Going forward, in 2010 Poole and Mackworth defined AI as the following: "AI is the field that studies the synthesis and analysis of computational agents that act intelligently". In this definition an agent is seen as someone or something as for example human, robot or airplane that acts, and its actions are seen intelligent in the following cases:

1. its actions are relevant and right for conditions and goals set
2. it is flexible in changing conditions and its goals set
3. it learns from experience
4. it makes relevant and right choices given its perceptual and computational limitations.

In addition, Haenlein and Kaplan (2019) use in their article the following AI definition of ESCP, Europe Business School (Paris, France): “A system’s ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation”.

As it can be seen from the previous definitions of AI, many scientists agree with the basic idea that artificial intelligence makes a machine do something that can be called intellectual in human activities. The ultimate idea in many AI technologies is to model the human brain and how it works in problem-solving situations. In other words, aiming to study, design and build intelligent machines that can achieve objectives. The complication over the definition is largely due to the lack of a single universal definition of “intelligence”. Although, in most cases intelligent operation is broadly identifiable, it is difficult to determine a certain threshold beyond which machine operation can be classified as intelligent. Intelligence itself is not usually perceived as a single attribute, but consists of a set of several distinct attributes, as it can be seen from the definition of Poole and Mackworth (2010). All this considered, AI interprets data correctly that comes from outside without any human help, learns from it and exhibits flexible adaptation. (Haenlein & Kaplan, 2019). With the result of performing tasks close to human-like behavior.

AI includes several subcategories including different kinds of applications and key technologies such as: machine learning, deep learning and neural networks (Davenport et al., 2019). These subcategories of applications will be discussed later in this chapter. Other applications of AI are natural language processing, rule-based expert systems, physical robots and robotic process automation (Davenport et al., 2019). However, these applications are not discussed forward in this research. As Siau & Yang (2017) are writing: “Machine learning is an approach to achieve artificial intelligence, and deep learning is a branch of machine learning and a technique for realizing machine learning. Deep learning focuses on algorithms inspired by the structure and function of the human brain”.

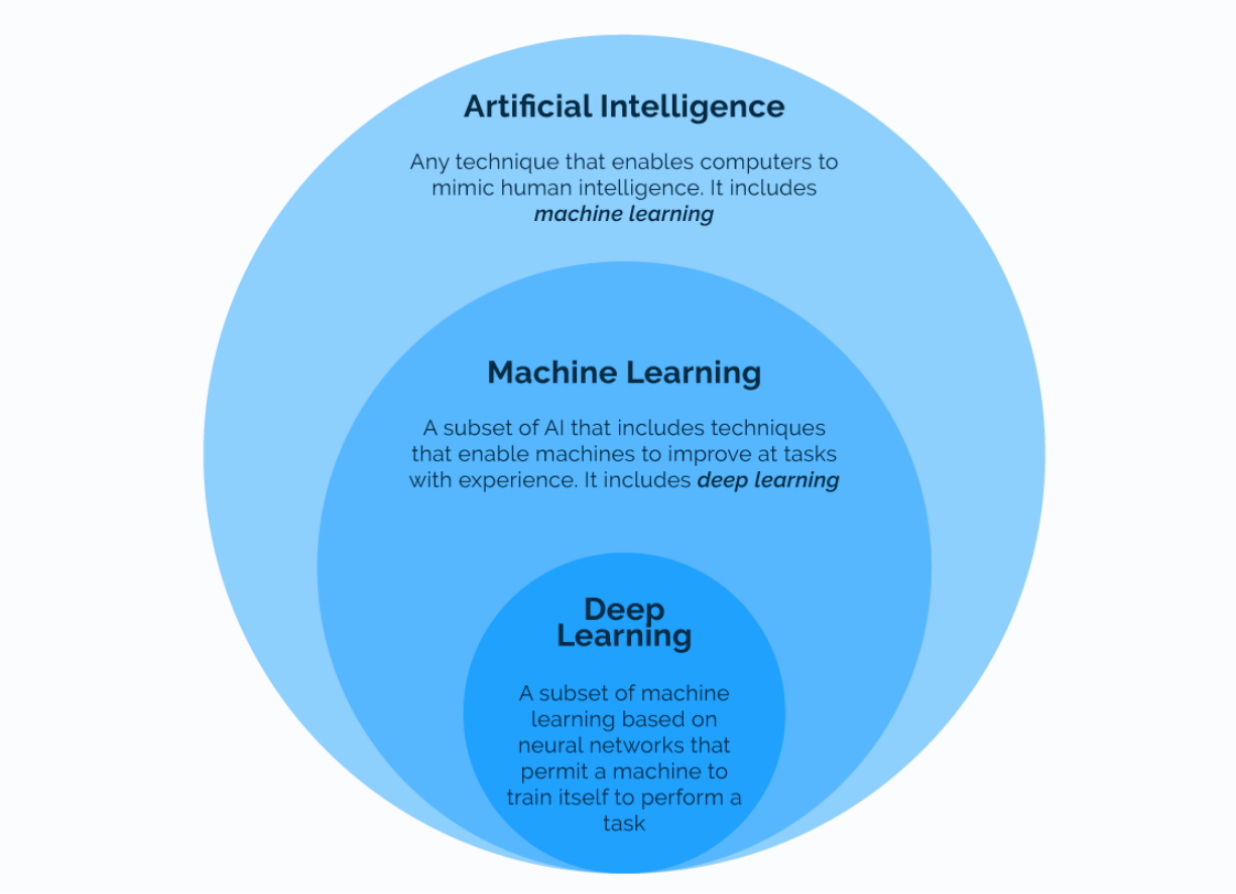

Figure 1: Summary of artificial intelligence and its sub-categories (Argility, 2022).

AI is often divided into two different categories: strong artificial intelligence and weak artificial intelligence. Strong artificial intelligence or artificial general intelligence

means a machine that has intelligence in more than one specific field, so consciousness and its own mind, and in this way a machine is capable of operating intelligently in more than one task. Weak artificial intelligence or artificial narrow intelligence, instead, focuses on one defined task/problem. So in other words, it is not able to learn to extend into new fields (Siau & Yang, 2017). The objective of weak artificial intelligence is not to think like a human, but to carry out specific complex activities. Therefore, a strong artificial intelligence must be able to show a higher level of understanding of the tasks it performs, while in the development of a weak artificial intelligence, what is most interesting, is the correctness of the end result obtained from the process (Siau & Yang, 2017). Application of weak artificial intelligence is relevant for this research, as nowadays most AI technologies are weak AI and used in business areas such as digital marketing. For example, more and more companies are using weak AI for their services as chatbots. Chatbot is a software that simulates conversations with humans, as if they would be humans too. All in all, it is very important to understand the definition of artificial intelligence and its implementation in order to use it for example in digital marketing operations.

1.2. Machine learning

A subcategory of artificial intelligence is machine learning (ML) that is an analytical AI application commonly used around different companies (Davenport et al., 2019). ML is a field of research with more than 50 years of history that, as its name implies, enables the machine learning of systems (Campbell et al., 2020). The idea of traditional programming is that system developers design and define rules for the machine, so how to act in each situation. Instead, the idea of machine learning is that the machine learns from the examples or data entered into it, which can be in different formats (e.g. numeric, text, audio, image, video) (Jarek & Mazurek, 2019). Campbell et al. (2020) gives a definition of ML: “An application of AI that provides

systems the ability to automatically learn and improve from experience without being explicitly programmed." So, ML algorithms model the learning process of the human brain, in order to improve performance based on new information created by sorting input data. All considered, instead of following specific predefined rules, ML aims to learn from the available data.

Artificial intelligence models of ML are produced by teaching; either in advance on the basis of a large amount of example data or through so called rewards that direct the artificial intelligence model in the desired direction (Russell & Norvig, 2016). An example of problems that machine learning technologies solve is recognition of images, facial expressions or keywords inserted in a text (Jarek & Mazurek, 2019). Therefore, machine learning is the solution to all artificial intelligence problems that cannot be coded by humans through predefined rules or steps written in programming code, but which humans are able to solve naturally. Machine learning has been considered particularly suitable for situations where a phenomenon is not understood or its modeling is seen as too hard, but still sufficient data is available on the phenomenon (Russell & Norvig, 2016). Indeed, most real-world problems today are by nature such that it is significantly easier to collect a huge amount of educational data than to define operational rules for each situation separately.

The learning process can be divided into two parts: data collection and making conclusions based on analysis and insights (Jarek & Mazurek, 2019). The intelligent operator must collect sufficient information about the environment and process this information in order to understand broader issues. It is important to have a sufficient amount of information in order to identify different correlations and come up with a reliable result. Indeed, the general perception is that a person is able to demonstrate better knowledge on a more accurate basis, and to make more reasonable assumptions about the context, from the wider scope that person has experience with. Skill refinement, on the other hand, is based on the use of learned skills and the

correction of wrong aspects in action (Russell & Norvig, 2016). Mechanical data processing enables the processing of massive amounts of data, so the system can be trained in a wide range of different types of scenarios (Russell & Norvig, 2016).

Machine learning is divided into three areas differing from each other by the type of learning that software or hardware accomplishes thanks to data to make predictions about future phenomena: supervised machine learning, unsupervised machine learning, and reinforcement learning (Russell & Norvig, 2016, Campbell et al., 2020). When using supervised machine learning, training data is entered into the machine, in which the desired input and output pairs are defined in advance. For example, the more messages a user marks as spam and others as good emails, the better the e-mail spam filter will be. In other words, the data sets are pre-labeled and the output is already defined, the machine will only have to learn to identify the patterns. When using unsupervised machine learning, the machine searches the data for similarities or connections without being told what to look for. For example, a retail information system may suggest classifying customer types into groups based on their purchasing habits. Typical applications of unsupervised learning include various recommended solutions and data analysis of consumer behavior (Russell & Norvig, 2016). So ML learns processes, complex schemes and the interrelation between inputs and outputs by itself. In solutions based on reinforcement learning, the algorithm seeks to optimize its performance in complex environments with some criteria for desired and unwanted performance. For example, systems based on reinforcement learning have learned to play games better than humans. In this case, the systems have only been told that the increase in the score counter is a positive thing, when the game is over and what can be done with the controller (Russell & Norvig, 2016). The factors that identify the approach to be preferred are the purpose of use, the volume of data held and the structure of the data. Examples of machine learning applications in the most advanced companies are the calculation of the value of the customer life cycle, the determination of dynamic prices and the

implementation of recommendation engines, mainly used in e-commerce sites or streaming services (Davenport et al., 2019).

1.3. Deep learning

Deep learning (DL) is a subfield of machine learning and a specific machine learning technique that right now is in continuous development. DL is a higher level of ML because it is based on learning algorithms that do not need to be managed manually and the data does not need to be necessarily structured (Janiesch, 2021). The algorithms used in deep learning are modeling the structure and function of the human brain. The purpose of the algorithms is to understand how the brain is able to recognize and interpret images, as well as language (Janiesch, 2021 & LeCun, 2015).

The system uses artificial neural networks to operate in multiple layers and the result of the previous layer is used as input to the next layer. The data is processed in a non-linear way. Layers of neural networks are composed of interconnected nodes that data passes through and each of these nodes learns and stores memory. Deep learning enables learning that can be carried out either in supervised, unsupervised or semi-supervised ways as it was explained in previous paragraph related to machine learning. The best results in the development of machine learning so far have been obtained by utilizing deep learning neural networks. (Janiesch, 2021, Wang, 2020 & LeCun, 2015).

In order to get a reliable output, algorithms like in machine learning are using a very big amount of data, so called big data (Janiesch, 2021). The data can be in different formats (e.g. numerical, text, audio, image) (Wang et al., 2020). Deep learning algorithms are often used in digital marketing and they can give an insight to what a

person may think while watching for example on a marketing campaign. As well as, deep learning algorithms are able to find patterns and relationships in the data again for example used for digital marketing operations that can be impossible for the human brain (Janiesch, 2021).

1.4. Big data

Machines with artificial intelligence need a big amount of data in order to perform right and generate an accurate output. Nowadays, different organizations but not only, also consumers, are generating a huge amount of data that can be used for analysis. As Hurwitz et al. (2013) state: “As business processes are growing more wide and complex and organizational-friendly technology becoming ingrained into the mainstream operations” (Vishnoi et al., 2019). This huge amount of data is so called “big data” that is referring to the extrapolation and composition of relationships on huge amounts of data in order to highlight correlations between phenomena, with the consequence of predicting future events (Vishnoi et al., 2019 & Alshura, 2018). In marketing, often this information is about individual consumers and used in order to better understand and predict their behavior (Martin, 2016). “Marketing departments thus use this smart data for customizing their product offering in tune to customer-centric requirements.” writes Vishnoi (2019). Instead, Chambell et al. (2020) write about competitive pricing advantage: “Some firms are using dynamic pricing, supported by big data and AI, to help gain a competitive pricing advantage”. On the whole, big data can be used by a company for several different purposes.

There are three characteristics, so called 3Vs that data must have in order to be defined as big data: volume, velocity and variety (Vishnoi et al., 2019 & Martin, 2016). Other characteristics of big data are veracity, value, variability and complexity (Gani, 2015). Volume of the data is very important because the quantity makes it

possible to elaborate an extremely accurate sample of the phenomenon in question. Velocity of acquisition is another important factor, which can bring a considerable competitive advantage to companies. Since big data is usually available in real time (Gani, 2015). Instead, variety refers to the data that was acquired from various sources, for example web pages, social media or different kinds of documents. Big data can include text, images, audio and video (Gani, 2015). Then talking about other characteristics of big data, veracity, refers to the reliability and so to quality of the data. In other words, it is not enough just a big amount of data but it is important to pay attention to its quality and sources (Gani, 2015). Feature that big data must have is the value that the data itself creates for the end consumer, that can be a company or the final customer. It is therefore irrelevant to collect data if it does not have a specific purpose or usefulness. Gani (2015) explains an issue related to variability of big data in the following way: “Simply knowing that data is in fact sufficiently accurate, not spoofed, not corrupted, or comes from an expected source is difficult. This is an important issue known as big data veracity”. The last characteristic of big data is complexity that should be considered in order to organize it better. Complexity includes connection and correlation of relationships, hierarchies and multiple data linkages (Gani, 2015).

For effective data analysis it is important to know the types of data and its structures in order to be able to manage and analyze them correctly (Vishnoi et al., 2019 & Alshura, 2018). Structured data is easier to analyze as it is predefined and sorted. Instead, unstructured data does not have a predefined data model or it is not organized according to standard criteria. Common examples of unstructured data are for example video or audio files. Lately, the share of unstructured data by companies has grown. Semi-structured data is a combination of the previous categories (Vishnoi et al., 2019 & Alshura, 2018). However, these aspects related to data types and its structure will be discussed more in detail in the literature review chapter 3.2.

Recently, the importance and use of big data has become much more widespread from a business perspective, including digital marketing operations. However, it is difficult to apply traditional data processing practices to big data, as generalizations do not directly scale to big data, and traditional methods may easily process data incompletely, even if the data is widely used. One way to take advantage of neural networks to process big data is to group the data and gather relevant information from a large amount of data. In this way, the data subsequently processed is more appropriate and gives better results (Stateczny, 2014). However, it is important to remember that forecasts are always based on historical data, and when making forecasts, the market may not function anymore in the same way as the data is showing. All in all, big data is very important in business practices nowadays.

2. AI IN DIGITAL MARKETING

This chapter provides an overview of the theoretical framework related to the use of AI in digital marketing. Therefore, first this chapter provides a definition of digital marketing. Next, the current applications of AI in digital marketing are examined, such as segmentation, targeting, positioning, content personalization and recommendations, social media optimization, as well as customer experience. Finally, benefits and challenges of AI in digital marketing are presented and discussed.

2.1. Digital marketing

In recent years, development of advanced technologies has significantly changed attitudes towards marketing and its implementation. The internet has increased people's own activity in searching for information, analyzing and comparing companies and their products, as well as services they offer. As Desai (2019) is writing about the 2000s: “Customers started searching products and making decisions about their needs online first, instead of consulting salesperson, which created a new problem for the marketing department of a company”. That is why it is important for companies to keep up with this development and strive to be accessible for consumers. Digital marketing (DM) creates huge opportunities for companies from a business perspective, an excellent foundation for growth and reaching their objectives, but success in implementation still requires knowledge in digital marketing operations (Desai, 2019 & Man, 2020). Moreover, there are several challenges and constraints in promoting and expanding digital marketing (Man, 2020).

Digital marketing is the marketing of products or services on electronic platforms using any type of digital technologies, mostly on the Internet, but also like mobile phones or display advertising (Desai, 2019 & Krishen et al., 2021). Accordingly, DM considers the internet to be one component of digital and brings together all the interactive digital tools that marketers can use to promote products and brands. Digital technologies are used in order to create unified, targeted, and measurable communication for acquiring and retaining customers, while creating deeper relationships with them (Desai, 2019). Krishen et al. (2021) says: “Definition of digital marketing could be: the application of data, ICT-based technology (e.g., artificial intelligence), platforms (e.g. social networks), media and devices to extend the scope of marketing within both physical and virtual spaces, for the purpose of improving customer relationships by empowering, informing, influencing, and engaging consumers”. In other words, digital marketing is aiming to create direct and personalized relationships with customers. DM uses artificial intelligence and Internet of Things (IoT) in order to reach marketing objectives in following environments: consumer-to-consumer, business-to-consumer and business-to-government. (Krishen et al., 2021).

It is important to distinguish the term digital marketing from the term internet marketing, as digital marketing does not use only internet-based solutions to serve customers. Digitalization today means much more than just taking advantage of the internet. Olson et al. (2021) writes: “The internet is a communication platform rather than a marketing tool. It is a medium through which commerce can be transacted and specific marketing tactics can be employed. Tactics are the means by which a chosen strategy is implemented. While this was certainly understood in 2001, the year Michael Porter published his seminal article on strategy and the internet during the intervening years, the number and sophistication of internet marketing tactics have grown dramatically. These tactics now fall under the broader moniker of digital

marketing”. Therefore, digital marketing seems to be a much more appropriate term than the previously popular internet marketing.

The concept of digital marketing can be thought to consist of two parts. The first section highlights the different platforms, tools, technologies and channels that marketers use for digital marketing. Platforms provide a foundation for content, in addition to tools and technologies that interact with customers through channels. Organizations need to integrate these digital platforms and tools into existing business and marketing processes to reach the benefits of digital marketing (Krishen et al., 2021, Desai, 2019 & Man, 2020). Digital marketing includes the following tactics and the channels: search engine optimization (SEO), social media marketing, content marketing, affiliate marketing, native advertising, marketing automation, pay-per-click (PPC), email marketing, inbound marketing and online PR (Desai, 2019). Search engine optimization includes all the steps that can be taken to improve a website's ranking in search engines and thus increase company's visibility. Social media marketing is a practice that promotes a company's content on social media and email marketing as a way of communication through email platforms (Desai, 2019). Content marketing literally involves highlighting content through online channels such as blog posts or eBooks. Instead, affiliate marketing includes promotion of someone else’s products or services on their own web page (Desai, 2019). Desai (2019) states about native advertising: “Native advertising refers to advertisements that are primarily content-led and featured on a platform alongside other, non-paid content”. Through marketing automation can be automated basic marketing operations, such as sending emails and newsletters. Pay-per-click is a method of getting people on a website by paying when an ad is clicked (Desai, 2019). Inbound marketing is explained in the following way by Desai (2019): “Inbound marketing refers to the "full-funnel" approach to attracting, engaging, and delighting customers using online content. You can use every digital marketing tactic listed above throughout an inbound marketing strategy”. And the last one, online PR

is a practice to secure earned online coverage (Desai, 2019). All considered, these are important tactics and channels for digital marketing operations.

The second part of the concept is including motives and objectives that are behind doing digital marketing. The aim is to make a profit for business by acquiring new customers and maintaining relationships with existing customers (Desai, 2019). These can be achieved by digital marketing products and services that a company is offering. However, digital marketing is not a set of separate measures, but the objectives are usually achieved by integrating both parts of the definition, so tools with objectives together. Today, DM has overtaken traditional marketing, since it reaches more people and makes a company implementing it more transparent (Desai, 2019 & Krishen et al., 2021). It is suitable for any type of business or enterprise regardless of size. Digital marketing should therefore be part of the marketing plan of every modern company. As Krishen et al. (2021) are stating: “The adoption of innovative devices and techniques in digital advertising and marketing has provided more convenience, a wider reach, cost-effectiveness, and the ability to cross boundaries of distance and time”. Therefore the advantages of digital marketing can be seen as a possibility of precise targeting and measurability of results. Potential customer groups for a company’s product or service are identified and profiled. Targeting can be done according to age, gender, place of residence and interests. For example it is possible to obtain accurate information and descriptions of how widely an ad has been reached or how many clicks it has received, as well as how many have contacted the company after seeing the ad. Results can be achieved even with a small budget and digital marketing in many cases is cheaper than traditional marketing. As a result, a company gets more value for its invested capital and marketing is more interactive (Krishen et al., 2021).

However, there are several challenges and constraints in promoting and expanding digital marketing. Challenges in DM can be faced for example in the following cases:

skills gap, maintaining quality of e-services and designing digital content (Man, 2020). In other words, digital marketing can face a risk of failure due to, for example, poor design of the digital content. The competition in the digital world may come as a surprise to a company. The same technologies that enable the target to a wider geographic market will also allow companies further away to enter local markets. When a company starts digital marketing, it enters global competition, and that is why competitor analysis should not be limited to local competition (Man, 2020).

2.2. Current applications of AI in digital marketing

There are several applications of artificial intelligence in digital marketing that are very useful and bring many new possibilities for companies in their marketing activities. However, AI does not only bring new possibilities in digital marketing but is reshaping it too (Vishnoi et al., 2018). In 2018 Shankar argues that AI will allow marketers to better understand what consumers are thinking and in this way create relevant marketing campagnes. In other words, applying AI to digital marketing is important because it allows a company to market their products and services in accordance with the exact preferences of consumers. “AI can help marketers in visioning strategic orientation of firm” writes Verma et al. (2021). In this paragraph, there are discussed some of the most relevant and significant areas of current AI applications in digital marketing. According to researchers Verma et al. (2021) and Ansari (2021), artificial intelligence is playing a crucial role especially in strategy and planning, in areas such as segmentation, targeting, and positioning. Nevertheless, there are also other applications of AI in digital marketing that are implemented in the following areas: creation of personalized content and recommendations, media optimization and customer experience (Verma et al., 2021).

2.2.1 Segmentation, targeting and positioning

Since there are many different consumers and all of them have different kinds of needs, a company should divide them into groups based on common factors. The purpose of segmentation is to find suitable market segments by dividing customers into different segments by classifying them based on, for example, gender, age or their needs (Ansari, 2021 & Huang & Rust, 2021). Thus, segmentation refers to the division of the customers based on demographic and psychographic factors. With segmentation, companies do not have to try to design a product for all consumers, but for different groups. Ansari (2021) identifies 4 fundamental factors of a market segment: “A market segment has four components: (1) it must be identifiable, (2) it must be economically reachable, (3) it is more homogeneous in its characteristics than the market as whole, and (4) it is large enough to be profitable”. Artificial intelligence can be used in order to better identify and detect new customer segments using mining and grouping techniques (Verma et al., 2021, Huang & Rust, 2021 & Campbell et al., 2020). AI makes segmentation more accurate and can divide the market into segments of only one person (Huang & Rust, 2021). Various patterns that are difficult for humans can also be better identified through artificial intelligence and, in particular, machine learning (Verma et al., 2021). As Ansari (2021) writes: “Inadequate segmentation and clustering problems could lead to missing the strategic marketing opportunity or not cashing in on the rewards of a tactical campaign”.

Once the segmentation is completed, the company needs to identify and select the segments they can best serve. This selection is called targeting (Ansari, 2021 & Huang & Rust, 2021). Targeting aims to select as customers the consumers who are considered to be the most suitable for the products or services offered by the company, and thus also the most profitable for the company (Ansari, 2021). It is often advisable for new businesses to start by selecting and focusing just on one

segment, and later serve more segments. In digital marketing AI-powered systems can be used for targeting. Artificial intelligence can take advantage of this collected data to make various recommendations and modelings on which segment a company should target its digital marketing activities (Huang & Rust, 2021). Ansari (2021) notes that more accurately the customer segments are formed, more successful will be targeting appropriate segments and media channels. There are several reasons why a company would like to implement targeting. Key reasons are the following: better sales performance, new possible customers, better customer loyalty, long-lasting relationships with customers and a possibility for even more targeted digital marketing. Not only a company benefits from targeting, but customers too, because they are included in more relevant digital marketing activities for them (Huang & Rust, 2021).

The selection of segments is followed by positioning. Positioning refers to the image of a product or service in the minds of consumers (Huang & Rust, 2021). The purpose of positioning is to make the product or service offered in some way different from competitors, so that consumers have a reason to buy it instead of other alternatives. In other words, the most important goal is to create a unique position for the product or service offered (Huang & Rust, 2021). For example, a cheaper price or better quality than competitors can be used for positioning. Positioning emphasizes the product's features and its benefits to potential customers. A study by Daabes and Kharbat (2017) finds that data mining by artificial intelligence can make a customer-based observation map of their preferences related to a company's products or services. Based on this information, a unique position for a product can be created in the minds of customers when their preferences are more clearly known to those in charge of digital marketing strategy (Huang & Rust, 2021). Huang & Rust (2021) gives examples of very successful positionings in the market such as Nike's "Just do it" and Apple's "Be different". As well as, according to the researchers: "Feeling AI, such as feeling analytics, is ideal

for this strategic decision to help develop compelling slogans by understanding what resonates with target customers" (Huang & Rust, 2021).

2.2.2 Personalization

Personalization is a digital marketing action that has always been one of the key factors for the success of a company and, especially in recent years, companies have been looking for methods and technologies to deliver tailor-made offers and digital marketing activities to consumers. Personalization is based on personal and direct relationships between a company and consumer, therefore it focuses on the customer and its satisfaction (Kumar et al., 2019). It is one of the digital marketing actions that allows to have content, messages, offers and experiences personalized for an individual customer during its customer journey, based on its interests (Martin, 2016). Previously, it was possible to implement personalization in the way that the final consumer had to express its preferences, while now companies and organizations can create personalized digital marketing activities using big data and machine learning systems (Kumar et al., 2019). Nowadays, AI-powered solutions are very important for companies' success and therefore companies using AI in their operations are more proactive and efficient in offering valuable and personalized digital marketing, building both short-term and long-term relationships with customers, as well as increasing profitability (Kumar et al., 2019 & Libai et al., 2020). This is possible not only because of the new AI-powered solutions but also thanks to the big amount of data that is available.

Artificial intelligence plays an active role in the personalized digital marketing content creation process and also provides important information for improvement in the future (Campbell et al., 2020 & Kumar et al., 2019). The impact of AI on content is much greater than expected. Moreover, while AI creates content for a company, it

takes into account sector-specific assessments, user experiences and requirements. In addition, AI-powered systems have the ability to analyze the relevance of content with different tools and modify it according to the requested criteria (Huang & Rust, 2021). Improvement of the content ensures satisfaction in the long-term relationship between customers and the company. AI-powered systems provide more efficient user experience and guide users according to their needs. Artificial intelligence can be used, as it was mentioned before, for personalized content production, such as for example customer emails and advertisements but also for determining a company's digital marketing action plan (Huang & Rust, 2021). AI algorithms can analyze the target segments, wish lists, social media activities and previous contacts related to a particular brand, and combine this information in the form of personalized digital marketing content (Huang & Rust, 2021). Artificial intelligence tools thus help to create increasingly intelligent, more modern, and more relevant content while enhancing the work of marketer through automation. However, the production of digital marketing content cannot yet be fully relied upon by artificial intelligence because at the moment, it is more a matter of human-machine cooperation and machine assistance (Campbell et al., 2020 & Kumar et al., 2019). The production of content using artificial intelligence only works, as it was mentioned before, for texts that follow strict boundary conditions, and human-defined models are required before content can be created automatically (Campbell et al., 2020 & Kumar et al., 2019). Therefore, more complex content still requires the assistance of a human marketer.

AI-powered customer relationship management (CRM) tools are seen as one of the main drivers of personalization (Libai et al., 2020). These AI-powered solutions are highly flexible, allowing to create a personalized dialogue with any consumer. In fact, they are able to take into account the purchases and interactions performed with the customer from the first interaction, adapting the digital marketing strategy to the individual consumer (Kumar et al., 2019). In order to take the most advantage from

CRM tools Shankar (2018) defines the strategy: “CRM strategies must be location-specific, time-specific, and channel-specific in addition to being customer-specific”. Huang & Rust (2021) writes in the research paper: “Any marketing functions and activities that can benefit from personalized outcomes should consider “thinking AI”. The most common applications in digital marketing are various personalized recommendation systems, such as Netflix movie recommendations and Amazon cross-selling recommendations”.

Up to now, artificial intelligence systems are implemented to perform mechanical and analytical tasks but these functions are not sufficient for the interested parties. That is why, AI-powered solution developers are aiming to create systems capable of carrying out communication that is able for example to imitate empathy and human intuition, allowing companies to understand in advance what are the needs of consumers (Huang & Rust, 2021). In this way, marketers will be able to develop customer retention programs in a more aware manner with respect to the needs of their customers, increasing the value extracted during the relationship (Libai et al., 2020). All in all, AI-powered solutions provide deep customer insights, opening the door to great personalization opportunities. Thanks to these opportunities, marketing specialists are no longer concentrating resources on general consumer groups, but on specific consumer segments.

2.2.3 Social media optimization

Social media optimization (SMO) is a process in which the idea is to generate online content aiming to make consumers interact with a particular website, brand, product or service. This kind of content, once it is generated, will give rise to interest and in this way increase visitors on the website to which they will be addressed. Artificial intelligence is often used in this process as it is able to make accurate targeting of

segments on different media channels such as Facebook, Google and YouTube (Shankar, 2018). Shankar (2018) gives an example of media optimization that an Australian online gift retailer uses through AI-powered digital marketing platform "Albert": "Albert targets audiences, mixes and matches creative assets, buys media, and runs campaigns across both paid and earned media channels, including Facebook, Google, and YouTube. It also learns cross-channel effects and adjusts allocation to optimize the return on marketing investment. It also looks for new audiences that RedBalloon had never considered before by trying thousands of text-image combinations on micro-segments and tracking their triggered responses". In other words, AI-powered solutions can help a company to identify the most profitable channels through which it is the best to run digital marketing activities. In addition, AI analizes cross-channel results, learns from them and optimizes for future use (Shankar, 2018). Another example is Google Ads (before Google Adwords). Kietzmann et al. (2018) writes about the example in the following way: "Using AI, Google analyzes search-query data by considering not only keywords but also context words and phrases, consumer activity data, and other big data. From there, Google identifies potentially valuable subsets of consumers and more accurate targeting". Therefore, Google Ads analyzes a huge amount of consumer data in order to provide valuable information for digital marketing to marketing specialists in order to choose the most profitable channels too (Kietzmann et al. (2018).

2.2.4 Customer experience

Experiences, images and feelings from the company's operations, all together form customer experience. It also contributes to the interaction between a company and customer, through the customer's conscious and subconscious mind (Shankar, 2018 & Hoyer et al., 2020). Every interaction between company and customer affects the final customer experience. Customer experience is always subjective because it

involves a lot of images and emotions that are always personal and that is why it also changes and develops over time (Hoyer et al., 2020). Thus, it is not even possible for a company to fully manage the customer experience, but companies can only make a choice about what kind of experience they want to offer to their customers (Hoyer et al., 2020). The purpose of the customer experience is to create added value for the customer at every point where the customer and the company interact, and thus achieve a competitive advantage. The aim is that with each interaction, the amount of value the customer receives would increase. The value experienced by the customer is at its simplest the difference between the benefit received and the sacrifices made. The benefits can be, for example, the experience the company brings to the customer, while the sacrifices made by the customer are time and money spent during possible purchase (Hoyer et al., 2020). In addition to the difference between the benefits received and the sacrifices made, the final perceived value is also strongly influenced by the customer's expectations and previous experiences. For this reason, the value experienced by the customer is always subjective, as consumers have different perceptions of what good customer experience is about (Hoyer et al., 2020). Moreover, AI-powered digital marketing does not only influence the company but customers too (Shankar, 2018). Hoyer et al. (2020) argues that AI-powered systems are dramatically affecting the customer experience and in consequence relationships that are between both parts (Campbell et al., 2020). Impact of AI-powered systems is seen in the creation of customer experiences themselves and later in their management, as well as the possibility to improve customer experience by analyzing the data related for example to the customers interests, feelings and behavior (Campbell et al., 2020 & Shankar, 2018). All considered, AI-powered systems are very useful in managing customer experience too.

2.3. Benefits and challenges of AI in digital marketing

Given the previous definitions of artificial intelligence and digital marketing, it is easy to understand that there are plenty of advantages for a company in adopting AI-powered solutions in digital marketing operations. Benefits for companies are the following: highly profitable segmentation, targeting and positioning in order to be able to predict what a customer is interested in, being able to launch personalized digital marketing campaigns in real time and through the accurate social media channels (Verma et al., 2021 & Ansari, 2021). However, the advantages of using AI-powered solutions do not only concern their potential use at any moment and the possibility of increasing or decreasing their use based on the changes in demand, but above all they manage to lighten the workload of human marketers. Especially, the workload that consists of standardized and repetitive tasks, which occupy a lot of time, and therefore allow marketers to concentrate on more complex and profitable activities (Jarrahi, 2018). In other words, AI-powered solutions help marketers to perform better by analyzing the data faster and with more precision and provide more accurate insights. This affects positively on revenue through the improvement of marketing decisions and consequently decreases costs thanks to the automation of some tasks of the digital marketing function such as aspects of customer experience or the segmentation and targeting phases (Verma et al., 2021 & Ansari, 2021). Artificial intelligence is used to increase the intelligence of products, services or solutions that a company is providing (Shankar, 2018). In these cases, AI-powered systems and marketers can support each other's abilities. AI can provide better performance addressing complexity over human capabilities, and marketers can offer a more complete and instinctive approach than AI can perform (Jarrahi, 2018). AI performs with intelligence and error-free decision-making (Vishnoi et al., 2018). That is why it maximizes accuracy and minimizes human error. AI-powered tools can also perform different kinds of tasks difficult or even impossible for marketers (Jarrahi, 2018). It is also important to remember that not only companies are

benefiting from implementation of AI in digital marketing operations, but customers too. Since they get for example more personalized content and offers.

In addition to the opportunities offered by artificial intelligence presented above, artificial intelligence naturally has its own challenges as a marketing tool. By using AI-powered solutions, marketers can process big and complex data by finding very important information for marketers. However, it might not be able to determine when a certain information is becoming valuable, as creative and strategic thinking of a marketer still plays an important part in the process (Jarrahi, 2018 & Kietzmann & Pitt, 2020). Artificial intelligence systems based on machine learning are learning softwares, so they learn like a small child and that is why it cannot be programmed but must be taught. Indeed, the greatest challenge of AI-powered solutions can be seen in its demanding and slow deployment (Brynjolfsson & McAfee, 2017). In order to be effective and useful for a marketer, the AI system should use a huge amount of data for analysis in sequence to be able to produce valid conclusions and outcomes (Janiesch, 2021). In some cases, there may not be enough data for the algorithms to learn from it and not all data can even be encoded in a machine-understandable format. The teaching process is time consuming and requires the marketer's own involvement. It is also important to remember that human control is still required because there might be some errors. Moreover, artificial intelligence cannot justify why any solution was reached (Brynjolfsson & McAfee, 2017). In addition, if an AI makes a mistake, it may be very difficult to determine and correct the cause of the error because of the complex reasoning chains of artificial intelligence, so in other words it may be possible to understand exactly what went wrong (Brynjolfsson & McAfee, 2017). As it was discussed in the previous paragraph 2.2.2. AI is used for personalization in order to create more accurate digital marketing content, however in some cases digital marketing messages and content of a campaign might become too personalized and completely lose its natural nature (Martin, 2016). Artificial intelligence data analysis also involves risks related to ethics and privacy because

customers may feel uncomfortable when the marketer has very detailed information about them (Martin, 2016). This will be discussed more in detail in chapter 3.3. when data capturing and management procedures and requirements will be presented as well.

Furthermore, marketers may find the use of artificial intelligence contradictory in the way that on one hand, it brings a lot of new possibilities to digital marketing, but on the other hand, it involves a great amount of ambiguity and doubt. Marketers are asking themselves, how artificial intelligence could keep customers happy and let alone provide them with the best possible customer experience (Hoyer et al., 2020). Artificial intelligence system is an impersonal machine that performs the functions taught to it (Russell and Norvig, 2016). For this reason, artificial intelligence with its current operating capacity should not completely replace human marketers. For example, it is better to not let AI-powered systems alone rely on the planning of all digital marketing activities. Good customer experience and added value is created when customer expectations are exceeded (Shankar, 2018 & Hoyer et al., 2020). Of course, artificial intelligence performs the task assigned to it very well, thus meeting the expectations placed on it, but only marketer can exceed those expectations. Because the marketer is able to offer the customer something extra according to the situation. An example of that could be sharing marketers' own experience appropriate to the situation. Artificial intelligence can personalize the customer experience, but only a marketer can make it personal with its own input and small gestures (Jarrahi, 2018). Sympathy creates a real bond with the customer, and this is not what AI-powered systems are capable of doing, at least right now. The algorithms work systematically and are excellent at predicting consumer behavior but only the marketer himself can surprise and deviate from the formulas. All in all, artificial intelligence and machine learning are very important in digital marketing operations but still require further development because there are some challenges that are faced by marketing specialists while implementing those systems.

3. THE ROLE OF DATA IN AI-POWERED DIGITAL MARKETING

In this section the role of data in AI-powered digital marketing is presented. Since for marketing specialists it is very important to understand these aspects in order to implement effective AI-powered digital marketing operations. Therefore, the role of data, definition of data types and sources, as well as data capturing and management strategies are presented below.

3.1. The importance of data

For a marketer it is very important to understand the role and importance of data when planning an AI-powered digital marketing campaign. This is due to the fact that data is an element without which a marketing specialist would be in trouble. Furthermore, it is important to know what kind of data is needed, how it should be collected and then managed considering all issues and possible risks that might appear during the whole process. In this way, a marketer should be aware of the possibility of data-driven decisions in order to optimize digital marketing performances to improve efficiency and profitability of an investment. As Vishnoi et al., (2019) is referring to Allen (1985): “As technology companies like Google, Facebook, Twitter and YouTube having billions of users, constantly generating large quantity of data and invests hugely in these disruptive technologies, data analytics tools, data monitoring and analysis techniques and associated business models for creating lifetime value”. From this consumer data can be extracted very useful and meaningful information for a company's decisions through analysis of AI-powered tools (Vishnoi et al., 2019).

Amount of data in customer databases is constantly growing with nowadays available internet and mobile technologies. However, the recent big data “revolution”

does not mostly happen due to the fast increase of the amount of data, but due to the ability of advanced AI-powered systems to process huge amounts of data and create relevant information about it (Verma et al., 2021). Companies collect information into databases such as customer's demographic and psychographic factors, purchasing behavior and the use of media channels (George & Haas, 2014). Even so, customers' data is often not displayed systematically or it is not immediately available. With the growth of data, it is not possible to process data efficiently without help of technologies, such as artificial intelligence powered systems. AI-powered solutions are for example able to detect emerging trends hidden in data and predict common insights, recurring patterns of consumer habits, customer needs, prevailing attitudes and beliefs, as well as mindsets of competitors (Vishnoi et al., 2019). Indeed, artificial intelligence, machine and deep learning are much faster and precise in analysis based on big amounts of data than traditional data processing could do (Campbell et al., 2020 & Wang et al., 2020). That is why for a marketer it is important to understand the role of data in AI-powered digital marketing activities.

There are several benefits and challenges that artificial intelligence brings into digital marketing, as it was seen in chapter 2.3. There are also several benefits that data itself is giving to marketing experts, especially through the use of AI-powered digital marketing (Alshura, 2018). The importance of data can be seen in the following performances such as: segmentation, targeting, positioning, personalization and media optimization (Verma et al., 2021 & Ansari 2021). Using data of customers, a company can plan and develop even better its AI-powered digital marketing strategy and its key areas. Furthermore, thanks to data a company can successfully innovate its products and services offered and in this way get more new customers (Alshura, 2018). As it was discussed in chapter 2.2.4., benefits from data are seen also from the customer side through customer experience and so it does not bring benefits

only to the company. Using AI-powered solutions, gives a possibility to process data pretty fast and so increase marketing returns (Campbell et al., 2020).

The challenges of data analysis are particularly relevant to the exploitation and deployment of big data, aiming to support decision-making. The required hardware applications as well as softwares to analyze big data are now easily available and are not prohibitively expensive. However, for example, to organize the required databases, a company should define what type of data it will primarily use so that the structure of the database can be designed to best suit management of that type of data (Thabet & Soomro, 2015). Procession of big data has its challenges in terms of processing speed too (Thabet & Soomro, 2015). Due to the fact that data is generated very fast, the data that should be analyzed is still much more than AI-powered tools can process in real time. So the challenge itself is to select the most relevant and important data to export and analyze, in the way that AI could process data at a reasonable or required speed (Alshura, 2018 & Thabet & Soomro, 2015). There are also challenges in terms of data synchronization and integrity (Alshura, 2018). Often, data is collected from several sources and in this way it might contain overlapping information (Alshura, 2018). This overlapping information should either be identified or removed from the dataset in order to not distort the results of the analysis (Thabet & Soomro, 2015). When combining data from different sources, it should be considered the actuality of all the data considered together (Thabet & Soomro, 2015). All of these challenges must be considered in order to increase the effectiveness and profitability of AI-powered digital marketing.

3.2. Data types and sources

Often, companies use personal data of their customers in order to run effectively AI-powered digital marketing activities or provide personalized content. On the site of

the European Commission (2022) personal data is defined in the following way: “Personal data is any information that relates to an identified or identifiable living individual. Different pieces of information, which collected together can lead to the identification of a particular person, also constitute personal data”. In fact, personal data represents the technical-legal tool through which national and EU legislators protect all the rights related to personal identity. Personal data is any information concerning an identified or identifiable person, even indirectly, or information concerning a person whose identity is known or can in any case be understood through additional information (European Commission, 2022). Personal data is for example a name and surname, a home address, an email address, location data, image or voice. Therefore personal data is a dynamic concept that must always be referred to the context because it changes over time, but above all, it changes in its intrinsic value (Martin, 2016). Even if the data was de-identified, encrypted or pseudonymised, it is still considered as personal data (European Commission, 2022). Instead, the data that has been anonymised in the way that it is not possible to identify to whom the data belongs, is not considered personal data anymore (European Commission, 2022). However, if identification of a person is not possible through one type of data, the same information can be crossed and combined with other data to arrive at a clear identification that transforms it into personal data (European Commission, 2022). In fact, data does not need to be able to physically identify the person, in order to be considered as personal data. This is what happens online all the time, while being online a person leaves different kinds of tracks such as, for example, the digital address (IP address) from which one connects to the internet. This data, combined with other traces, can be used to identify a consumer and in this way build its digital profile for digital marketing purposes (Martin, 2016).

There are four types of data: numeric, text, voice and visual/image/video data (Alshura, 2018). For AI-powered digital marketing activities, one or more of the data types can be used (Shankar, 2018). Based on the structure, data used for AI-

powered digital marketing can be divided into three different categories: structured, semi-structured and unstructured data (Vishnoi et al., 2019 & Alshura, 2018). Structured data is data that is available in a format, such as row or column breakdown. Due to its form, structured data is easy to store, process and analyze (Kietzmann et al., 2018). On the other hand, unstructured data is not formatted in a homogeneous form. Unstructured data can be in several different data formats and arranged irregularly (Vishnoi et al., 2019 & Alshura, 2018). Semi-structured data is an intermediate form of these two formats. This kind of data can for example be processed, but it is not organized into a form that is easy to analyze (Vishnoi et al., 2019 & Alshura, 2018). Nowadays, companies are mostly interested in the increased amount of unstructured and semi-structured data. From a company perspective, the greatest benefits can be achieved from hard manageable data that can be transformed into meaningful use (George & Haas, 2014). In 2017 according to some estimates, up to 80% of 2.5 billion gigabytes of the daily user-generated data available for companies was in unstructured form (Kietzmann et al., 2018 & Huang & Rust, 2021). However as Vishnoi et al. (2019) and Alshura (2018) write, many times companies focus almost exclusively on analyzing structured data, thus losing the real potential associated with the information contained in unstructured data due to the lack of expertise (Alshura, 2018 & Brownlow et al. 2015).

Data, structured, semi-structured and unstructured, is available to companies from different kinds of sources. George & Haas (2014) identify five main sources into which the origin of big data can be divided: public data, private data, data exhaust, community data and self-quantification data. Public data is mainly data collected by public administrations and this kind of data is available to others, but usually with certain restrictions. Examples of public data could be data related to public transport, health services and energy use (George & Haas, 2014). Private data is data that is owned by companies and organizations, and it is internal data that is not available to others. For instance private data includes data related to consumer transactions,

data measuring the company's resources and efficiency, as well as data of company's website use (George & Haas, 2014). Data exhaust refers to passively accumulating data of surroundings that itself has very little or no value to the original data collector. However, by combining with other data, data exhaustion can provide new meanings and value. Data exhaust is, for example, an individual's internet searches or data collected from purchases (George & Haas, 2014). Community data is unstructured data related to social trends, such as consumer likes on social media, comments or consumer product reviews, which can be put together to provide information about different trends (George & Haas, 2014). Self-quantification data, instead, is data produced by a person itself that is revealed in human ways of operating. The self-quantifiable data is defined by George & Haas (2014) in the following way: “”Self-quantification data” are types of data that are revealed by the individual through quantifying personal actions and behaviors. For example, a common form of self-quantification data is that obtained through the wristbands that monitor exercise and movement, data which are then uploaded to a mobile phone application and can then be tracked and aggregated”. The most profitable data sources for a company are public and private data sources, since the first is usually publicly available and the second one is owned by the company itself (George & Haas, 2014).

Instead, Hartmann et al. (2016) uses a simpler division of data sources. The data is divided into internal and external data. Internal data includes, for example, data collected intentionally by a company through sensors or electronic systems, as well as data that exists in the company but may not be utilized (Hartmann et al. 2016). External data is data received from outside the company. External data can be purchased from data providers, collected from customers or publicly available free data (Hartmann et al. 2016). Publicly available data can be for example open data as well as social media data (Hartmann et al. 2016). “These data are typically delayed, out of context, and ad hoc, meaning that they are collected periodically, after the fact

(after consumption has occurred), and not during data generation" write Huang & Rust (2021) about publicly available data. Utilization of different data sources varies greatly by industry as well as by a company size (Brownlow et al. 2015). However, it has to be noted that data from customers is considered very important regardless of the sector. As Huang & Rust (2021) are stating: "Currently, surveys, experiments, interviews, panels, and sales data are still the major approaches for marketers to obtain data". Instead, self-generated data by a company is least utilized, that is why acquired and available external data is important. The single most important source of data for companies can be identified as data from company transactions (Brownlow et al. 2015). However, companies primarily take advantage of both data sources, internal and external data sources. Internal data that is collected from a company's transactions and processes is most relevant to the company, but its diversity is limited. So external data that is available over the internet is used by companies to supplement models and forecasts (Brownlow et al. 2015).

3.3. Data capturing and management

In today's digital world, data is generated in huge amounts and is becoming easier to track and monitor it. All data collection and self-repeating tasks can be easily automated with the help of artificial intelligence. However, a particular benefit arises from the ability of artificial intelligence to collect huge amounts of information really quickly and efficiently. With the help of artificial intelligence, the collection of data does not have to be limited to the acquisition of behavioral data, but can also be used, for example, to carry out surveys (Huang & Rust, 2021).

Very important aspect, mentioned several times in this research paper, is the aspect of data acquisition by companies, which can refer to individual consumers or the surrounding environment. The explosive growth of data has made it more difficult to

acquire and process data. According to Hartmann et al. (2016) valuable and reliable data is obtained systematically and regularly by collecting it from internal and external sources, which are customers, competitors, markets and industries. Data can be collected from smartphones, applications, websites, social media and location (Hartmann et al., 2016). With up-to-date and reliable data, marketers can offer more targeted and comprehensive digital marketing. Indeed, the amount of data is not a problem, but its processing and management are more problematic. There is so much data that it is impossible for a person to absorb all the relevant information about it. Big data brings a lot of benefits to marketers in customer behavior, buying and selling process, marketing automation, segmentation and profiling of target groups. The more marketers have access to data about their stakeholders, the better marketers know them and learn from their behavior and thus also have a better chance of succeeding in implementation of digital marketing operations, for example targeting content at the right time and in the right channel (Verma et al., 2021). However, it is important that marketers have expertise in running successful digital marketing activities too (Alshura, 2018 & Brownlow et al. 2015).

The data can be collected with the voluntary consent of consumers, usually this happens when there is little or no perceived uncertainty in the use of collected data by a company (Martin, 2016). Another method of data acquisition is through the use of machines or robots installed in homes with artificial intelligence software inside them. These data collection methods capture real-time data when it occurs (Huang & Rust, 2021). “Such spontaneous data collection tends to be more data driven, but if theories can be developed prior to guide and update the continuous data collection, they can be theory driven as well” write Huang & Rust (2021). Through marketing automation systems, for example, it is possible to use tracking techniques, such as cookies, to identify individuals among the many internet users. (Desai, 2019). This phase is the most critical, especially when the user is aware of the use that companies and organizations could make of the data. In order for the consumer to

consent to use their data by a company, the benefits granted due to the provision of the data will have to exceed the perceived costs of providing the data (Martin, 2016). Even if the benefits are in the personalization of customer experience, free information or access to services, the greatest concern of customers remains in the aggregate use of the data provided (Kumar et al., 2019). Some of the most successful examples of the use of data by artificial intelligence systems are Netflix movie recommendations and Amazon cross-selling recommendations (Huang & Rust, 2021). The issue is accentuated by the exponential increase in requests for data by companies, the legislative gaps and often the lack of transparency.

With the extensive and detailed data collection, there are also data security issues. More and more customers are asking questions related to ensuring by marketers that the information collected about consumers does not fall into the wrong hands. As well as, that the information collected from customers is used only for the stated purposes (Davenport et al., 2019). A marketer must take into consideration the fact that technologies that allow this revolutionary approach for digital marketing continue to evolve, so also the protection of the privacy of individuals' data adapts accordingly. The technologies capable of collecting this massive amount of data and the collection of data itself can in fact threaten the concept of privacy of the individual user who makes any interaction on the web. As Davenport et al. (2019) writes: "Privacy is complicated (Tucker 2018), for three reasons: (1) the low cost of storage implies that data may exist substantially longer than was intended, (2) data may be repackaged and reused for rationales different than those intended, and (3) data for a certain individual may contain information about other individuals". In order to limit these issues, specific rules and bodies have been created for control. Companies must necessarily take into account these limits and restrictions. This is not only because of the laws currently in force, but also in order to prevent a collapse of their reputation following incorrect management of their customers' data. The obligations of companies in this regard include having to inform consumers about the methods

used to collect personal data, the use that will be made of the data and the precautions that the company will take to ensure the confidentiality of data processing (Davenport et al., 2019).

From 25 May 2018 in Europe, the protection of personal data is guaranteed by so-called the General Data Protection Regulation (GDPR), an EU regulation that specifically concerns the protection of individuals regarding the processing and free circulation of personal data (Campbell et al., 2020). It arises mainly from the need to harmonize the rules regarding the transfer of personal data from the EU to other parts of the world, as well as, as a response to the continuing challenges that fast and continuous technological development brings with it. The main points introduced by the GDPR were the concept of accountability of the owner, the increases in amounts relating to administrative sanctions of violation of one of the provisions, greater clarity on the rules relating to information and consent for data processing and a significant extension of the category of rights due to the interested party (Campbell et al., 2020). More time passes, the more the data acquires value. In fact, in a data-based economy, the data stops being just information and becomes a commodity, a product that can be purchased and regulated together with the transactions that see it as a central element, as well as subject to the particular restrictions previously mentioned (Davenport et al., 2019 & Martin, 2016). That is why marketing specialists should be aware of the issues related to data capturing and its management.

4. SALESFORCE MARKETING CLOUD

Salesforce is a US cloud computing company, which was founded in 1999. Salesforce is operating in 36 countries around the world and it allows companies of all sizes and sectors to take advantage of the powerful technologies of the so-called fourth industrial revolution in order to get closer to their customers (Salesforce, 2022). It also offers a software platform on which companies and partners can develop new applications. Salesforce is one example, since the first years of internet diffusion, of advanced “software as a service” (SaaS) based customer relationship management (CRM) services that today go far beyond customer relationship management. It enables companies, especially those based on digital marketing, to for example analyze the user data it collects and create customer profiles based on the data collected (Salesforce, 2022). These customer profiles can be provided with personalized digital marketing content such as customized offerings in order to add value for existing customers (Salesforce, 2022). If customer's needs are identified correctly and the right kind of content is targeted, in addition to speeding up cooperation, customers planning to leave and in this way not to buy anything from a company, could be retained.

The CRM software is divided into various tools: data analysis, marketing/sales, customer service and an online community that allows all users to interact in the cloud (Salesforce, 2022). The main feature of Salesforce, which distinguishes it from all the other cloud-based softwares, is the scalability of the service: it is in fact possible to manage services at disposal, based on the size achieved by a company and its growth (Salesforce, 2022). Another feature that distinguishes Salesforce from others is the ability to view the progress of the company through graphs and reports, which allow a clear reading as well as the ability to have a so-called "intuitive" dashboard (Salesforce, 2022). All in all, Salesforce has everything that is needed to run a company from anywhere. With the use of standard products and functions, it is

possible to manage relationships with actual and potential customers, collaborate and interact with employees and partners and store data securely in the cloud.

Salesforce Marketing includes different kinds of marketing tools. It can be used for example to launch advertising campaigns or monitor social media. Salesforce Marketing Cloud is Salesforce's digital marketing platform that makes it possible to create and manage direct and individual paths for customers (Salesforce, 2022). It includes tools for email marketing, social media marketing, mobile optimized marketing, online advertising and integrated as well as automated journeys. A link is generated between interactions from any channel or device by combining customer data and behaviors to obtain valid communications to be provided to customers in real time in full compliance with established terms (Salesforce, 2022). In other words, Salesforce Marketing Cloud offers a single and comprehensive view of customer profiles, so that companies can create personalized and omnichannel journeys. Marketing Cloud allows companies to create personalized customer journeys across multiple channels. Using a single platform, it enables businesses to offer customers a consistent experience across email, social media, website, advertising and even in point of selling (Salesforce, 2022). Marketing Cloud was designed as a B2C marketing platform. However, Salesforce Marketing Cloud is now widely used by B2B companies that create B2C agility and immediacy customer journeys for B2B buyers as well (Salesforce, 2022). Once customers' preferences about their consuming habits are collected, that information is leveraged to increase return of investment and the number of actual customers. All in all, in this way, a platform is obtained for creating social advertising campaigns with a strong impact, which offer concrete commercial results, in relation to the cost of the ad.

Figure 2: Logo of Salesforce Marketing Cloud.

5. METHODOLOGY

This section provides an overview of the methodology chosen for this research, which includes research approach, examination of qualitative research and semi-structured interview as a method of primary data collection. Furthermore, data collection, including interview guide and sample selection, data analysis, research quality and ethical consideration are presented and discussed in detail.

5.1. Research approach

This research paper explains the impact of AI-powered digital marketing operations, concentrating on implementation of artificial intelligence in digital marketing, the importance of data type, sources and data capturing together with its management procedures. This research topic recently has been of great interest between researchers and they have explored for example the role and nature of internal and external data for AI-powered digital marketing tools. However, despite the relevance of the topic, previous studies provide little information related to data that marketing specialists should implement in AI-powered digital marketing operations in order to achieve the best possible results and return on investment. This study is based on the previous research and previous existing theories related to the topic and it implements empirical material to either confirm or not the previous researches conducted (Bryman & Bell, 2015). In this research a deductive approach is used, in order to obtain a deeper knowledge and understanding of suggested data implementations for the AI-powered digital marketing operations and explore how these concepts either create or weaken company value.

As Bryman and Bell (2015) state, there are 3 diverse approaches to conduct research. The options are the following: deduction, induction and abduction

approach. Names of all these 3 options are coming from the old Latin language. All previously mentioned words have the same last part, and this word “ducere” in Latin language means "to lead". In the first option, the prefix (de-) could be translated as "from", and so the conclusion to which researcher comes up refers to the most used facts or statements (Bryman & Bell, 2015). Instead, the prefix of the second option (in-) means in English language "to" and also "toward," apart from induction that comes to a generalization (Bryman & Bell, 2015). The prefix of the third option (ab-) can be seen as the word "away", and in this way it takes away the finest explanation of abduction (Bryman & Bell, 2015). Thus, if the research is based on already existing theories related to the topic, the approach used is deductive. However, if the investigation is based on empirical material collected, the approach used is called an inductive approach. Instead, an abductive approach is when a researcher begins with a reflection or observation and then continues to investigate the straightforward and probable description of the phenomenon (Bryman & Bell, 2015 & Åsvoll, 2014). In this research, a deductive approach is used in order to achieve a more profound knowledge and understanding of the suggested data types, its sources, collection and management. The deductive approach has been used for creating explorable models out of the literature review and so the theory which will facilitate the analysis on an exact theoretical framework.

The explorable model is based on presumptions coming from a logical approach, and after the presumptions are developed straight forward as reasonable and trustworthy, in order to arrive at the conclusion. This kind of research approach, therefore, allows researchers to evaluate whether the assumptions are trustworthy or not, without basing on the reality (Bryman & Bell, 2015 & Åsvoll, 2014). Research related to the use of technologies with artificial intelligence in digital marketing has been acknowledged as important (Vishnoi et al., 2018). However, the nature and role of data for AI-powered digital marketing operations have not been explored profoundly.

5.2. Qualitative research

As it was stated in the previous chapter, this research adopts a deductive research approach and its object and aim is to obtain a deeper knowledge in the selected research question and therefore, to understand the impact of AI-powered digital marketing operations from empirical evidence using a qualitative research method. In this study the qualitative research method consists of semi-structured interviews with professionals in the field, who are working particularly with Salesforce Marketing Cloud. Aften data collection, content analysis is executed to the data collected through the semi-structured interviews.

A qualitative research method is useful, for example, when the topic is unknown and it is important to let new information emerge during the research. Qualitative methods are also appropriate when the phenomenon is viewed exactly as it is perceived and experienced by the parties involved (Merriam, 2002 & Bryman & Bell, 2015). The research examines the phenomenon and research question from the perspective of the participants in the study. Instead, the quantitative research method concentrates on quantification in the collection and analysis of data (Barnham, 2015 & Bryman & Bell, 2015). In other words, qualitative research focuses primarily on the quality of the phenomenon being studied, not its quantity (Barnham, 2015). Therefore, the number of participants in a qualitative study is small. Participants must be persons who have knowledge of the research topic under investigation. In addition, participants must be willing to give information to researchers and be willing to discuss the topic under investigation. Participants are often selected on a discretionary basis. (Barnham, 2015 & Bryman & Bell, 2015). The aim of the qualitative research method is to analyze the selected cases in as much depth as possible.

In qualitative research the material used, at its simplest, can be material that is expressed in text. The material may have been created depending on the researcher or independently of the researcher (Bryman & Bell, 2015). The material used in research may be obtained from for example interviews, observations, personal diaries, autobiographies, letters, written and pictorial material or audio material produced for other purposes (Merriam, 2002). A qualitative study can be started from a so-called “clean table”, so in other words without preconceptions or definitions. So, qualitative research is about data-driven analysis and it means building a theory from empirical data, as if from the bottom up (Barnham, 2015 & Bryman & Bell, 2015). Indeed, inductive reasoning is a key feature of qualitative research. Inductive reasoning is about making observations about individual events and then combining these into a larger whole. The reasoning is based on the material collected during the research process (Bryman & Bell, 2015).

In a qualitative study, the researcher has no preconceived theories about the subject of the study or the results of the study (Bryman & Bell, 2015). However, it is important to notice that all of the observations are always influenced by past experiences. However, these experiences should not be allowed to limit the scope of research activities. The researcher must be aware of and take into account prior assumptions about the phenomenon when conducting a research. After realizing the presumption, the researcher must exclude this presumption from being affected by the analysis (Merriam, 2002 & Bryman & Bell, 2015). In a qualitative analysis, the researcher should be surprised or learn during the study. The material allows researchers to find new perspectives, not just to verify one’s pre-existing doubts (Barnham, 2015 & Bryman & Bell, 2015). All in all, in this current research an appropriate research method is a qualitative research method because it is more suitable in order to understand the impact of AI-powered digital marketing operations. This study uses exactly this methodology since it allows better exploration of the type of data used in AI-powered digital marketing operations, as

well as its collection and management in case studies related to Salesforce Marketing Cloud digital marketing operations. Qualitative research method, such as semi-structured interview, allows new information to emerge, as it was mentioned before. Therefore, it is appropriate since the topic is not researched enough profoundly.

5.2.1. Semi-structured interview

Interview method is a very commonly used method in qualitative research studies (Bryman & Bell, 2015). Its use is supported by many factors: an interviewer interacts directly with interviewees, which allows the interviewer to direct the acquisition of information and to identify the motives behind the responses. In a face-to-face interview, the interviewer is also able to interpret non-linguistic messages from the interviewee. It is possible for the interviewer to clarify the answers and deepen own knowledge by asking additional questions or asking, for example, for reasons of the interviewee's opinions. Additional questions can be for example the following: “What do you mean by this?” or “Could you give an example?” (Bryman & Bell, 2015). These questions are asked in order to start a more in-depth discussion. Interview in qualitative research also gives the interviewee the opportunity to raise any kind of issues as freely as possible and to be not only a meaningful but also an active party in the interview situation and research as well (Bryman & Bell, 2015).

A semi-structured thematic interview has been used as a research method in this study. A semi-structured thematic interview means that the interview questions and themes are the same and prepared in advance for each interviewee, but the order of questions may vary depending on each interview situation (Bryman & Bell, 2015). The answers of the interviewees also vary, as the answer options are not predefined and therefore the interviewee answers the questions in one's own words. The

interviewer is also free to change the wording of the questions between the interviewees (Bryman & Bell, 2015). Some of the questions can be omitted altogether in the interview situation, or the interviewee can even ask unplanned questions if some additional topics relevant for the study were introduced during an interview (Bryman & Bell, 2015). The thematic semi-structured interview takes into account the fact that meanings arise in interaction between two parties and that the focus is precisely on people's interpretations of things and the meanings they give to things. One of the characteristics of a thematic semi-structured interview is that researchers are more interested in the basic nature and characteristics of the phenomenon being studied than in verifying ready-made research hypotheses (Bryman & Bell, 2015).

Although the interviewer could guide the interviewee with main questions and additional questions, neutrality is considered to be one of the most important characteristics of the interviewer (Gubrium & Holstein, 2012 & Bryman & Bell, 2015). The interviewer should be as impartial as possible and minimize impact on the process of the interview. Any comments and additional questions should be presented in a neutral manner and non-linguistic messages should be avoided that could guide the interviewee's answers (Gubrium & Holstein, 2012). Neutrality is particularly significant in structured or semi-structured interviews. Although the requirement for neutrality is good, it should be noted that the interview situation itself is always interactive and all parties involved in the construction of meanings (Gubrium & Holstein, 2012). According to Gubrium and Holstein (2012), the interviewer's attempts to remain neutral in interview situations unfortunately in many cases fail. According to Bryman and Bell (2015) the interviewer is both a participant and an investigative person. In addition to obtaining information, the interviewer must use one’s own personality and communication abilities to help and facilitate communication in the interview situation with participants (Gubrium & Holstein, 2012). For this reason, it is difficult for the interviewer to remain completely neutral.

Gubrium and Holstein (2012) also state that in some situations the interviewee may expect an explanation of any term, a piece of advice or compassion from the interviewer, in that case the interviewer's neutral nature indicates a lack of expertise or interest, which in turn weakens interaction and achievement prior set up.

In this research, the semi-structured thematic interview situations are tried to be kept more conversational, so the interviewer also reacts to the interviewees' answers conversationally, not in a scientifically neutral way. In this way, it is believed that this kind of interaction creates a more pleasant and open atmosphere for discussion, which makes it safe for the interviewees to respond honestly and think more deeply on the research topic. In the interview situation, the interviewee can also cause mistakes: for example, one may try to give more socially acceptable answers instead of its own genuine opinions, which undermines the reliability of the study (Gubrium & Holstein, 2012). All in all, the semi-structured interview research method was chosen for this study because there is relatively little information on the topic of the research and it gives a possibility for unexpected information to come up, even if the questions for the interview were designed beforehand. That is why this kind of research method is adequate for investigating the importance of data in AI-powered digital marketing operations, concentrating on the data.

5.3. Data collection

The research material is the basis of empirical scientific research (Bryman & Bell, 2015). The research material may consist of pre-existing documents or the material may be produced during the research. When it is decided to acquire the material during the research, the acquisition of the material requires careful planning (Bryman & Bell, 2015). In this case, it is necessary to plan how, for example, interviews, surveys or the observation of the research object will be carried out and

documented. The acquisition of research material is primarily driven by the research problem. In this research, the research question, semi-structured interviews and the perspective chosen affect what kind of information is needed and whether an extensive mapping or a picture of an individual phenomenon is needed (Bryman & Bell, 2015). The research question, needs and objectives to reach, should thus also guide the selection of participants into the research. In research study, it is important to outline how extensive the data is sufficient for the research and how systematic the data must be in order to get results of the research problem. In some cases, it is possible to gather a lot of material on topics. In this case, the researcher must decide when the material is sufficient for the scope of the research and research problem (Bryman & Bell, 2015).

Data for this research was collected through semi-structured thematic interviews that were conducted via video calls using Zoom platform with unlimited call time. The interview guide was prepared beforehand which included open-ended questions related to the aspects explored through literature review in this master's thesis. Some of the semi-structured interview questions are general and some more specific. However, those questions are giving both parties a possibility to discuss the topic and the interviewer to ask further questions in order to deepen the knowledge related to the topic under investigation. Questions of semi-structured interview guide, are written out in simple language but that are targeting specific issues that might arise during the implementation of AI-powered tools in digital marketing operations. The interview guide is constructed in this way, because it is supposed that interviewers that are involved in the research are familiar with the terms related to digital marketing, artificial intelligence and data in general. All of them are experts in their field but with different lengths of career that might affect the level of expertise in the field. However, this does not affect the understanding of interview questions. The interview guide is in English language and the reason for choosing to conduct the semi-structured interviews exactly in that language, is to avoid false translations and

later misleading interpretation of the data. However, before starting an interview it has to be ensured that communication in English language is not a problem for the interviewees involved in the study because participants are not native English language speakers. As well as, in order to avoid misleading results, the interviews audio is recorded with permission of the participants.

The interviews were conducted via video calls during the period of 09.05.2022-18.06.2022. According to Bryman and Bell (2015), the time frame of a research might have two different kinds of time design. These time designs are the following: longitudinal and cross-sectional design. The longitudinal design is described in the following way: “The longitudinal design represents a distinct form of research design that is typically used to map change in business and management research” (Bryman & Bell, 2015). However, this kind of research design is used much less especially in business, marketing and management studies because of the time and costs involved. The second research design used in research is cross-sectional design in which the time frame of the study is defined beforehand (Bryman & Bell, 2015). This kind of design is usually used in academic research because often deadlines for submitting research papers are prior set up.

In this thesis cross-sectional design is used as a time frame, since the research is conducted during a specific and limited time frame. Furthermore, as Bryman and Bell (2015) are stating, the cross-sectional design research should study and collect data on more than one case study, in order to get a comprehensive picture on the topic. However, since the research question aims to study more cases, also in this study the data is collected from different marketing specialists. Moreover, in this study cross-sectional design is adopted because it permits to explore the impact of AI-powered digital marketing operations through semi-structured interviews during a specific time frame (Bryman & Bell, 2015). All the interviews were recorded with the permission of each participant and those recordings managed according to the

anonymity regulations. After conducting an interview, the recording was transcribed, which facilitates an in-depth review of the material and the search for similarities within the answers of the interviewees and the literature review of this thesis. Later, all the interviews were analyzed. This process is discussed in detail in chapter 5.4.

5.3.1. Interview guide

To conduct semi-structured interviews efficiently and with the best possible results, the interview guide was designed, as well as in order to conduct interviews with the same concepts and aspects for all the participants. Furthermore, the interview guide is very important for extracting the most from the data (Bryman & Bell, 2015). The following table represents the process of forming an idea of the impact of AI-powered digital marketing operations and the importance of data in implementing them. This table represents all the concepts that are asked about from interviewees during semi-structured interviews, in order to achieve a comprehensive overview picture from the participants, which is very important for this research.

Main research question	Concepts
What is the role of data in effective AI-powered digital marketing operations?	Implementation of AI
	Data type
	Data source
	Data capturing and management

Table 2: Research question and concepts.

In the following there is an interview guide with all semi-structured interview questions and motivations:

General questions:

- What is your role in the company?
- Could you talk about your job?
- How do you use AI-powered digital marketing tools?

Motivation: These questions are decided to be asked in the beginning of semi-structured interviews in order to make an interviewee comfortable for a conversation with the interviewer and in this way researcher to gain information on what the interviewee is exactly doing for work and what does the work include. In such a manner, it is also double-checked that the interviewee is an expert in the field. The questions are simple and are leading to a free discussion, however if during the interview the main topics are not discussed enough, an interviewer can ask additional questions that are designed beforehand (Bryman & Bell, 2015). The possible questions are below.

Detailed questions:

- How does your company adopt AI for digital marketing operations?
- What are the benefits of using AI in digital marketing operations?
- What are the challenges that you have faced while using AI in digital marketing operations?

Motivation: Through these questions, the interviewer will gain understanding of implementation of AI-powered digital marketing operations in different companies that are using Salesforce Marketing Cloud for these kinds of operations. As well as, these questions are intended to relieve the benefits of using artificial intelligence in digital marketing but also challenges that might appear that were discussed in the literature review too. Open-ended questions give a possibility for new information to come up and not only stick to the one that was provided in the literature review.

- What kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?
- Do you mainly use structured, semi-structured or unstructured data?

Motivation: The first question is asked in order to understand what kind of data types are needed in the scope of running a successful digital marketing campaign. The follow up question concentrates on structure of data since the literature review brought up the importance of data structure and it was supposed that marketing specialists are using mainly structured data (Vishnoi et al., 2019 & Alshura, 2018). However, according to George & Haas (2014), nowadays, companies are very interested in the increased amount of unstructured and semi-structured data too. So the question related to the structure of data is asked in order to understand if marketing specialists think in this way as well.

- What are the main data sources you are using?

Motivation: This question was developed to move in the semi-structured interview slowly to the direction of data capturing and understand better what are the sources from where marketing specialists take data for their digital marketing activities. Since there are many possible sources from which a company could obtain needed data, as it was presented and discussed in the literature review of this thesis.

- Do you think that internal data is enough to run an effective AI-powered digital marketing campaign?
    - If not, what kind of data do you need?

Motivation: This main question and sub-question are aiming to go more in detail to data sources dividing data in internal and external data as it was suggested in the literature review (Hartmann et al., 2016). Brownlow et al. (2015) were arguing that marketing specialists who are implementing AI in digital marketing operations, actually in most cases are using both internal data and external data. Even if Brownlow et al. (2015) also state that self-generated data by a company is least

utilized, that is why acquired and available external data is important for companies in their digital marketing activities. That is why these questions are asked during the semi-structured thematic interviews in order to better understand this aspect.

- What is the main source of external data and what are the advantages from using it?

Motivation: In case interviewees bring up using external data in AI-powered digital marketing operations, this question is asked. The aim of the question is to understand the main sources of external data and how the data is collected, as well as what kind of benefits marketing specialists see in using external data in their digital marketing operations.

- What does it mean reliable data in your opinion?
    - How can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?
    - Do you think that external data is reliable data?

Motivation: As it was mentioned in the literature review, in many cases external data is considered as non reliable data. The aim of this main question and sub-questions is to understand how marketing specialists and companies in general are proving data reliability in case they end up using external data in their AI-powered digital marketing operations (Hartmann et al., 2016).

- How do data privacy issues affect collection of data?

Motivation: The last question is about data privacy issues related to data collection and its management. Since lately privacy has become more important for people who are allowing the collection of their information and so companies must keep that in mind, since it might be a great issue and the consequences are notable (Davenport et al., 2019). As well as, GDPR is having its own influence on the data collection and its management.

- Do you want to add something else?

Motivation: This very last question gives a possibility for interviewees to add and elaborate more on the topics that came up during the semi-structured interview. As well as, bring up their own reflections that were not asked but participants feel important to mention (Bryman & Bell, 2015).

5.3.2. Sample selection

The aim of this thesis is to explore different kinds of perspectives and ways of implementing AI-powered digital marketing operations by interviewing people who are experts in this field and they are working with AI technologies. For this research it was conducted 10 interviews in total. Below there is table 3 that summarizes all the information related to participants in the semi-structured interviews, in which there is the following information: short anonymized identification of participant (X), job title of participant, country where one is working and duration of specific interview. In this research participants to the interview are having different job positions but all of them are working with Salesforce Marketing Cloud but in different companies. It has to be highlighted that participants are working with Salesforce Marketing Cloud tools but they are not necessarily working in Salesforce as a company itself. Different backgrounds in careers of interviewees are giving more versatile answers to the main research question. All participants are working closely either with data management and analysis, with digital marketing or with both.

Interviewee	Job title	Country	Duration
X1	Global Sales and Marketing Specialist	Italy	26 minutes
X2	Data Analyst	Italy	19 minutes
X3	Head of Data Management	Italy	43 minutes
X4	Salesforce Marketing Cloud Specialist	Italy	15 minutes
X5	Digital Account Manager	Spain	26 minutes
X6	Digital Marketing Project Manager	Italy	27 minutes
X7	Marketing Automation, Digital and Content Strategist	Italy	17 minutes
X8	Account Executive Salesforce Marketing Cloud	Italy	45 minutes
X9	Business and Integration Architect Senior Analyst	Netherlands	40 minutes
X10	Salesforce Digital Project Manager	Italy	33 minutes

Table 3: Summary of the interviews conducted for the research.

Participants can be selected in different ways, using different kinds of sampling methods. According to Bryman & Bell (2015) there are two different sampling techniques that are the following: probability sampling and non-probability sampling.

The first one means that all individuals have the same probability to be chosen for research. In other words it is a random sampling method (Sharma, 2017 & Bryman & Bell, 2015). Non-probability sampling method, instead, is a technique in which a researcher follows certain criteria that are decided beforehand in order to select participants for the study (Sharma, 2017 & Bryman & Bell, 2015). Furthermore, probability and non-probability sampling techniques can be divided into more different sub-methods. Probability sampling technique includes simple random sampling, systematic sampling, stratified sampling and cluster sampling. Instead, non-probability sampling is about quota sampling, purposive sampling, self-selection sampling and snowball sampling (Sharma, 2017).

The sampling method used in this research is purposive sampling or in other way called judgment sampling. Judgment sampling is a non-probability sampling method that is fully dependent on the judgment of the researcher when choosing participants of the research since it happens based on the criteria prior selected. The method is described by Marshall (1996) in the following way: “The researcher actively selects the most productive sample to answer the research question. This can involve developing a framework of the variables that might influence an individual's contribution and will be based on the researcher's practical knowledge of the research area, the available literature and evidence from the study itself”. In this study a sample of 10 participants was selected following the criteria mentioned before. The sample is very important for this thesis research purpose. As it was mentioned before, all participants are experts in their field that is very close to the research but the level of expertise may vary depending on the years of experience and so also understanding of the phenomenon may vary. However, since the research problem is rather complex, it is important to give a possibility for different and new information to come up during semi-structured interviews.

5.4. Data analysis

In any research the data collected is analyzed in such a way that something scientifically valid can be stated about the research problem. The choice of data analysis methods is influenced by the type of problem the study seeks to answer. To solve certain types of problem statements, it makes sense and it is natural to choose certain types of analysis methods. The popularity of different analytical methods in research reflects changes and trends in science too. Some methods of analysis have been more commonly used in the past than nowadays. Similarly, popular and widely used methods of these times can be recognized (Bryman & Bell, 2015).

The aim of the analysis of qualitative data is to create a coherent and meaningful whole from the data collected during the research process, so that reasonable conclusions can be drawn from it (Bryman & Bell, 2015). The purpose of the research study, on the other hand, is to create a concise and clear whole and a description of the research process. In data analysis different phases are introduced but the process is not linear (Bryman & Bell, 2015). The phases are for example data division, data categorization and data synthesis phase. Data synthesis seeks to formulate an overall picture of the topic and present a new perspective on the topic (Bryman & Bell, 2015). For successful qualitative research, it is expedient to reach a more abstract level, where in addition to the description of the material, the research could also describe the phenomenon at a more general level (Bryman & Bell, 2015). Abductive reasoning is also common in interventionist studies and is realized as a dialogue between the empirical data of the study and the existing theory in order to achieve diverse explanations in the interpretation of the data collected (Bryman & Bell, 2015). The validity of interpretive research can be examined through the concepts of authenticity and credibility. An accurate description of the properties and limitations of the phenomenon can justify the credibility of the conclusions drawn from the data and theory (Bryman & Bell, 2015).

Content analysis is one of the most used analytical methods in qualitative research (Stemler, 2015) and is also used in this research study. Content analysis can be thought of as a methodological frame of reference that allows for a comprehensive review of the material. The phases of content analysis are the selection of the analysis unit, familiarization with the material, reduction of the material if needed, categorization and attribution of themes and interpretation in the end (Stemler, 2015 & Bryman & Bell, 2015). The steps do not necessarily proceed chronologically but partly at the same time. In this case, a description of the process is important so that the reasoned formation of the conclusions found in the study can be traced from the stages of the analysis and the reliability of the study can be assessed (Stemler, 2015 & Bryman & Bell, 2015).

In this research study, the materials of the interviews were prepared for analysis by transcribing the semi-structured interviews. The data that was collected was recorded and transcribed in the English language in order to have a concrete base for the analysis. Transcription of interviews refers to the writing of the data, so the conversation with interviewees, obtained by interviewing and is intended to prepare the data for analysis. In the transcription of the interview materials of this study, filler words such as repetitive “and”, “ah” “oh” and other similar statements that were not relevant to the meanings and content of the material, were excluded. This facilitated the analysis of the content of the material and the readability of the citations in this thesis paper. Also sensible information from which any participant could be recognized was excluded.

The analysis of data was following three steps since for example reduction of data was not relevant for this research. The first step of analysis was to read all the transcribed interviews several times in order to achieve better understanding of the interviews written out and the main concepts presented, so in other words get familiar with the data. It is important to notice that at this step of analysis

interpretation of interviews was kept away. Step number two of analysis was structural analysis. Therefore, the data collected was read one more time, and the overall picture was developed and written down during this stage. This step and its process was redone two times in order to avoid bias and ensure proper understanding. Instead, in the third step, the data was reviewed and the outcome was a number of main themes. As Bryman & Bell (2015) write, it is important to develop themes and sub-themes during thematic analysis. In attribution of themes, by combining material so the transcribed interviews and searching for similarities, the aim is to find features that appear in several interviews. Once themes relevant to the research problem are found in the material, the categories below it are classified and named. This is the most critical step in the analysis because these categorizations are the researcher's interpretation of the data provided by the participants during the interview. In this research the coding technique was used. In this step it was used a software called Iramuteq that is based on the R software, for supporting and verifying analysis based on the text categorization and as a result for finding out themes and sub-themes. This study proceeded by first classifying the data on the basis of its similarity, based on the researcher's previous knowledge of the topic and the literature review. As knowledge related to the topic increased, new themes and elements observed on the basis of previous research were added to the categories during the research, which have influenced the construction of the metrics of the research. These classes were grouped into upper classes based on previous theory.

The interpretation and presentation of analysis of the research data in the study does not only show the results of the research. Based on the analysis, the researcher must draw the conclusions of the research or make interpretations of the topic under study (Bryman & Bell, 2015). In forming interpretations and conclusions, it is essential to find their connection with other research literature and previous research. Conclusions or interpretations are the actual result of the research and must be argued separately. Conclusions and interpretations respond to a research

problem and provide answers to research questions (Bryman & Bell, 2015). After all the analysis of the data, the main results emerged from the analysis are discussed in the next chapter number 6.

5.5. Research quality

The reliability of the study should be assessed by considering the validity and reliability of the study. The level of research, the validity of the conclusions, and the reliability of the research should be evaluated throughout the research process (Bryman & Bell, 2015). Validity refers to the ability of the selected research method to study and measure exactly what the study is intended to investigate (Bryman & Bell, 2015). The reliability of the study refers to the accuracy and reproducibility of research results, for example it assesses whether different researchers can end up with the same research results (Bryman & Bell, 2015). One way to increase the reliability of a study is to use different types of data, theories, perspectives, or methods of analysis in the study. This is called triangulation. It seeks to show that the research result obtained is not random, but that the same result can be reached by different approaches (Bryman & Bell, 2015). As a rule, qualitative research is associated with the subjectivity of the research, that means interpreting the results of the research is always somewhat dependent on the researcher's own interpretation. Because the achievement of complete validity and reliability would require completely objective truth, qualitative research has its own perceptions of the criteria of reliability, which has been left to the researcher's own interpretation combined with material and previous theory. However, the standard approach is not considerable since it is linked to the adequacy of measure and in qualitative research the concepts of reliability and validity can be applied in certain respects (Bryman & Bell, 2011). However, in this research the concept of trustworthiness is used in order to look into

the quality of the research. Research quality is composed of credibility, transferability, dependability and confirmability (Kortjens & Moser, 2018).

In qualitative research, it is essential to assess the credibility of the research. For example, the results of a qualitative study must not be random and the methods used in the study must be able to examine what the study is intended to investigate. The concepts used must fit the content of the research problem and the material (Kortjens & Moser, 2018). In other words, credibility consists of the researcher's logical research process, from which the researcher provides the reader with sufficient documentation and traceability. The structure of the study must be logical. The steps in the research process have been presented truthfully and the documentation has been completed properly. Samples from the material are presented as they are and, for example, the framework as well as questions of the thematic semi-structured interview can be seen in the appendices (Kortjens & Moser, 2018). As well as, in this study the previous paragraph presents the data collection method and the different steps performed in the data analysis. Instead, transferability means generalizing results obtained from the study (Kortjens & Moser, 2018). It can be achieved by precise research context description and bringing up assumptions that were emerging during the research. In this way, the study results can be applied to similar research (Kortjens & Moser, 2018). So in other words, the results can be moved to other contexts or settings with other participants. Dependability means that when a similar study is conducted the same kind of results must be obtained. Kortjens and Moser (2018) define dependability in the following way: “The stability of findings over time. Dependability involves participants’ evaluation of the findings, interpretation and recommendations of the study such that all are supported by the data as received from participants of the study”. The last one, confirmability, is defined in the following way by researchers Kortjens and Moser (2018): “The degree to which the findings of the research study could be confirmed by other researchers. Confirmability is concerned with establishing that data and interpretations of the

findings are not figments of the inquirer's imagination, but clearly derived from the data".

5.6. Ethical consideration

When planning a research it is important for researchers to consider ethical aspects. These aspects are for example how the research will affect single participants or society as a whole (Bryman & Bell, 2015). Therefore adequate methods must be applied accordingly. So, also when planning semi-structured interviews, research ethics must be considered. For example it is seen as unethical if the data is collected without awareness of participants and that they agreed on participating in research. That is why, the researcher must express clearly that the participation in research study is voluntary and can be interrupted whenever any participant asks so (Bryman & Bell, 2015). In this research the consent of participants was obtained by the researcher, so it was emphasized the voluntary nature of participation in the study as well as the confidentiality of the information provided. Indeed, research made by interviews or any other method where data is collected from people, generally consent, confidentiality, consequences and privacy as key ethical principles (Bryman & Bell, 2015). Furthermore, during this research it was communicated to the participants that they do not need to answer the questions that they feel irrelevant or they just do not want to answer because of personal reasons. This right was not used directly by any participant but some participants prefered to answer shortly on some questions and not to go more deeply into details.

While conducting semi-structured interviews it is important to keep in mind that if interviewees are told the research topic before the planned interview, it may guide the answers of participants. Since it might happen that the participant does not express one's own opinion, but what researchers assume they want to hear. Thus, in

each study, decisions must be made as to how much information can be given to the participant (Bryman & Bell, 2015). However, in this research it was outlined to the interviewees the research purpose and comprehensive outline of the research topic when arranging the interviews. As well as the following information was given to the selected potential interviewees: the objectives of the study, the selection criteria for the interviewees and how the interviews will be conducted. Furthermore, it was shortly indicated what kind of information was required from then, explained why the research is conducted and in which way the information that they provide will be used in the research.

Before the interviews it was communicated the length of the interview that could be a maximum of 45 minutes. As well as, sufficient time was given to the interviewees before and after the interview in order for interviewees to express any doubts that they had related to the research topic and interview process in general. All in all, the interviewees confirmed their willingness to participate in the master's thesis research and at the same time the interviewer guaranteed anonymity and confidentiality of participants. That is why mentioning names of interviewees and companies where they work is avoided in this thesis.

6. ANALYSIS AND RESULTS

This chapter of the thesis presents and discusses the data collected during the semi-structured thematic interviews and its analysis using the key concepts. The analysis is based on the themes that were coming up from the semi-structured interviews and supported by the literature review in order to answer the main research question that is the following: what is the role of data in effective AI-powered digital marketing operations. As well as, this chapter presents the main findings of this research study. First, the implementation of artificial intelligence in digital marketing activities by different companies, data and marketing specialists is discussed, as well as the benefits and challenges that these operations implies. Then the importance and type of data in use is explored. After that the different data sources are analyzed. In the end, the explanation of data capturing and its management techniques, including data reliability and data privacy issues, is given based on the information that was emerging during the semi-structured interviews compared to the literature review.

6.1. Implementation of AI in digital marketing

As it was presented in the literature review of this thesis, according to researchers Verma et al. (2021) and Ansari (2021) artificial intelligence is playing a crucial role especially in strategy and planning when talking about digital marketing, in areas such as segmentation, targeting, and positioning. Nevertheless, there are also other applications of AI in digital marketing that are implemented in the following areas: creation of personalized content and recommendations, media optimization and customer experience (Verma et al., 2021). In fact, all participants of semi-structured interviews that are working with artificial intelligence in relation to digital marketing operations, agreed that there are several applications of artificial intelligence in digital marketing that are very useful and bring many new possibilities for companies

in their digital marketing activities. This is possible thanks to different tools such as Salesforce Marketing Cloud.

“Thanks to CRM and marketing automation tools such as Salesforce Marketing Cloud or Adobe Campaign, our campaigns are more optimized. These kinds of tools deeply work with artificial intelligence.”
(X5, Digital Account Manager)

In 2018 Shankar argues that AI will allow marketers to better understand what consumers are thinking and in this way create relevant marketing campagnes with what all interviewees were agreeing as well. From the semi-structured interviews it was coming out that applying AI to digital marketing is important because it allows a company to market their products and services in accordance with the exact preferences of consumers. Almost all of the interviewees were mentioning targeting as one of the most important implementations of AI in digital marketing. Key reasons are the following: better sales performance, new possible customers, better customer loyalty, long-lasting relationships with customers and a possibility for even more targeted digital marketing. Not only a company benefits from targeting, but customers too, because they are included in more relevant digital marketing activities for them (Huang & Rust, 2021) and interviewed data and marketing specialists are aware of that. However, customer experience was not on the top of mind of marketing specialists. The reason might be that in the end, it is not even possible for a company to fully manage the customer experience, but companies can only make a choice about what kind of experience they want to offer to their customers (Hoyer et al., 2020).

“The company where I work basically uses AI in digital marketing operations selecting targets for campaigns and developing automated customer journeys.”
(X4, Salesforce Marketing Cloud Specialist)

Segmentation was also coming up during interviews even if not so often as targeting. Segmentation refers to the division of the customers based on demographic and psychographic factors. With segmentation, companies do not have to try to design a marketing campaign for all consumers, but for different groups. Various patterns that are difficult for humans can also be better identified through artificial intelligence and, in particular, machine learning, writes Verma et al. (2021). In other words, selecting as customers the consumers who are considered to be the most suitable for the products or services offered by the company, and thus also the most profitable for the company (Ansari, 2021). Since segmentation is very close to targeting, it might be one reason why interviewees did not mention that often. Instead, positioning was not mentioned by any of the participants. As it was explained in the literature review, positioning refers to the image of a product or service in the minds of consumers (Huang & Rust, 2021). Interviewees were not talking about possible creation of a unique position for the product or service offered through data mining by artificial intelligence that can make a customer-based observation map of their preferences related to a company's products or services.

Instead, personalization was mentioned several times during the interviews and actually, it is one of the key abilities of AI in digital marketing according to the interviewees. As it was discussed in the literature review, previously, it was possible to implement personalization in the way that the final consumer had to express its preferences, while now companies and organizations can create personalized digital marketing activities using big data and machine learning systems (Kumar et al., 2019). According to the interviewees, this is possible not only because of the new AI-powered solutions but also thanks to the big amount of data that is available.

"Personalization is crucial because you know, we are moving to not a new world because we are already in this kind of world, where customers expect personalization through all sales cycles. So they don't want to be treated as numbers, they want to be treated as individuals. So it's very, very important to provide them with personalized content, to make them feel that brands understand them, and really feel how they want to be treated, what they are interested in. So personalization, I think, is crucial."

(X8, Account Executive Salesforce Marketing Cloud)

Participants were explaining that thanks to the AI-powered systems companies where they work are able to provide more efficient user experience and guide users according to their needs and fulfill them. Artificial intelligence can be used, as it was mentioned before, for personalized content production, such as for example customer emails and advertisements but also for determining a company's digital marketing action plan. Artificial intelligence tools thus help to create increasingly intelligent, more modern, and more relevant content while enhancing the work of marketing specialists through automation. In addition, as stated by interviewees, AI-powered digital marketing tools are able to anticipate the market trends.

"So AI, helps marketers anticipate the market trends but of course customers needs and customers expectations, in order to better invest money and save time and efforts for sure."

(X8, Account Executive Salesforce Marketing Cloud)

X1 Global Sales and Marketing Specialist interviewee was mentioning that one is using AI for strategic planning but also in presentations with customers and other teams inside the company. Another interviewee (X10, Salesforce Digital Project Manager), instead, was explaining about standardization of the marketing process in

different countries in which AI-powered tools are fundamental since it happens thanks to Salesforce and its models. Furthermore, several participants were mentioning that they automate repetitive tasks in order to focus on tasks that require for example analytical skills instead of time consuming data management. Repetitive tasks are for example monthly submissions that follow the same structure every time. According to the interviewees, data management is very time consuming and thanks to the possibility to automate repetitive tasks through AI, they save plenty of time and so can concentrate on more, as it was mentioned before, analytical tasks.

"I automate repetitive tasks in order to focus more on analysis instead of data management. Since there are the same activities every month to do, and that computer, through AI, could perform in a more efficient way."

(X1, Global Sales and Marketing Specialist)

Two from ten interviewees were saying that their companies are fully outsourcing these kinds of functions of AI in digital marketing operations. One participant, instead, was explaining that they outsource partially. According to the participants, outsourcing is very helpful mostly because of the lack of knowledge inside a company, as for example X6 Digital Marketing Project Manager interviewee was mentioning. The company where the X6 Digital Marketing Project Manager is working is still in the early stages of implementing AI in their digital marketing activities and that is why they are looking for consultants who could help them in understanding possibilities of AI better and in this way expand their knowledge.

"So we just pay consulting to automate this part of our activity."

(X2, Data Analyst)

“We are trying to meet different consultants that explain to us different tools in order to understand what is the best for our business, since it's very specific. We are trying to understand at the learning stage. We are testing different tools that use AI. And we are making a lot of small projects where we try to develop and gain some knowledge from it. Preparing some marketing activities with less, let's say with a little budget, but just because we are at an exploration moment.”

(X6, Digital Marketing Project Manager)

All in all, AI allows marketing specialists and data specialists to better understand what consumers are thinking and in this way create relevant marketing campagnes. The answers of interviewees during semi-structured interviews about implementation of AI in digital marketing operations is inline with the literature review presented in the previous chapters. However, some implementations, in which artificial intelligence is used, such as targeting and personalization were the most popular answers among participants to the semi-structured interviews. Then, for example, positioning and social media optimization were not discussed by the interviewees during the interviews. Marketing and data specialists were not mentioning that AI-powered solutions can help a company to identify the most profitable channels through which it is the best to run digital marketing activities as it was discussed in the literature review. The importance of AI is also emerging in strategic planning and managing repetitive tasks. As well as, artificial intelligence helps marketing specialists to anticipate the market trends, customer expectations and fulfill their needs. Furthermore, the importance of outsourcing was coming up, in such cases, when a company is facing a lack of knowledge inside the company. In this way, there are many possibilities in which artificial intelligence can be implemented in digital marketing operations in order to invest money in the most profitable way.

6.1.1 Benefits of AI

During the semi-structured interviews it was asked a question about benefits that implementation of AI brings to digital marketing operations. Some of the participants responded that it gives a possibility to develop data driven digital marketing strategies and in this way to have a scientific, statistical approach to digital marketing when it comes to communication, pricing and everything that is related to digital marketing. Therefore, to have a rational approach and so marketing specialists can process big and complex data, finding very important information for effective digital marketing operations.

"It's a scientific approach, we avoid to just pick things that people like but we try to have a statistical approach even though there are different biases that still need to be taken over. Because still people are selecting different things. So still, it's better because we are trying to be more rational than before. And we try to have more efficient approaches instead of just picking up things that we like."

(X6, Digital Marketing Project Manager)

As well as, benefits are the possibilities that were mentioned in the literature review and the previous paragraph, like targeting and what is the path to reach the target of the company, as well as content personalization for clients with different needs that allows companies to create tailored campaigns. Furthermore, according to the interviewee X5 Digital Account Manager, due to the huge amount of data collected and analyzed by artificial intelligence applied to CRM, this tool has and will have even more in the future, the increased ability to better understand consumers. This means that better profiles can be developed, so interaction is more personalized and, finally, sales effectiveness is improved. In other words, the mismatching between product and potential consumer can be reduced and chances that the targeted customer would actually buy or purchase the product would be higher. The

customer is more satisfied because of not losing time and the company's business grows like never before.

"Personalization allows companies to create tailored campaigns."
(X4, Salesforce Marketing Cloud Specialist)

"So when you want to advertise your product, the timing, and you know, the matching between the product and the potential customer, so the mismatch could be reduced. And chances that the targeted customer would actually buy or purchase your product, that would be higher."
(X3, Head of Data Management)

It can be seen also in the increase of fedelization of some already loyal customers. From the digital marketing applications' point of view, artificial intelligence is essential for clustering and segmenting. It can help to do lead qualification or lead scoring. One more benefit that was mentioned by X1 Global Sales and Marketing Specialist, was the possibility to standardize the process of different activities such as data collection. Since it is difficult to have the same standards in several different countries. Also Jarrahi (2018) is stating, the advantages of using AI-powered solutions do not only concern their potential use at any moment and the possibility of increasing or decreasing their use based on the changes in demand, but above all they manage to lighten the workload of human marketers. Especially, the workload that consists of standardized and repetitive tasks, which occupy a lot of time, and therefore allow marketers to concentrate on more complex and profitable activities.

"We tried to standardize the processes in order to have a possibility to analyze the data globally since we are present in 18 countries. This creates a lot of complexity when it comes to data entry within many countries and the misunderstanding is very common. So, we try to define rules and procedures in order to develop tools that can help us. Especially for data collection, which is critical."

(X1, Global Sales and Marketing Specialist)

From the companies' processes point of view, according to the interviews conducted, AI automates routine tasks that consume the most part of time and resources. For example data entry or retrieval are tasks that can be automated thanks to the combination of CRM and artificial intelligence, as well as updating forecasts or determining mailing and calling lists. So AI is crucial in order to save time for marketing specialists and data managers. As well as, AI reduces the possibility of human mistakes and misinterpretation of data. In other words, artificial intelligence is able to analyze data with more precision and provide more accurate insights in order to fulfill customers' needs. As Vishnoi et al. (2018) state, AI performs with intelligence and error-free decision-making. However, it is important to remember that AI can provide better performance addressing complexity over human capabilities, and marketers can offer a more complete and instinctive approach than AI can perform.

"To me, the main advantages are the following. First, reduction of human mistakes or misinterpretation of data. Second, reduction of time spent in developing advanced and complex tools and processes while already applicable as integrated add-ons."

(X7, Marketing Automation, Digital and Content Strategist)

"The benefit of artificial intelligence is first that you can automatize a lot of processes and have precise results, as well as you can collect big amounts of data. Also, you can predict and that's why the keyword predicts what will happen in the future or based on the analysis of the data."

(X9 Account Executive Salesforce Marketing Cloud)

As the last benefit was mentioned, the possibility to enable brand new markets in case a company wants to launch a new product. So it gives a possibility to more customers to be aware about the company and in this way "stress the right thing at the right time, to the right customer" (X3, Head of Data Management). All in all, artificial intelligence in digital marketing is bringing several benefits such as the activities that can be implemented through AI. As well as, possibility to develop data-driven marketing strategy, with less time and less possibility for human mistakes, also in general digital marketing activities. As the last, with artificial intelligence it is possible to process huge amounts of data and so predict customer behavior and expectations, together with the possibility to enable brand new markets.

6.1.2. Challenges of AI

Instead, challenges that were mentioned during the interviews that marketing specialists and data managers are facing while implementing AI in digital marketing operations, are the following. Indeed, the greatest challenge of AI-powered solutions can be seen in its demanding and slow deployment (Brynjolfsson & McAfee, 2017). Almost all interviewees were mentioning very high costs. So it is very expensive to implement AI in digital marketing operations. The second very big challenge that was mentioned by the majority of participants is lack of knowledge inside a company. So the training of marketing specialists and data analysts is crucial. Because one might

have marketing specialists and data analysts in a company, but they might need to be trained a little bit more in an advanced way. So again a company needs to invest in training the team members in order to use artificial intelligence successfully in digital marketing operations. One interviewee was saying that the company where one works is hiring external consultants because of that problem. But in many cases those consultants do not know the company's business well enough, so that is why there might be problems in communication.

"AI is something that you need to know how to use, to use properly, in a productive way. So, there are several reasons. The first reason is, very often, it's not like a software which is delivered once for all, but because there is a cost and training."
(X3, Head of Data Management)

"Sometimes technology grows faster than people's knowledge and one of the biggest challenges we currently have is that we need skilled workers that know exactly how to use all these CRM and marketing automation tools in a more efficient way."
(X5, Data Account Manager)

"For sure the complexity of tools. The fact that we don't have knowledge inside our company, so we need to hire temporary workers or consultants that sometimes can be very expensive. That's why we are trying to first understand what is best for us. And then we try to develop a better marketing plan inside our activities."
(X6, Digital Marketing Project Manager)

One more challenge that marketing specialists are facing is data quality and lack of data hygiene in the data model. As well as, technical or data entry issues, in the way that AI-powered systems might read information in the wrong way, according to the interviewees. As Janiesch (2021) writes in the article, in order for AI-powered

systems, be effective and useful for a marketer, the AI system should use a huge amount of data for analysis in sequence to be able to produce valid conclusions and outcomes. However, in some cases, there may not be enough data for the algorithms to learn from it and not all data can even be encoded in a machine-understandable format. In any case, all the participants were having an opinion that there is no lack of data. So the challenge itself is to select the most relevant and important data to export and analyze, in the way that AI could process data at a reasonable or required speed, as Alshura (2018) and Thabet and Soomro (2015) write in their articles. Often, data is collected from several sources and in this way it might contain overlapping information. This overlapping information should either be identified or removed from the dataset in order to not distort the results of the analysis. When combining data from different sources, it should be considered the actuality of all the data considered together, according to the interviewee X9 Business and Integration Architect Senior Analyst.

"The most problematic thing is data quality."

(X1 Global Sales and Marketing Specialist)

"Different kinds of data enable a certain range of models."

(X3, Head of Data Management)

"I think that one of the main challenges marketers go through is that they used to work with plenty of data coming from a lot of data sources, both internal and external. In this case, having a good tool for gathering data and creating a single source of truth on the customer is very important. And I think that artificial intelligence can work well only if all the data is gathered into a good system, and is well organized."

(X8, Account Executive Salesforce Marketing Cloud)

According to the interviewees, tools powered by artificial intelligence might not be able to determine when certain information is becoming valuable, and in this way creative and strategic thinking of a marketer still plays an important part in the process. So in other words, it is important to remember that human control is still required because there might be some errors. Moreover, as it was discussed in the literature review, artificial intelligence cannot justify why any solution was reached (Brynjolfsson & McAfee, 2017), so in case of wrong outcomes, it is difficult to find out the reason. Of course, artificial intelligence performs the task assigned to it very well, thus meeting the expectations placed on it, but only a marketing specialist can exceed those expectations. Because the marketer is able to offer the customer something extra according to the situation. So, the production of digital marketing content cannot yet be fully relied upon by artificial intelligence because at the moment, it is more a matter of human-machine cooperation and machine assistance, with what interviewees strongly agree, as well as, it was discussed in the literature review. Production of content using artificial intelligence only works, as it was mentioned before, for texts that follow strict boundary conditions, and human-defined models are required before content can be created automatically (Campbell et al., 2020 & Kumar et al., 2019). Therefore, more complex content still requires the assistance of a human marketer.

“The other challenge could be, you know, to not trust too much AI. Because at some point, your standard digital marketing strategies could be fair enough. But you have to monitor how AI is going and you have to be, sort of, I would say, attentive to any possible breakdown at the model suits. You don't need to trust too much.”

(X3, Head of Data Management)

Artificial intelligence can personalize the customer experience, but only a marketer can make it personal with its own input and small gestures (Jarrahi, 2018). AI is used for personalization in order to create more accurate digital marketing content, however as it was discussed in the literature review, in some cases digital marketing messages and content of a campaign might become too personalized and completely lose its natural nature (Martin, 2016). However, this aspect was not pointed out by any of the marketing and data specialists. Artificial intelligence data analysis also involves challenges related to ethics and privacy because customers may feel uncomfortable when the marketer has very detailed information about them, an interviewee X9 Business and Integration Architect Senior Analyst was bringing up. This will be discussed more in detail in the next chapter 6.4.

All things considered, artificial intelligence has its own challenges when it comes to digital marketing operations. During the semi-structured interviews, there were the following challenges coming up. These challenges are related to very high costs of AI-powered digital marketing operations and knowledge inside a company in order to run effective AI-powered digital marketing activities. Other challenges are data quality and lack of data hygiene, as well as implementation of AI still requires human marketing specialists by its side. Instead, interviewees were not mentioning anything related to possible lack of data and that digital marketing content might become too personalized because of using artificial intelligence, and so threaten successful digital marketing campaigns.

6.2. Data type

According to Kietzmann et al. (2018) structured data due to its form, is easy to store, process and analyze and that is why companies are using mainly that kind of data in their AI-powered digital marketing activities. This was also emerging from all the interviews since marketing specialists explain it in the way that structured data is much cheaper to use and it is less time consuming since it is much easier to manage. Furthermore, more than half of the interviewees said that their company is using exclusively structured data and does not use other types of data. For effective data analysis it is important to know the types of data and its structures in order to be able to manage and analyze them correctly (Vishnoi et al., 2019 & Alshura, 2018).

"We use only structured data."

(X2, Data Analyst)

"*We use only structured data. Because they are simple to deal with. And it's a lot less time consuming for us to develop strategy starting from it, instead of losing a lot of time with unstructured data where most of the time is not reliable because of the specialty of our business. And just because we want to have customized things that work for us, and not the generic ones in the research."*

(X6, Digital Marketing Project Manager)

On the other hand, unstructured data is not formatted in a homogeneous form. As it was presented in the literature review, unstructured data can be in several different data formats and arranged irregularly (Vishnoi et al., 2019 & Alshura, 2018). Instead, semi-structured data is an intermediate form of these two formats. This kind of data can for example be processed, but it is not organized into a form that is easy to analyze (Vishnoi et al., 2019 & Alshura, 2018). That is why some companies are

trying to avoid semi-structured and unstructured data types since they are much more time consuming to analyze, as well as costly.

“We try to avoid unstructured data because it's very time consuming.”

(X2, Data Analyst)

However, as George & Haas (2014) are stating in their article, nowadays, companies are very interested in the increased amount of unstructured and semi-structured data. From a company perspective, the greatest benefits can be achieved from hard manageable data that can be transformed into meaningful use. The answers of the participants support this argument and refer to the previous findings that combination of both data structures is best practice in order to achieve the best results in AI-powered digital marketing. Marketing specialists that were interviewed for this research were agreeing that unstructured data might be very important in order to run an efficient AI-powered digital marketing campaign. In any case, as it comes up from the literature review, many times companies focus almost exclusively on analyzing structured data, thus losing the real potential associated with the information contained in unstructured data due to the lack of expertise (Alshura, 2018, Brownlow et al. 2015 & Vishnoi et al. 2019). However, the interviewees were aware that avoiding use of unstructured data is leading to losing some important aspects and therefore at the same time not improving their digital marketing strategy. Not forgetting that different data structures require different AI approaches.

"All the data is super structured from the data lake. Even though sometimes we also try to develop interviews for our marketing data driven to local colleagues, and to customers sometimes, in order to have... Yes, the data driven approach, but also a qualitative approach where we can try to deal with the complexity of customers. So sometimes, we are not able to use the tools we do have, but we try to go directly and ask directly to people the questions we do have in somehow, because probably the complexity behind the data we're collecting is too high and does not help us in the end to reach, few of the many goals we do have."

(X1, Global Sales and Marketing Specialist)

"Each data structure requires a different AI approach, different techniques, and different awareness of the data analysts and also those who develop the model, different training. Different kinds of data enable a certain range of models. And models can be stacked, for instance, you can take a model for structured data that tells you what the sentiment is on a scale of one to ten. From an evaluation of a certain product with respect to delivery, specifically. Not just like, one to five stars. But I want to know, from the open answers, what is the opinion about the delivery, for instance."

(X3, Head of Data Management)

In order to understand better how to run an effective AI-powered digital marketing campaign, the interviewees were asked to name exact customer data that is needed. Often, companies use personal data of their customers in order to run effectively AI-powered digital marketing activities or provide personalized content. During the semi-structured interviews it was emerging that databases are the most important asset of a company. In a digital communication field that is continually changing due to new laws, and where third party data is not an option, it is essential to store client's data. A digital marketing campaign can work only with very essential data

such as name and email if one manages it well. However, a successful campaign has to consider the following data too. Sociodemographic data of the clients, such as nationality, age or address. As well as the interests of clients, which can be tracked by their actions. X5 Digital Account Manager interviewee gives an example about how interests of a customer can be tracked: if a customer abandoned a shopping cart, or if one visited some of the company's webpages it gives a direction for the company in reasoning. With this data a marketing specialist can know better who are the current customers and what are the necessities they may have right now. Geographic information can help a company to understand where there is a need to localize, for example, LinkedIn campaigns. And another important thing is, for sure, the sector and industry of a customer. The financial reports can help to understand what kind of customer, how much contributes to a company's final year results. Two of the respondents said that they pick up data from contracts with already existing customers. And in this way they are trying to develop a customer base where they have all their customers with all their information in order to try to understand what are the paths between the customer base. As well as, one of these two respondents clarified the reason behind that is the following: they still do not know the exact reason why people choose their company and they want to understand that in order to develop a better offering to their future customers, especially to understand what can be an average for renewals of their contracts. So what can be the player that will help them to renew contracts with actual customers. All in all, companies use most of the time, location and timeframe of the contracts in order to define when it is the right moment to have digital marketing action. It is also important to remember, as X10, Salesforce Digital Project Manager brings up, the important data type is not only customer base data but also install base data, which is the list of the machines that a company installs.

“Well, we have 93 columns in our database. So we really use a lot of information about our customer even though not all the time for the same thing, because otherwise the model is too complex. So we try to use the KPIs that help us to understand, for example, the pipeline, we do have for each customer, and the time framing, that could be helpful for us to understand when we are in overload, or when we need to improve our FT that is full time equivalent to certain parts of the world.”

(X1, Global Sales and Marketing Specialist)

“*Corporate and market data from high level and well developed CRM, ERP and Analytics systems.”*

(X7, Marketing Automation, Digital and Content Strategist)

Two from ten interviewees were explaining that actually companies need all possible types of data related to their customers. X8 Account Executive Salesforce Marketing Cloud interviewee was specifying that every kind of customers’ preferences and behavioral data is really important to a company. Furthermore, not only the data gathered online, but also the data gathered in store can be used for AI-powered digital marketing activities.

“We use all the possible data that is in our contracts with customers. We pick information directly from our contract list. Country location, address. Industry, time length of the contract, time to sell, time to develop the pipeline. When we were in contact with the customers and all this kind of information. But more importantly, how much or what kind of product one buys from us.”

(X2, Data Analyst)

On the other hand, as X9 Business and Integration Architect Senior Analyst was saying, in one's opinion it is actually wrong to collect all kinds of customers’ data.

This is because of the following reason, what big data gives marketing specialists is not only about the quantity of data, but the quality of the data too. So, instead of collecting a huge amount of data, there is a need to target and understand what is the market in which the company is operating. And so also what is the product or the service, and so collect only the data that is relevant. In other words, it is important for marketing specialists to understand beforehand what are the results and outputs desired from the AI-powered digital marketing operations.

"Like if I want to sell shoes, female shoes, it is okay, targeting for example, length of the foot, season and color. I mean, why should I collect male data. So, I will say, collect data that is really relevant for the product or service that I am focusing on."
(X9, Business and Integration Architect Senior Analyst)

However, the volume of the data is needed too because the quantity makes it possible to elaborate an extremely accurate sample of the phenomenon in question. Then talking about other characteristics of big data, veracity, refers to the reliability and so to quality of the data. In other words, it is not enough just a big amount of data but it is important to pay attention to its quality and sources (Gani, 2015), this will be discussed in detail in the following chapters. Furthermore, a feature that big data must have is the value that the data itself creates for the end consumer, that can be a company or the final customer. It is therefore irrelevant to collect data if it does not have a specific purpose or usefulness.

Also X5 Digital Account Manager was explaining that the company where one is working is dependent on structured data. The data that they gather is usually the following in addition to the sociodemographic data. The data is collected for example from triggering actions such as specific events from clients that later result in a specific communication. For example, when a client fills up a form, they send an

automatic confirmation mail. Also they collect data through satisfaction answers forms and from quality surveys. This data they usually quantify. Customers' navigation data is playing an important role, as well as for example delivery data that is coming from customer care. However, as the X8 participant was saying, actually all kinds of data related to customers is very important. Moreover, the data used for AI-powered digital marketing activities should be updated for the following reason.

"So the data from four years ago shouldn't really be used not because they are outdated but because they refer to, you know, different markets and different conditions. So there are some fundamentals of the market, which may change over time."

(X3, Head of Data Management)

All in all, companies still use almost only the structured data even if they are aware of losing possibilities to perform even better thanks to the unstructured data. Then in this research it was asked from the interviewees about customer's data that is needed. There were several customers' personal data types coming up, such as sociodemographic and geographic data. However, opinions of some interviewees were divided in two, some said that actually all kinds of data is very useful for digital marketing campaigns. Instead, others argued that marketing specialists need to pay attention to which data to use. Furthermore, the importance of data volume was coming up, its quality and being updated. So, data types coming up from the semi-structured interviews were several and diverse that a company can use in order to run an effective digital marketing campaign. These data types were also presented by the researchers Campbell et. al (2020) and were discussed in the literature review chapters. However, as several interview participants were highlighting, there is no right answer and so the data type in order to run an effective AI-powered digital

marketing campaign. Instead, this depends mostly on the company's needs and the current situation.

"It depends on what the business needs are."
(X4, Salesforce Marketing Cloud Specialist)

6.3. Data sources

During the interviews it was emerging the importance of different kinds of data sources in order to run successful AI-powered digital marketing campaigns. As it was stated in the previous paragraph, several interviewees are agreeing on the fact that any kind of data is functional for AI digital marketing intentions depending on the company needs. According to Brownlow et al. (2015) companies primarily take advantage of both data sources, internal and external data sources in order to run artificial intelligence tools. So in other words they are using a combination of both data sources for most high performances. However, during the semi-structured interviews it was underlined several times that internal data is a priority of companies. Therefore, this finding is actually contradictory to the statement of Brownlow et al. (2015) that self-generated data by a company is least utilized, that is why acquired and available external data is important. So, external data is not used that much even if marketing specialists are more than aware that it can give positive outcomes, especially when combining it with internal data. X1 Global Sales and Marketing Specialist explained that the company where one is working is using mainly internal data. Then sometimes they try to look at reviews, which are based on data driven approaches from their competitors or experts of the sector in order to get also different kinds of insights. So in this way, they take into account these other data that comes from outside. In any case the interviews showed that internal data is

in more use than external data and if the second one is used, it is considered to improve the existing internal data. However, it is important to notice that no one from the interviewees that were participating in this research brought up a possibility to combine internal data from different departments inside a company but they are talking about internal data as data in general of the company. Also it is important to notice that according to X3 Head of Data Management, small companies are more dependent on external data, since it might be that they do not own that much data by themselves in order to run successful AI-powered digital marketing operations.

"Most of the times the requests we do have are connected to internal data.
But when it comes to marketing activity to customer front activity,
so outbound activity, we need the external data as well,
but for our internal submission, we try to collect only internal data."
(X1, Global Sales and Marketing Specialist)

Some of the interviewees explained the reason why they do not consider external data. Even if external data can give many valuable insights, thanks to all the information it is containing, it is difficult to prove its reliability for a specific business industry, as well as, it is much more expensive than internal data collected by the company itself. According to the participants in the interviews, it is important to understand what kind of data external data is actually containing since the company cannot be in control of this data coming from external sources. That is why they choose to use only internal data since it is reliable and it is controlled by the company itself. As well as, the company is sure about the data being relevant and not losing time in order to get closer to targets. However, these marketing and data specialists do not disagree with the fact that using external data in combination with internal data could be an improvement in the future. However, on the other hand some participants did not see any advantage in using external data.

"Market data is essential to understand the customers and effectively forecast the customer behavior and market trends."

(X7, Marketing Automation, Digital and Content Strategist)

"For sure internal data is not enough, but it is one that we are in control of. And especially when it comes to customer based customer analysis. We are sure that whatever it's in our systems, it can be true. But whatever is outside our system, we are not sure if it can be."

(X10, Salesforce Digital Project Manager)

The single most important source of data for companies can be identified as data from company transactions (Brownlow et al. 2015). Internal data that is collected from a company's transactions and processes is most relevant to the company, but its diversity is limited. So external data that for example is available over the internet is used by companies to supplement models and forecasts (Brownlow et al. 2015). Nevertheless, utilization of different data sources varies greatly by industry as well as by a company size. One of the interviewees, X3 Head of Data Management, brings up that very often internal data is not enough, especially when talking about small companies. Instead, for big companies internal data might be enough since internal data of the company includes whatever data they possibly need. During this interview it came up that external data is very needed especially for small companies and that do not have rich internal data sets in order to get valuable insights on their customers.

“But for instance, if you're a small company that just sells to Amazon, coffee machines. And then you want to know whether you might sort of suggest some other products of yours like filters or capsules. But you don't have a customer's data, you have to purchase that data. So external data for small companies is just key. It's crucial, most likely. The larger you are, the larger the share of markets you have, probably the smaller is the need for external data.”

(X3, Head of Data Management)

Thanks to the semi-structured interviews, it was highlighted the importance of both data sources as pertinent and functional for AI-powered digital marketing operations. However, it has to be noted that data from customers is considered very important regardless of the sector. Several interviewees noted that their main data sources are Salesforce and Service Cloud where internal CRM data are stored. As well as, ERP, Market research (both qualitative and quantitative), Google and Social Media Analytics.

“Our data sources are basically Salesforce.”

(X1, Global Sales and Marketing Specialist)

“There can be many sources and I wouldn’t talk about advantages but about needs. Coming back to the previous example: if a business requirement is to send the client an email in which trying to sell something he left in his abandoned cart, you need to retrieve ecommerce data from an external source. The advantage is…to satisfy the business requirement.”

(X4, Salesforce Marketing Cloud Specialist)

As it was coming up during two interviews, in the future the importance of internal data will grow as a data source. Since, starting from 2023, it will not be possible to

collect third-party cookies. According to X8 Account Executive Salesforce Marketing Cloud it will be a huge step. Because this means that, for example, for doing advertising on Google ads, or Facebook, a company will not be able to use this kind of data anymore. So it will be very important for the company to be able to gather good first party data. But also zero-party data, which is, a new definition that is related to customers' data that the customers communicate, share with the companies by themselves. This data has to be very reliable, because customers are sharing their data on their own.

"External data is important, they are used by marketers, but from next year, let's say in the future, considering also the privacy constraints, boundaries, GDPR boundaries, first party data will be definitely more important, because nobody knows your customer better than you."

(X8, Account Executive Salesforce Marketing Cloud)

"Yes, from my experience internal and first-party data is the most important data source, especially since the end of the third-party cookies. The most valuable thing for a company is to have a great database from their clients."

(X5, Digital Account Manager)

All in all, interviewees agree that in order to achieve the best results it is important to combine internal data with external data. However, keeping in mind what is the goal of the company. And adding external data it is possible to have a different point of view, as well as look at the same thing with different eyes that are externalized. In any case, in order to run an effective AI-powered digital marketing campaign, it is important to understand what the data used for campaigns is containing, if it is relevant and what is the source that it is coming from. Nowadays, generally speaking internal data is seen as more important for companies than external data. However,

external data is very important for small companies and in the future will also become more important for bigger companies too, since the changes that will arise in relation to the third-party cookies.

6.4. Data capturing and management

Very important aspect, mentioned several times in this research paper, is the aspect of data acquisition by companies, which can refer to individual consumers or the surrounding environment. The explosive growth of data has made it more difficult to acquire and process data. According to Hartmann et al. (2016) valuable and reliable data is obtained systematically and regularly by collecting it from internal and external sources. In order to implement successful AI-powered digital marketing operations the data should be reliable. Reliability was defined by the interviewees in the following way: the data that can be trusted, the data source can be recognized and it is relevant for the business purposes. With up-to-date and reliable data, marketers can offer more targeted and comprehensive digital marketing. Indeed, the amount of data is not a problem, but its processing and management are more problematic.

In order to understand how a company can make sure if the data they are using in their digital marketing operations is reliable: a question was asked regarding this aspect during the semi-structured interviews. Interviewee X1 Global Sales and Marketing Specialist bring up the following. A company can make sure the data is reliable by investing a lot in digital solutions and having an internal team in the company that develops solutions in the digital marketing tools. Since it happens often that a company pays external consultants who develop the solutions but later there is no communication possibility with those consultants. So a company has

solutions that are developed from people that cannot be met anymore. For this reason the interviewee stressed the importance of having an internal Master Data Management Team that analyzes the data used for digital marketing operations. Also other interviewees agreed on that. As well as X7 Marketing Automation Digital and Content Strategist was highlighting the importance of structuring a proper data acquisition model while integrating any owned channel and customer journey touchpoint. Not forgetting mandatory dedicated and well-trained team, besides external consultants. As well as, X5 Digital Account Manager was mentioning that companies need to keep their internal data updated as much as they can because it is the key to have trustful data from their clients.

"Through the Master Data Management Team that analyzes from a statistical point of view the data, almost daily. And they try to understand not only what is the problem but what creates the problem in our systems."

(X2, Data Analyst)

"That's very hard. We have a team of 12 to 15 people that just work about Master Data Management. They have a structure, they look at the data almost daily, they try to control even though we try to develop controls on the field. And so it's, of course, an iterative process with multiple approaches to it. But for sure, it's very difficult to keep the database clean."

(X10, Salesforce Digital Project Manager)

"By structuring a proper data acquisition model while integrating any owned channel and customer journey touchpoint. Then, by re-organizing the existing assets. Managing both internal and external data. I also think that a dedicated and well-trained team is mandatory, besides external."

(X7 Marketing Automation, Digital and Content Strategist)

As it was discussed in the previous paragraph, several interviewees were considering external data as not fully reliable data type and in this way better to avoid, even if it might bring new valuable insights for a company. Therefore as interviewee X1 Global Sales and Marketing Specialist, explained the company is controlling the data several times before its implementation and taking it into account. Instead, another interviewee X6 Digital Marketing Project Manager touched the point of cost. One told during the interview that the more reliable the data, the more expensive it is. So in their case it is more a matter of cost than reliability itself since it is difficult to prove the reliability of the data. But the reliability of external data, according to the interviewees, can be assured by using data from big and reliable companies. However, only one interviewee was going in detail related to those companies, other participants did not mention which could be reliable single external data sources.

"We try to use the high, premium reports from premium companies that work only with that, like Gartner."

(X1, Global Sales and Marketing Specialist)

"It depends on the transparency of the organization providing data. Anyway, the forthcoming changes about third party cookies from Google are going to make the owned data even more crucial, and third-party data less reliable."

(X7, Marketing Automation, Digital and Content Strategist)

"It really depends on where they are coming from. Because yeah, if talking about for example, data from agencies or from big players, for example, advertising companies or marketing advisors. They should be reliable. But it's always tricky."

(X8, Account Executive Salesforce Marketing Cloud)

According to the interviewees data capturing itself is happening for example through marketing automation systems, for example, it is possible to use tracking techniques, such as cookies, to identify individuals among the many internet users. Another method of data acquisition is through the use of machines or robots installed with artificial intelligence software inside them. These data collection methods capture real-time data when it occurs. Furthermore, as it was discussed in the previous chapters data acquisition does not necessarily need to happen online, but the data can be collected for example in store too. Data capturing and management phase is the most critical, especially when the user is aware of the use that companies and organizations could make of their data. However, the interviewees were fine with the current data capturing and management methods that their companies are implementing and did not mention anything about possible improvement related to these aspects.

The last topic discussed during semi-structured interviews was related to the data privacy issues that marketing specialists might face while collecting data for AI-powered digital marketing operations. As it was discussed in the literature review chapter it is important for companies and marketing specialists to understand and follow data privacy regulations and requisites in place right now that are strongly affecting data capturing and management practices. Participants agreed on the fact that these regulations and requisites strongly affect AI-powered digital marketing operations. According to Campbell et al. (2020), from 2018 in Europe, the protection of personal data is guaranteed by the General Data Protection Regulation (GDPR), an EU regulation that specifically concerns the protection of individuals regarding the processing and free circulation of personal data. Also interviewees highlighted its importance in AI-powered digital marketing operations. All in all, privacy and GDPR policies are a great challenge for companies to gather data. Nowadays, clients need to accept different terms and conditions in order to be contacted. This means that less people accept to share their data and so be impacted by commercial

communications, but at the same time, it also means that people who accept are users that are more qualified. They want to be communicated with, so their interactions are better, was explaining X5 Digital Account Manager.

"We are reliable to GDPR. So, from when we implemented, of course, we have a drop of possibilities. But in the end, we are using more information now than before the GDPR because at that time we were not aware of the possibilities we had for insights."

(X2, Data Analyst)

***"**Privacy strongly affects the collection of data. Data is a treasure. Probably data is the most important asset that a brand owns. It is important, super important to have a strong data strategy. And also to be compliant with the laws, with GDPR."*

(X8, Account Executive Salesforce Marketing Cloud)

During the interviews came up some challenges too that data privacy issues might cause for companies. One of the challenges that X1 Global Sales and Marketing Specialist brings up is the importance of knowing different rules and regulations for each country when operating globally. Since it might be complex to respect regulations of each country as X6 Digital Marketing Project Manager said in the interview. And if a company does not follow those restrictions, the consequences are very big.

"For sure, in some countries, where they have less rules for us, maybe it is a bit easier for us, because we can use data that we cannot use elsewhere. But this creates complexity because when we do global analysis, it can happen that some countries we are not able to analyze because we cannot access data that in other countries we can access."

(X1 Global Sales and Marketing Specialist)

"And we really see the difference between privacy restricted countries and no privacy law countries. But still, of course, when it comes to like, weight of the country, of course, the more developed are giving us different results, much better results."

(X6, Digital Marketing Project Manager)

"It's mainly going to affect cookie-based digital advertising that means any interest-based advertising such as search and display advertising. As well as conversion-oriented strategy."

(X7, Marketing Automation, Digital and Content Strategist)

Some of the interview participants were having a strong opinion about all the regulations and laws, as well as privacy issues related to data. They said that for marketing specialists, they are nightmares and cause a lot of headaches. And that business teams often have to fight against legal temas, according to the X4 Salesforce Marketing Cloud Specialist. This was explained by X8 Account Executive Salesforce Marketing Cloud interviewee in the way that marketing specialists are often willing to do many different digital marketing activities, but many times they are stopped because of privacy and legal regulations. However, the same interviewee was bringing up another side related to the issue, a customer is happy to give its data to companies that really protect their data and are reliable. So all the regulations could be a game changer and an opportunity for companies and their AI-powered digital marketing activities.

All in all, as it was discussed in the literature review. More time passes, the more the data acquires value. In fact, in a data-based economy, the data stops being just information and becomes a commodity, a product that can be purchased and regulated together with the transactions that see it as a central element, as well as subject to the particular restrictions previously mentioned (Davenport et al., 2019 &

Martin, 2016). The data must be reliable in order for AI-powered digital marketing activities to be effective. Also companies must necessarily take into account all the limits and restrictions that data capturing and its management are bringing. This is not only because of the laws currently in force, but also in order to prevent a collapse of their reputation following incorrect management of their customers' data. Even if the benefits are very important for the customer experience, free information or access to services, the greatest concern of customers remains in the aggregate use of the data provided.

CONCLUSION

The aim of this research was to understand the impact of AI-powered digital marketing operations based on the empirical evidence from case studies. Therefore, the aim of the study was to explore how a company adopts AI-powered systems in digital marketing operations and what kind of data marketers should use in order to achieve the best possible results. The aim was also to provide an understanding of the factors that affect properties of the data. In such a manner, the data capturing methods and the data management practices were explored. Furthermore, the research explored the role of different data sources, such as internal and external data.

The topic of the thesis was initially opened by defining the concepts of artificial intelligence, machine learning, deep learning and big data. The concepts were introduced by going deeper into the definitions based on the literature. The concept of digital marketing was also analyzed through understanding the implementation of artificial intelligence in digital marketing operations, as well as the benefits and challenges it brings. Afterwards, the role of data for AI-powered digital marketing operations was discussed. Instead, the analysis and results chapter, which is also the main chapter of this study, looked in more detail at the concrete aspects related to data in AI-powered digital marketing, thanks to the semi-structured interviews that were conducted during the research. Furthermore, this conclusion chapter reviews the main results obtained through the research on the data in AI-powered digital marketing operations. The chapter also discusses the limitations of this study and possible further research suggestions are specified.

On the basis of the literature review, an understanding was formed of the current state of the research on the topic and the themes that appear in literature in general

related to the topic. Despite the long history of artificial intelligence, it has been noted the difficulties related to agreeing on only one definition. That is why there are several definitions that include different concepts regarding AI over time. As it can be seen from the previous definitions of AI, many scientists agree with the basic idea that artificial intelligence makes a machine do something that can be called intellectual in human activities. The ultimate idea in many AI technologies is to model the human brain and how it works in problem-solving situations. In other words, aiming to study, design and build intelligent machines that can achieve objectives. The first chapter dealt with applications of artificial intelligence, such as for example the results obtained by artificial intelligence research and potential solutions to utilize artificial intelligence in digital marketing. Based on the literature, it is noted that although artificial intelligence has been studied for quite some time, significant steps have been made in the development of artificial intelligence in recent years. Furthermore, the development of artificial intelligence has opened up many opportunities to apply artificial intelligence in various tasks, in order to increase the efficiency of operations in digital marketing. The development of various applications of artificial intelligence is enabling wider use in even more multidimensional tasks, and it can be assumed that as development continues, artificial intelligence will be utilized more widely in digital marketing as well.

Machines with artificial intelligence need a big amount of data in order to perform right and generate an accurate output. Nowadays, different organizations but not only, also consumers, are generating a huge amount of data that can be used for analysis. In digital marketing, often this information is about individual consumers and used in order to better understand and predict their behavior. In other words, digital marketing is becoming more data-oriented and it is suitable for any type of business or enterprise regardless of size. As it was discussed in the literature review, the concept of digital marketing can be thought to consist of two parts. The first section highlights the different platforms, tools, technologies and channels that

marketers use for digital marketing. The second part of the concept is including motives and objectives that are behind doing digital marketing. The aim is to make a profit for business by acquiring new customers and maintaining relationships with existing customers. These can be achieved by digital marketing products and services that a company is offering. However, digital marketing is not a set of separate measures, but the objectives are usually achieved by integrating both parts of the definition, so tools with objectives together. There are several applications of artificial intelligence in digital marketing that are very useful and bring many new possibilities for companies in their marketing activities. In other words, applying AI to digital marketing is important because it allows a company to market their products and services in accordance with the exact preferences of consumers. According to the literature review, artificial intelligence is playing a crucial role especially in strategy and planning, in areas such as segmentation, targeting, and positioning. There are also other applications that are implemented in the following areas: creation of personalized content, media optimization and customer experience.

The main results of this research are related to the four main themes that were individuated during the semi-structured interviews and data analysis. The aim of this study was to provide an understanding on the importance of data and what should be considered in order to run successful AI-powered digital marketing operations. This study proved the importance of AI in digital marketing since it gives many opportunities for marketing specialists that without artificial intelligence would not be possible. AI allows marketing specialists and data specialists to better understand what consumers are thinking and in this way create relevant marketing campagnes. The importance of AI was also emerging in strategic planning and in managing repetitive tasks, as well as, in anticipation of the market trends, customer expectations and so fulfilling their needs. AI in digital marketing allows marketing specialists to save time and avoid human mistakes. However, marketing and data specialists should keep in mind that in addition to the benefits of AI, there are also

several challenges. These challenges are related to very high costs of AI-powered digital marketing operations and knowledge inside a company in order to run effective AI-powered digital marketing activities. Other challenges are data quality and lack of data hygiene, as well as implementation of AI still requires human marketing specialists by its side.

Moving to the four main findings of the research. The first finding from the empirical data obtained from semi-structured interviews related to the data perspective is that marketing specialists should be aware of understanding their company's business goals before starting implementation of AI in digital marketing operations and collection of data for the before mentioned purposes. The second finding was instead related to the data type and ensuring its quality. Some of the interviewees were highlighting the importance of having an internal team that is occupied by that. Data can have different structure but marketing specialists should take into account its volume, quality and that it is updated. The third finding was related to data sources, so to internal and external data. Even if companies are mostly using internal data in their AI-powered digital marketing operations, the research showed that marketing and data specialists are having a strong opinion about the importance of combining those both data sources as an important practice in order to run effective AI-powered digital marketing operations. The last important finding is about data capturing and its management. When a company is collecting customer's data, it is important to keep in mind the belief and confidence of them in order to be able to collect the data and so run successful digital marketing campaigns. This will be even more important in the future when internal data and zero-party data will have greater importance for companies and marketing specialists.

This research, as all studies, has some limitations. The research focuses on the importance of data in digital marketing powered by artificial intelligence. Considering at the same time data types, sources and its capturing as well as management. The

data was collected through semi-structured interviews in order to get answers regarding the themes. However, one limitation of the research is that it concentrates on several aspects but not only one specific one and that is why this study was not able to go too much in detail regarding a specific aspect regarding data for a successful AI-powered digital marketing campaign. The amount of data collected through semi-structured interviews was sufficient in order to investigate the topic but in any case the research could include more participants, so the marketing and data specialists in order to get an even more broader understanding of the topic. In this way it could also be possible to interview people from different departments who still work closely with AI-powered digital marketing, in order to get a possibility to compare the data. Furthermore, this research is using only qualitative research methods but in order to get even more exact results, the research could consider the quantitative research method too. As the last one this research did not consider only one industry but included all companies despite its industry that are working with Salesforce Marketing Cloud. As it was discussed before, AI is an experimental discipline, in the sense that an artificial intelligence system meets the required objectives only when the desired performance is actually measurable. So in other words, it is difficult to determine a certain threshold beyond which an AI-powered digital marketing campaign can be classified as successful.

All things considered, future research recommendations are the following. First, for more reliable research it is proposed that further research would consider more interviewees, so people who are working with AI-powered digital marketing. Longer time frame of research might help in reaching more interviewees. Furthermore, it could concentrate only on one aspect such as for example data sources or one specific industry and take a deeper look into that. Another suggestion would be to conduct mixed method research, where there would be a survey for implementing quantitative research methods.

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APPENDICES

1. Semi-structured interview questions

General questions:

1) What is your role in the company?
2) Could you talk about your job?
3) How do you use AI-powered digital marketing tools?

Detailed questions:

1) How does your company adopt AI for digital marketing operations?
2) What are the benefits of using AI in digital marketing operations?
3) What are the challenges that you have faced while using AI in digital marketing operations?
4) What kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?
5) Do you mainly use structured, semi-structured or unstructured data?
6) What are the main data sources you are using?
7) Do you think that internal data is enough to run an effective AI-powered digital marketing campaign?
    a) If not, what kind of data do you need?
8) What is the main source of external data and what are the advantages from using it?
9) What does it mean reliable data in your opinion?
    a) How can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?
    b) Do you think that external data is reliable data?
10) How do data privacy issues affect collection of data?

2. Semi-structured interviews

Interview 1

General information:
- Interviewer: Maria
- Interviewee: X1

Maria: Hello!

X1: Hello Maria, good afternoon!

Maria: Nice to meet you and thank you very much for accepting my request to participate in the interview for my master's thesis.

X1: Nice to meet you too. Well, you are welcome. I felt that this topic is very interesting and I have something to say about it.

Maria: Great, so I think we could start, so I will not steal too much of your time. So as I already told you, I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. So the questions are mostly related to the data perspective. This interview is going to be registered if this is not a problem for you.

X1: That's an interesting topic, and no recording is not a problem.

Maria: Perfect, so first I would like to ask what is your role in the company?

X1: Okay, great, so I am a Global Sales and Marketing Specialist. I have around 5 years of experience in the field.

Maria: Could you talk a little bit about your job?

X1: Yes, I analyze data from the corporate system in order to develop marketing and sales strategy in the 18 countries where we are present. I use a lot of AI-powered digital marketing tools for our monthly submissions.

Maria: How does your company adopt AI for digital marketing operations?

X1: I automate repetitive tasks in order to focus more on analysis instead of data management. Since there are the same activities every month to do but that computer, through AI, could perform in a more efficient way. Since data management is very time consuming, through Salesforce I automated weekly and monthly submissions, through our automatic dashboards. AI is used in our strategic marketing planning but also for our presentations with customers and other teams.

Maria: What are the benefits of using AI in digital marketing operations?

X1: So, we are developing data driven strategies since we do have monthly meetings with our top management, where we are going to show them all our targets and all our data that show how and what is the path to reach the target of our company. We try to have a data driven approach from the top management to the bottom up what means for us the salesman or what is the frontman of the company at the customer side, at customer place. We tried to standardize the processes in order to have a possibility to analyze the data globally since we are present in 18 countries. This creates a lot of complexity when it comes to data entry within many countries and the misunderstanding is very common. So, we try to define rules and procedures in order to develop tools that can help us. Especially for data collection, which is critical. Since I personally follow 18 countries together and there is no one in the middle that could support me. So, I have 18 different people that need to support my analysis through their data entry procedures. We try to develop with the IT department

many tools inside the Salesforce and connected to Salesforce directly or semi-automatically, in order to have a chance to meet the questions of our top management.

Maria: So, you mentioned several benefits that AI is bringing in digital marketing operations, but can you name challenges that you have faced while using AI in digital marketing operations?

X1: The most problematic thing is data quality. Very often the development that has been done in the past to connect the different Salesforces, we do have a for each country, because we don't have a Salesforce centralized but one different for each country. The problem is that the connections are not making our life easy because sometimes it happens that we have technical issues and data entry issues that can be manual or technological point of view where the API, which are connectors, the bridge between the local and the central, sometimes reads the information in a wrong way. Because the rule they found from an IT developer was not consistent enough. So for some specific cases, we do have multiplication of rows and columns which create disasters when it comes to automated analysis. For example, the list of contracts if you multiply each row for even a few of 1000 of rows we take into account, we still have a double counting what creates a lot of complexity for us and for the readers of the data lake that is the sum of all the Salesforce from where we pick up information through automatic and semi-automatic AI powered tools.

Maria: And what kind of data of customers do you need in order to run a successful AI powered digital marketing campaign?

X1: We try to use most of the time location and timeframe of the contracts in order to define when is the right moment to have marketing action. TCM, what is the total contracted margin, we do have with the customers, so how much customers help us to reach our TCM target, this is the most important target for our company. And then of course, the industrial sector helps us to define and divide customers in groups. The TCR, that is the total contribution revenue so the TCM plus our costs. Then the CAPEX, the CAPEX needed to reach this service and OPEX is as well connected to the deal. And what else. Well, we have 93 columns in our database. So we really use a lot of information about our customer even though not all the time for the same thing, because otherwise the model is too complex. So we try to use the KPIs that help us to understand, for example, the pipeline, we do have for each customer for each kind of customer, and the time framing, that could be helpful for us to understand when we are in overload, or when we need to improve our FT that is full time equivalent to certain parts of the world.

Maria: And so is this data mainly structured, semi-structured or unstructured?

X1: They are. All of them are super structured from the data lake. Even though sometimes we also try to develop interviews for our marketing data driven to local colleagues, and to customers sometimes, in order to have... Yes, the data driven approach, but also a qualitative approach where we can try to deal with the complexity of customers. So sometimes, we are not able to use the tools we do have, but we try to go directly and ask directly to people the questions we do have in somehow, because probably the complexity behind the data we're collecting is too high and does not help us in the end to reach, few of the many goals we do have.

Maria: And what are the main data sources you are using?

X1: Our data sources are basically Salesforce.

Maria: So are they internal or do you also use external data sources?

X1: We use mainly internal data, collected as I was explaining before, and then sometimes we try to look at reviews, which are based on data driven approaches from our competitor or experts of the sector in order to get also some insight from an out of the box approach. Since, we also try to look at things differently. So sometimes, yes, we take into account these other data that comes from outside.

Maria: So did I understand right that in your opinion, internal data is not enough? So you also need external data.

X1: Most of the times the requests we do have are connected to internal data. But when it comes to marketing activity to customer front activity, so outbound activity, we need the external data as well, but for our internal submission, we try to collect only internal data.

Maria: And what are the advantages from using the external data?

X1: You can have a direct result and you can have a different point of view. And you can look at the same thing with different eyes that are externalized.

Maria: Thank you, and what does it mean reliable data, in your opinion?

X1: Data you can trust in. But at the moment in some cases, we do have complexity in the system that doesn't help us to make reliable data. And for this reason, we need to create new AI-powered solutions that do not include Salesforce, but direct from our local colleagues in order to collect information, because the system does not support us for some specific analytics. What is expensive to change in the system, because every time you need to change the name of a column or add new information to collect, you need a lot of money to change it. So we try to do it internally still but using other tools, which are more customizable.

Maria: And how can a company make sure that the data is reliable?

X1: Investing a lot in digital solutions and having internally a team that develops solutions in the tool. Because very often you have consultants who come and just develop and leave. So you have solutions that are developed from people that you cannot meet anymore. So data is not reliable, because it is just not reliable, but because something changed in reality. And this is very difficult to reflect on Salesforce.

Maria: And do you think that external data is reliable data?

X1: No, we don't think so. In fact, we ask ourselves many questions before taking it into account, even though according to the brand, you take into account, it can help you to understand if the reliability is high or low. We try to use the high, premium reports from premium companies that work only with that, like Gartner.

Maria: And thank you. My last question is related to data privacy issues. So how do data privacy issues affect collection of data?

X1: It's very important, we have different rules for different countries. Since we work in four of the five continents, we are working globally. So this is a very complex deal. We have an office that works only about that. And we want to respect the rules of each country. For sure, in some countries, where they have less rules for us, maybe it is a bit easier for us because we can use data that we cannot use elsewhere. But this creates complexity because when we do global analysis, it can happen that some countries are not able to analyze because we cannot access data that in other countries we can access.

Maria: Thank you and would you like to add something? Maybe some concerns or something that did not come up and you would like to add?

X1: No, thank you. I think everything was covered pretty well.

Maria: Okay, thank you very much for participating in my interview. All the information that you gave me is very valuable for the research that I am conducting.

X1: Thank you Maria, and have a great weekend.

Maria: Thank you, you too. Goodbye.

X1: Bye!

Interview 2

General information:
- Interviewer: Maria
- Interviewee: X2

Maria: Hello.

X2: Hi.

Maria: Nice to meet you. Thank you for accepting my request for doing this interview for my master's thesis. As I told you before, anonymity is guaranteed during the whole process and if it is not a problem for you, this interview will be recorded in order to make it easier to transcribe it later.

X2: Nice to meet you too. And yeah, that's totally fine for me.

Maria: Perfect. Okay, let's start then. I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. And therefore, I have a couple of questions related to data and its collection. And the first question that I wanted to ask is, what is your role in the company?

X2: I am a data analyst.

Maria: Okay. And let's move to more, let's say specific questions about the data. And how does your company adapt AI for digital marketing operations?

X2: We buy, we outsource this function. So we just pay consulting to automate this part of our activity.

Maria: Okay, and what are the benefits of using AI in digital marketing operations?

X2: Good, because you can use a scientific approach, statistical approach to marketing activities, when it comes to communication, pricing, and all of what is related to marketing.

Maria: And what are the challenges instead, that you have maybe faced?

X2: It is very expensive to implement AI in digital marketing operations. Because we don't have this knowledge inside our company. So we need to hire an external consultant. With whom it is difficult to communicate, because they don't understand the business.

Maria: I think that's a problem. And what kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?

X2: We use all the possible data that is in our contracts with customers. We pick information directly from our contract list.

Maria: And exactly what kind of data do you need?

X2: Country location, address. Industry, time length of the contract, time to sell, time to develop the pipeline. When we were in contact with the customers and all this kind of information. But more importantly, how much or what kind of product one buys from us.

Maria: And do you mainly use structured semi-structured or unstructured data?

X2: We use only structured data.

Maria: And never unstructured data?

X2: We try to avoid unstructured data because it's very time consuming.

Maria: And what are the main data sources that you're using?

X2: Our internal CRM, Salesforce.

Maria: And are you using external data?

X2: We try to avoid this kind of data because it is very expensive. And not reliable for our specific business industry.

Maria: So do you think that internal data is enough for running a successful AI-powered digital marketing campaign?

X2: For sure it is not enough, but for sure it is reliable because we are controlling this data, the quality, and this data is for sure specific for our business. Exactly what we need.

Maria: And, okay, what does it mean to you, the reliable data?

X2: It means that I can trust in them, I can control the data source and that it's related, it is relevant exactly for our business.

Maria: And how can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?

X2: Through the Master Data Management Team that analyzes from a statistical point of view the data, almost daily. And they try to understand not only what is the problem but what creates the problem in our systems.

Maria: And even if you're not using external data, do you think that it is reliable?

X2: Not sure. Because our business is very specific. And it takes a lot of time to understand how it ran, really. So we didn't really approach it. Maybe there is something good about it but at the moment we find it expensive for time and money.

Maria: And how do data privacy issues affect collection of data?

X2: We are reliable to GDPR. So, from when we implemented, of course, we have a drop of possibilities. But in the end, we are using more information now than before the GDPR because at that time we were not aware of the possibilities we had for insights.

Maria: Okay. Thank you very much. And would you like to add something?

X2: No, I do not think so.

Maria: Okay, thank you very much, all this information is very important for my master’s thesis.

X2: I am happy about that. Good luck with your thesis!

Maria: Thank you very much.

Interview 3

General information:
- Interviewer: Maria
- Interviewee: X3

Maria: Good afternoon.

X3: Good afternoon Maria.

Maria: Thank you very much for finding some time to participate in this master's thesis interview. It is very helpful for my thesis. If it is not a problem for you this interview will be registered.

X3: No, that's fine for me.

Maria: Perfect. Then let's start. I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. And therefore, I have a couple of questions related to data and its collection that I also sent you beforehand.

X3: Okay, just to go through what we have discussed before. So one question I would get is how do you benchmark or you evaluate the effectiveness of your AI, model or application, which you have employed in your digital marketing operations. And the reason why I'm asked this is because especially in recommendation systems, it's an open question. Really, a technical question, in the AI community of researchers, is how to evaluate those models. The main reason being that you don't really have a baseline truth against which to compare your model, because if I have been exposed to the suggestions, which have come out of your model, I have not been exposed to like Princeton, like non AI based marketing and digital marketing, which means that don't make selections in this new framework based on AI. But this has never happened within the same conditions, except the absence of AI. So that's very complicated, too. There are some theories behind this, but I'm really curious to know how, you know, men on the street, what tackle this problem and whether they've ever been feeling there, but like, a clue how they will evaluate. Because effectively they pay for this, you know, for this service, right. So they need to know how, whether this, what they've paid for, it actually reported some benefits in terms of revenues or not. So that would be my first curiosity, how the, you know, business people, would rate an AI model, which is per se, a very challenging task in the research of AI. So maybe some are very less clear in like day to day operations. That's going to be my first question. Second would be, how do you understand AI. Because I assume that you know, this question will be for non technical users, most likely, they will be just operating a model which has been developed by someone else, like consultancy company, for instance. Or the thing could be totally externalized. They just, you know, have a black box and they do not know what there is inside.

Maria: Actually, part of the literature review in my thesis is talking exactly about that. It is also important for the marketer to understand what it means because everyone is talking about that but the exact definition of AI might not be clear for everyone, as well as how it actually works.

X3: Yeah, sure.

Maria: And the definition is not the only one.

X3: Yeah, not only one, and that's the thing. Because there's a lot of hype behind machine learning and data science and AI, and now specifically AI digital marketing. But I think most likely lots of companies, even smaller companies are paying for the hype. AI is something that you need to know how to use, to use properly, in a productive way. So, there are several reasons. The first reason is, very often, it's not like a software which is delivered once for all, but because there is a cost and training. So, ideally an AI model is like a very very general model which can be trained on your specific training data, that is for instance, all the marketing data of the last three or four years for instance. That you have collected. Okay, this is one of the questions.

Maria: Yeah, right.

X3: Yeah, most likely they have collected, you know, the sales lead up to the last three, four years and trying to match the sales with, you know, enough information about the customers so who actually made the sale, made a purchase. Then you train a model and then you apply the model to some new data, unknown data, which the model has never seen. We'd like to suggest what a customer which is pushing would buy in certain circumstances for instance, certain period of time of the year, certain selling channel, Amazon eBay, okay. But there are at least two things, on the one hand as new data collected as new purchases, which you can do, you can use those data to retrain your model and, you know, to have a finder to refine the model. This will increase your accuracy, if some new information is probably not that human readable but it's computer accessible. And computers grasp that information and can make it a more refined model. It is more important, though, that the market can evolve itself. Right. So the data from four years ago shouldn't really be used not because they are outdated but because they refer to, you know, different markets and different conditions. For instance, data four years ago about… think of eBay. It was used for auctions, 20 years ago, 15 years ago. Now, it is no longer just for auctions, right. So there are some fundamentals of the market, which may change over time. And that's the point when you have to radically re-implement your model, your AI model. So AI models can learn things on their own. But it's not forever, you know. And lots of companies do not have any clue about that, they just click the button. And yes, so the question is, to me, how do you understand AI. Whether they assume it's once for all or they know that there is some, you know, constant retraining of the model, whether they have asked for that, whether they have any control about that, and so on and so forth. That would be very interesting for me.

Maria: Yes, so true. I think that this could be a further research question, you know.

X3: Right, that's a research question. But the thing is, if they have no clue about how an AI model works, then it's very likely that eventually, their AI models will break down. And they will complain and say, okay, yeah, it's crap, and so on, and so on. Like it just doesn't work at all. That's the whole discrepancy. But the main thing is that, you know, it's just that their level of awareness of the tool is too low in order to use it appropriately.

Maria: Yeah, exactly one article in my thesis was talking about that. Also the companies that are implementing AI in digital marketing, like the early adopters are the companies that are having a very strong digital base already.

X3: Right, like Facebook, Google, Amazon.

Maria: Yeah, that's it.

X3: And I think they are so confident of themselves that they basically released most of the tools that they… Just one thing, which is interesting. Once I got this colleague of mine. He works for Google in Zurich, Switzerland. And Google has recently a wealth of open source software, like everything you can possibly imagine in computer science. Google has some open source stuff out of it. For instance, the main, you know, by far, main framework for AI, which is called TensorFlow, is open source. And it was released by Google six years ago, approximately. What is interesting is that what is released for the users one could imagine is like, it's not the most advanced that Google has, is that is the opposite. They take the most advanced, they release to the whole world, and they say one generation of technology behind deliberately, because they don't want to risk something, just like new or possibly even more, better performing. But there could be bugs and things like this. So they benefit from the whole community. Explain those tools, contributing those tools, perfecting those tools, so they can migrate very safely to the next generation of technology. It's just the other way around. Very unexpected.

Maria: Yeah, very interesting.

X3: Yeah. So they're just so confident about what they've done. They are very liberal, the whole world uses their products. But still, they're one step at.

Maria: Well, but the problem is still for the small companies that maybe do not even see the benefits yet, even if the AI was introduced several years ago.

X3: Right, that's true. And, but you know, what, because AI is software, but differently from software we've been exposed to so far. Which is that they are once for all, there might be new releases, there might be updates, but basically it is there. You do not need to do anything to make it work better or to keep their performances, not dropping. Right? AI is the opposite. So we cannot fully externalize software and IT to some other company because we just risk losing control. And then very quickly, very quickly we will have something obsolete, running. So it takes a bit more awareness when you use AI. So specifically, for small companies that could be a problem.

Maria: Thank you for all this information.

X3: You are welcome.

Maria: And can you name some benefits when using AI-powered tools in digital marketing operations?

X3: Um, I would say, first that would enlarge. So widen the…

Maria: So why would a company need to invest in that approach?

X3: Right. Definitely for as a condition system. So when you want to advertise your product, the timing, and you know, the matching between the product and the potential customer, so the mismatch could be reduced. And chances that the targeted customer would actually buy or purchase your product, that would be higher. But also, you could use AI to enable like, brand new markets, for instance, if you want to launch a new product, I do not know, perhaps you could. Yeah, if you have like, sort of loyal customers, you can just wipe them there. So increase their loyalty and fidelity just because you make them lose, waste less time, because you just you know, you suggest the right product to them.

Maria To customers.

X3: To customers. Exactly. And so you increase the fedelization of some already loyal customers. That's one thing, and then also widen the range of products that they could possibly purchase. And then it enables new markets and lets you know, more customers know about you, whether if you know, stress the right thing at the right time, to the right customer. So, that will be the reason.

Maria: Okay, and what about, like challenges? Well, you said about the data that there might be a risk that the data will go to the wrong hands later.

X3: Yeah, that's always possible.

Maria: Do you have any other challenges in your mind?

X3: I mean, the challenge is to evaluate how good your AI model is. Right? So how good you are doing with AI in respect to the benchmark that you might possibly not have, as we said before. That's one thing. Another thing is that investment, so sometimes there are AI tools which just came out of the shelf. We have to invest a little bit of internal resources to monitor how things are going. And also a bit of training the skill. You might have data analysts in your company, right, but maybe they should be a little bit trained in a little bit more advanced way. So you might invest in that in order to use AI successfully.

Maria: Yeah, one article in my thesis is talking exactly about the importance of training marketing specialists.

X3: There's a bit of investment to be done. Yeah, that'd be the challenge. And yeah, also, the another challenge could be, you know, to not trust too much AI. Because at some point, you know, your standard digital marketing strategies could be fair enough. But you have to monitor how AI is going and you have to be, you know, sort of, I would say attentive to any possible breakdown at the model suits. You don't need to trust too much.

Maria: And what about the structure of data? Do you use structured semi-structured or unstructured data in your company for AI-powered digital marketing operations?

X3: So first, I would wonder whether a data analyst knows the difference between those. But I hope so.

Maria: Yes. We suppose.

X3: We suppose because, you know, you can use unstructured data. So you can use any kind of data, but also unstructured data. There's a high risk that you take the unstructured data, which is like a preset description in or like evaluations, open evaluations of a product on Amazon, for instance, which means that we have to process that you have to grasp the sentiment, you have to sort. How to say, sort the answers according to the main topic, and so on and so forth. So you want to know whether the answer refers to, you know, bad delivery, or bad condition of the product, or you know, any kind of thing. And that should be automated, right? If you want to use AI. You can use AI actually, to classify the answers. Which means, you know, but that's different, it's a different topic. So, which requires a different model, then, you know, this customer is both there's this, there's this, which can be sort of semi-structured data, because it can sort of fit in a table. So actually structured data is those which fit in a table. Semi-structure, a table, to think about it like this are structures like that. Each of this requires a different AI approach, different techniques, and different awareness of the data analysts and also those who develop the model, different training.

Maria: So different kinds of models need different data. Did I understand right?

X3: I would rather say freeze like this. Different kinds of data enable a certain range of models. And models can be stacked, for instance, you can take a model for structured data that tells you what the sentiment is on a scale of one to ten. From an evaluation of a certain product with respect to delivery, specifically. Not just like, one to five stars. But I want to know, from the open answers, what is the opinion about the delivery, for instance. Yeah, I can run a model which runs on those structured data, grasp that sentiment, and then associate in a table, the average rating of delivery. And then this allows me to know whether the company I'm relying on in certain geographic areas is working fine or not. So those data then can become structured, right? As a result of applying a model for structured data, or unstructured data. But all those things require awareness of those values. And so the first question would be, yeah, sure. You use structured, unstructured and semi-structured. But can you tell the difference? How many people in your company will be able to tell the difference and do you keep into account that difference for different models in AI. You know.

Maria: Exactly many marketing specialists might just say that they're using structured data only. And that's it.

X3: Sometimes, yes, there are I would not say basic but standard models that run AI in some simple form. And then it is just a blackbox, you just pay for the module. That's it. That's like a minimal level of awareness. But that could be okay.

Maria: We are still going forward.There is still developing, we are still just in the beginning. And then you actually were talking about internal and external data. Do you think that the internal data is enough?

X3: Very often not, for small companies not. For big companies, yes. I mean, Amazon has all, has whatever data they possibly need.

Maria: Well, they also have resources.

X3: Yeah, resources. But for instance, if you're a small company that just sells to Amazon, coffee machines, for instance. And then you want to know whether you might sort of suggest some other products of yours. For instance, filters, capsules. And who is the customer who actually does that? You want to know what customer has bought your coffee machine and the Nespresso capsule, whatever. You don't have a customer's data, you have to purchase that data. So external data for small companies is just key. It's crucial, most likely. The larger you are, the larger the share of markets you have, probably the smaller is the need for external data. But the larger is the money you

hold, you could invest in external data. Whereas if you're small, you have larger needs data but you have smaller amounts of money.

Maria: Well, maybe you can make some questionnaires, in order to know your customers better.

X3: Yeah, to know your customers better.

Maria: And what do you think about reliable data? Do you think that external data is a reliable type of data?

X3: You should benchmark them first. The only external data that I've dealt with was weather data, and focus for production of renewable energy. There has to be benchmarked with some other internal models. So we had the possibility to invest some time and money and human resources to do that.

Maria: And how can a company make sure that the data is reliable?

X3: You try it.

Maria: And you find it out.

X3: And you find it out most likely.

Maria: Well, actually, the last question that I had was about privacy issues. How do data privacy issues affect collection of data?

X3: Well, yeah, yes, it does. I mean, I think now it's very often you collect as much data as the law allows you. But if you're a small company operating on eBay, and Amazon, the data you collect is just sort of pre-filtered and pre-packaged, so to match the tools. So to not break any law. And that as long as you don't resell that data and just use it for your personal purposes, most likely it's fine. Then if you have breaches in your database it is because of I don't know, Russian hackers or whatever. That's another story that has as much to deal with, you know, your cybersecurity department rather than AI employment itself.

Maria: Okay. Thank you very much for all this information. And do you have anything to add?

X3: No, I mean, I'm looking forward to reading the full thesis.

Interview 4

General information:
- Interviewer: Maria
- Interviewee: X4

Maria: Okay, let's start then. I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. And therefore, I have a couple of questions related to data and its collection. And the first question that I wanted to ask is, what is your role in the company?

X4: Perfect. So I am a Salesforce Marketing Cloud specialist. I basically own the development of business requirements on the Marketing platform.

Maria: How does your company adopt AI for digital marketing operations?

X4: The company where I work basically uses AI in digital marketing operations selecting targets for campaigns and developing automated customer journeys.

Maria: What are the benefits of using AI in digital marketing operations?

X4: Personalization allows companies to create tailored campaigns.

Maria: What are the challenges that you have faced while using AI in digital marketing operations?

X4: Some use cases require an overview of all impacted systems.

Maria: What kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?

X4: It depends on what the business needs are.

Maria: Do you mainly use structured, semi-structured or unstructured data?

X4: Structured data.

Maria: What are the main data sources you are using?

X4: Service Cloud where CRM data are stored.

Maria: Do you think that internal data is enough to run an effective AI-powered digital marketing campaign?

X4: As for the question about structured, semi-structured and unstructured data, it can be enough depending on each campaign's requirements. Some data isn't stored on CRM, for example you may need ecommerce tracking in order to build personalized DEMs based on what kind of product the client actually likes.

Maria: What is the main source of external data and what are the advantages from using it?

X4: There can be many sources and I wouldn't talk about advantages but about needs. Coming back to the previous example: if a business requirement is to send the client an email in which trying to sell something he left in his abandoned cart, you need to retrieve ecommerce data from an external source. The advantage is…to satisfy the business requirement.

Maria: What does it mean reliable data in your opinion and how can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?

X4: Well, the data that you can trust but I don't know the answer for that question, sorry.

Maria: How do data privacy issues affect collection of data?

X4: Business teams often have to fight against legal teams.

Maria: Do you want to add something else?

X4: No, I think I am fine like this.

Maria: Thank you very much for your answers, they are very valuable for my master's thesis.

Interview 5

General information:
- Interviewer: Maria
- Interviewee: X5
- Company name: Y

Maria: Hello, nice to meet you again.

X5: Hi, Maria. It is a pleasure to meet you too.

Maria: However, as I told you before, I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. And therefore, I have a couple of questions related to data and its collection. The interview will be recorded, if it is not a problem for you.

X5: That's a very interesting topic and no, you can record without problems.

Maria: Thank you, any information is very valuable for my master's thesis research study. So, moving to the questions. What is your role in the company?

X5: I work as a Digital Account Manager at Y Spain, a leading marketing agency. Based on its strong pillars in strategy, data science, technology and creativity, Y helps to transform businesses, allowing brands to develop meaningful relationships with people. Y is part of the Interpublic Group and one of the main agencies of the Worldgroup network. Currently I work on Customer Relationship Management (CRM), email marketing and marketing automation projects for big companies, building campaigns from strategy and planning to creativity. For those who may not know about CRM, this digital marketing field helps companies to establish strong bonds with their current clients. Some companies only focus on conversion, which implies great inversions, but what happens after a purchase? CRM allows companies to go one-step further in the conversion funnel. By focusing on the retention of their current clients, a good strategy of communications that are received at the correct moment, which is when there is a necessity, can be essential to add value, increase the net promoter score (NPS), and, finally, keep clients converting during a longer customer life-time. CRM uses Marketing Automation in order to allow companies to keep in touch with their clients. This is through owned channels, such as email, SMS or push notifications, which have a very low cost but establishes direct contact with customers.

Maria: Prefect, thank you. And how does your company adopt AI for digital marketing operations?

X5: Thanks to CRM and marketing automation tools such as Salesforce Marketing Cloud or Adobe Campaign, our campaigns are more optimized. These kinds of tools deeply work with artificial intelligence.

Maria: What are the benefits of using AI in digital marketing operations?

X5: There are many applications of AI in our current processes and projects. From the companies' processes point of view, it automates routine tasks that consume the most part of time and resources. Data entry or retrieval are tasks that can be automated thanks to the combination of CRM plus artificial intelligence, as well as updating forecasts or determining mailing and calling lists. From the digital marketing's applications – and this is in my opinion the biggest benefit, AI is essential for clustering and segmenting. It can help to do lead qualification, lead scoring, or to develop personalized messages for clients with different needs. Furthermore, due to the huge amount of data collected and analyzed by artificial intelligence applied to CRM, this tool has and will have even more in the future, the increased ability to better understand consumers. This means that better profiles can be developed, so interaction is more personalized and, finally, sales effectiveness is improved. The customer is more satisfied and the business grows like never before.

Maria: What are the challenges that you have faced while using AI in digital marketing operations?

X5: Sometimes technology grows faster than people's knowledge and one of the biggest challenges we currently have is that we need skilled workers that know exactly how to use all these CRM and marketing automation tools in a more efficient way.

Maria: What kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?

X5: Databases are the most important asset of a company. In a digital communication field that is continually changing due to new laws, and where third party data is not an option. At least in some areas such as Europe. Then it is essential to store our client's data. A digital marketing campaign can work only with very essential data such as name and email if you play your cards well. However, a successful campaign has to consider the following. Sociodemographic data of our clients, such as nationality, age or address. And the interests of our clients, which can be tracked by their actions. For example, if they abandoned their shopping cart, or if they visited some of your webpages. With this data you can know better who your current customers are and what are the necessities they may have right now.

Maria: Do you mainly use structured, semi-structured or unstructured data?

X5: We depend on structured data. The data we gather is usually the following. Triggering actions: specific events from our clients result in a specific communication. For example, when a client fills up a form, we send an automatic confirmation mail. Then socio-demographic data. Satisfaction answers from forms. We gather information from quality surveys, but we usually quantify it. As well as, data for our NBI propensity model. We gather data from our clients by for example looking at their navigation through our website or the saturation, how many communications have they received.

Maria: What are the main data sources you are using?

X5: We only use first-party data from the info of our clients and from our own cookies.

Maria: Do you think that internal data is enough to run an effective AI-powered digital marketing campaign?

X5: Yes, from my experience internal and first-party data is the most important data source, especially since the end of the third-party cookies. The most valuable thing for a company is to have a great database from their clients.

Maria: What is the main source of external data and what are the advantages from using it?

X5: Unfortunately, I am not sure how my company gathers external data.

Maria: Okay, no problem. Let's move forward. What does it mean reliable data in your opinion?

X5: Reliable data refers to trustable data from our clients, and the most trustful data is the one that we gather by first hand.

Maria: How can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?

X5: Companies need to update their first-party data as much as they can. This is key to have trustful data from our clients.

Maria: Do you think that external data is reliable data?

X5: It can be, but it is not as reliable as the first-party one.

Maria: And the very last question, how do data privacy issues affect collection of data?

X5: Privacy and GDPR policies are a great challenge for companies to gather data. Nowadays, clients need to accept different terms and conditions to be contacted. This means that less people accept to share their data to be impacted by commercial communications, but at the same time, it also means that people who accept are users that are more qualified. They want to be communicated, so their interactions are better. In addition, privacy policies have deeply affected third-party data, since nowadays in Europe companies cannot share info gathered by cookies. This is why it is important to have first party data.

Maria: Thank you very much for your answers. Do you want to add something else?

X5: AI is essential to improve customer experiences since it can help to give them more personalized communications when and where they need.

Maria: Thank you very much for all this information. It is very valuable for my master's thesis.

X5: You are welcome, good luck with your thesis!

Interview 6

General information:
- Interviewer: Maria
- Interviewee: X6

Maria: Good afternoon. Nice to meet you.

X6: Ciao, nice to meet you too.

Maria: It is very nice to have you here for this interview. If it is not a problem for you, the interview will be recorded in order to transcribe and analyze it later.

X6: Yes, sure, no problem.

Maria: Perfect. As I told you before, I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. And therefore, I have a couple of questions related to data and its collection. But first, what is your role in the company?

X6: I am a Digital Marketing Project Manager.

Maria: Could you talk a little bit about your job?

X6: I developed a lot of projects regarding digital marketing. And we are experimenting with new technologies in order to perform more efficient marketing activities.

Maria: And how does your company adopt AI for digital marketing operations?

X6: We are trying to meet different consultants that explain to us different tools in order to understand what is the best for our business, since it's very specific. We are trying to understand at the learning stage. We are testing different tools that use AI. And we are making a lot of small projects where we try to develop and gain some knowledge from it. Preparing some marketing activities with less, let's say with a little budget, but just because we are at an exploration moment.

Maria: Interesting. And what are the benefits of using AI digital marketing operations in your opinion?

X6: It's a scientific approach, we avoid to just pick things that people like but we try to have a statistical approach even though there are different biases that still need to be taken over. Because still people are selecting different things. So still, it's better because we are trying to be more rational than before. And we try to have more efficient approaches instead of just picking up things that we like.

Maria: And what are the challenges you have faced while implementing AI in digital marketing operations?

X6: For sure the complexity of tools. The fact that we don't have knowledge inside our company, so we need to hire temporary workers or consultants that sometimes can be very expensive. That's why we are trying to first understand what is best for us. And then we try to develop better marketing plan inside our activities.

Maria: And what kind of data of customers do you need in order to run a successful digital marketing activities?

X6: We pick up data from contracts from existing customers. And we're trying to develop a customer base where we do have all our customers with all their informations in order to try to understand what are the paths between our customer base because we still don't know we're not sure why people

choose us and we want to understand in order to develop a better offering to our future customers, especially to understand what can be an average for renewals of our contracts. So what can be the player that will help us to renew contracts with actual customers. Because we just leverage our sales to our sales, commercial people and marketing sometimes, of course it is of support but we have not a link between the lead generation and the sales and contract. So we are trying to work on this side with AI products or projects.

Maria: And can you name some examples of information that you can pick up from the contracts?

X6: For sure, the address, the geography is important. That helps us with marketing to understand where we need to localize, for example, our LinkedIn campaigns. And another important thing can be for sure the sector of the customer. And then the financials can help us understand what kind of customer, how much contributes to our final year results.

Maria: And do you mainly use structured, semi-structured or unstructured data?

X6: We use only structured data. Because they are simple to deal with. And it's a lot less time consuming for us to develop strategy starting from it, instead of losing a lot of time with unstructured data where most of the time is not reliable because of the speciality of our business. And just because we want to have customized things that work for us, and not the generic ones of the research.

Maria: And what are the main data sources that you're using?

X6: What do you mean?

Maria: So like, for example, do you use internal data only or external data as well?

X6: Only internal data, we use. Never external because they are expensive or they are not reliable.

Maria: So you think that the internal data is enough in order to run an effective AI-powered digital marketing campaign?

X6: We don't know yet. We are on the exploration side. For sure, it's cheaper for us. And it's more reliable. Because we want to create something that works for us. So we start from our numbers. And maybe this could be a future improvement. But for sure, we are aware that we may not make everything 100%. But we can get closer to our targets, using data we trust that is our data.

Maria: And do you see any advantages in using external data?

X6: Sure, there are advantages. In terms of time, for sure, it's already made. But still, we want to have things that are just from us. And we are not, we don't have a budget to pay externals to make, to give us the data, for example. Because sometimes these things are very expensive if reliability is high, well perceived. So we try to use internal data also because of the GDPR. And privacy reasons are complex.

Maria: And you said before that you're using reliable data, and how can you make sure that the data is reliable?

X6: We have a team that is called the Master Data Management team. And they do this every day.

Maria: And did I understand right that you said that external data, in your opinion, is not really reliable data?

X6: More reliable it is, the more expensive it is. I think it's more a matter of cost in our case, because you never know in the end what is reliable or not till your prediction will happen. So to avoid the risk, we just take the cheapest way that we think we can control.

Maria: And how do data privacy issues affect collection of data?

X6: It is a nightmare for us. We are in so many countries where those laws are applied, that is why we have so many restrictions. And if you do not follow those restrictions, the fine is very high. We have an officer regarding privacy in each country organization, especially where regulation is more defined, like for example in Europe. Even though in other countries that are not so developed, let's say, we don't have these rules from a government, so we can really go deeper in this and also our commercial effort is helped a lot by the fact that we can go over any boundary regarding data, what we collect in our business activities. In fact, this can be very remunerative. And we really see the difference between privacy restricted countries and no privacy law countries. But still, of course, when it comes to like, weight of the country, of course, the more developed are giving us different results, much better results.

Maria: So okay, thank you very much. And would you like to add something else?

X6: No, I am fine like this.

Maria: Okay, thank you very much for participating in this interview, it is very important for me.

Interview 7

General information:
- Interviewer: Maria
- Interviewee: X7

Maria: What is your role in the company?

X7: I am currently working as a Marketing Automation Strategist.

Maria: How does your company adopt AI for digital marketing operations?

X7: My company is a digital services provider. We adopt AI as a native component of the technologies we offer our clients. We mainly work as a SaaS provider. Basically, we adopt AI, but we don't have any access and further influence compared to our clients.

Maria: And what are the benefits of using AI in digital marketing operations?

X7: To me, the main advantages are the following. First, reduction of human mistakes or misinterpretation of data. Second, reduction of time spent in developing advanced and complex tools and processes while already applicable as integrated add-ons.

Maria: What about challenges? What are the challenges that you have faced while using AI in digital marketing operations?

X7: Mainly the high costs and the lack of data hygiene in the data model.

Maria: Perfect. And what kind of data of customers do you need in order to run a successful AI-powered digital marketing campaign?

X7: Corporate and market data from high level and well developed CRM, ERP and Analytics systems. The experience and knowledge of the team is crucial to guarantee the quality necessary to provide the safest and most effective processes.

Maria: Do you mainly use structured, semi-structured or unstructured data?

X7: Mainly structured data, sometimes semi-structured.

Maria: What are the main data sources you are using?

X7: I use mostly CRM, ERP, Market research (both qualitative and quantitative), Google and Social Media Analytics.

Maria: Do you think that internal data is enough to run an effective AI-powered digital marketing campaign?

X7: No, I do not think so.

Maria: Then what kind of data do you need?

X7: Market data is essential to understand the customers and effectively forecast the customer behavior and market trends.

Maria: What is the main source of external data and what are the advantages from using it?

X7: Most of our clients don't often use external data and they're not used to integrating them with internal data. When it happens, data hygiene is guaranteed.

Maria: What does it mean reliable data in your opinion and how can a company make sure that data is reliable in order to run effective AI-powered digital marketing operations?

X7: By structuring a proper data acquisition model while integrating any owned channel and customer journey touchpoint. Then, by re-organizing the existing assets. Managing both internal and external data. I also think that a dedicated and well-trained team is mandatory, besides external.

Maria: Do you think that external data is reliable data?

X7: It depends on the transparency of the organization providing data. Anyway, the forthcoming changes about third party cookies from Google are going to make the owned data even more crucial, and third-party data less reliable.

Maria: How do data privacy issues affect collection of data?

X7: It's mainly going to affect cookie-based digital advertising. That means any interest-based advertising and search and display advertising. And then of course, conversion-oriented strategy.

Maria: Thank you very much, that was the last question. Do you want to add something else?

X7: Good luck to you with your master's thesis!

Maria: Thank you very much for your time and availability to participate in this study.

X7: You are welcome. See you.

Maria: Bye bye.

Interview 8

General information:
- Interviewer: Maria
- Interviewee: X8
- Company: Y
- Clients: Z

Maria: And you?

X8: Good, good. I was on a call with a customer.

Maria: Can I record the interview if it's not a problem for you?

X8: Yes, of course.

Maria: Okay, thank you.

X8: As I explained, I actually am not a marketer, but I do sell, marketing, digital marketing, advertising and all this stuff in order to let marketers deploy their marketing, digital marketing strategies. So, it could be a good fit. I mean, I'm not a user, but I try to sell digital marketing solutions to marketers, including Chief Marketing Officers, but not only also Marketing Directors, Marketing Managers, Digital Directors, in order to, you know, deploy digital marketing strategies. So, at the moment I'm working in Y company. I don't know if you know the company.

Maria: Yes, yes, of course, no worries. The aim of the study is that all the interviews are working with the Salesforce Marketing Cloud.

X8: Okay. So, in particular, you know, Salesforce was born as a CRM, basically. But now, they have plenty of solutions to engage customers, including, I don't know, Service Cloud, which is for customer care, but also marketing cloud. That's the product I'm working on. For marketing, social advertising and all this stuff. So I work on the Italian landscape. So to answer the first question. So my role in the company is Account Executive working on Salesforce Marketing Cloud. So basically, I manage the sales relationships and in the entire sales cycle, with enterprise accounts. In the Italian landscape. In particular, I work on the following industries, retail that include fashion and consumer goods, and travel, transportation and hospitality.

Maria: Well, that's interesting, I should say.

X8: Yeah, for example, I don't know. Yeah, big industries in the retail sector, such as the Z or then Z, these kinds of brands and travel, transportation and hospitality basically all the airports and air companies here in Italy.

Maria: How does your company adopt AI for digital marketing operations?

X8: You know, when talking about Salesforce Marketing Cloud the data and AI is crucial, I mean, we sell these kinds of solutions. So we use them for sure. And it's very important. So, when I speak with my customer, I also say that AI is very important for digital marketing, digital advertising, marketing, automation and marketing in intelligence. Because it is fundamental to support marketers anticipate customer's needs for example, in terms of the next best action, the next best products. For example, in the retail industry, imagine you buy a pair of shoes then I can try to understand what are your favorite products or your favorite colors, your size, all of this stuff. So AI, helps marketers anticipate the market trends, but of course, customers needs and customers expectations, in order to better invest money and save time and efforts for sure.

Maria: Do you think it also includes personalization for example, targeting?

X8: Personalization is crucial because you know, we are moving to not a new world because we are already in this kind of world where customers expect personalization through all sales cycles. So they don't want to be treated as numbers, they want to be treated as individuals. So it's very, very

important to provide them with personalized content, to make them feel that brands understand them, and really feel how they want to be treated, what they are interested in. So personalization, I think, is crucial. That's, of course, artificial intelligence drives personalization. For sure.

Maria: Sure, and what about like, do you usually mention challenges to your customers that AI might bring?

X8: I think that one of the main challenges marketers go through is that they used to work with plenty of data coming from a lot of data sources, both internal and external. In this case, having a good tool for gathering data and creating a single source of truth on the customer is very important. And I think that artificial intelligence can work well only if all the data is gathered into a good system, and is well organized. Otherwise, you can use, for example, artificial intelligence on a single part of the customer journey. For example, on social advertising, but you don't consider data coming from e-commerce, for example, or coming from customer care. While it's very important to build a single source of truth and then use artificial intelligence for the reasons I told you before, for example, to anticipate customer needs, drive customer satisfaction. So first, it's very important, in my opinion, to build a single source of truth. And then you can use artificial intelligence because, for example, you bought a pair of shoes and this is data coming from e-commerce but there was a problem with the delivery and you did not receive your pair of shoes. So you will be annoyed to receive a campaign, social advertising campaign on social, on Facebook, Instagram, inviting you to buy another pair of shoes. And you say what's, I just bought the shoes and I didn't receive them. And this is data coming from for example, e-commerce or customer care because maybe you called the company saying, I did not receive my shoes. So data needs to be gathered together and work together to exploit artificial intelligence.

Maria: So also this kind of information is used, right? Like for example, if someone didn't receive or there were problems in receiving the shoes, right?

X8: It's very, very important, because as I told you, you will be annoyed to receive, for example, a promo discount asking you to buy another product and see if you're not happy with the product you received or you did not receive the product. But you can have plenty of examples like this for example, if you expressed that you are not interested in a specific product, if you receive an advertisement, an email and SMS speaking about the products, the cases are true, you will be annoyed, you customer will be annoyed and the brand is losing money.

Maria: Yes, sure. And do think if a company is implementing AI for digital marketing. Could it happen that marketing specialists will face a lack of knowledge?

X8: Of course. Yeah, of course, because sometimes, you know, AI can be a game changer. But also sometimes marketers but not only marketers, I will say in every kind of industry and every kind of function and role inside the company. Sometimes we don't trust AI because sometimes we say I have good expertise. I know the market. I know my customers. I'm not sure I need AI and sometimes we are not super confident in trusting AI. But I think that if a company is able to create a good system and a good single source of truth, then I think that AI is not the solution for every problem, but it's yeah, it's a good friend that can help marketers. And sometimes, of course, there's a lack of competencies in AI. And it's important to do something for that thing.

Maria: Yeah, especially like in small companies, right?

X8: Yes. I work mostly with huge companies where these topics have been already discussed. But I also work on, let's say, familiar driven companies, also big companies where these topics are, let's say, not new, but kind of. So I will say, family companies, and also small companies, for sure, are more in trouble with these topics.

Maria: Yes, for sure. And well, like about the data itself, you have already mentioned, like, what kind of data it's needed. Do you have any other examples about data, what kind of data of customers is needed in order to run a successful AI-powered digital marketing campaign?

X8: I will say every kind of data, because again, speaking about the retail company, the retail industry, every kind of your preferences is really important for the brand, not only the data gathered online, but also the data gathered in store. For example, if you go there, it will be nice to try to gather your data

somehow. What I will say, I would divide data into big families that are first party data. Second party data. I would say but yeah, mostly first party data and fourth party data. Sorry, third party data. And this is a very important topic, because in 2023, we will go through, what we call the cookieless words, the cookie apocalypse. I don't know if you're aware of it.

Maria: Actually, well, I can imagine what that means. But not really in detail.

X8: Now browsers, for example, Safari, and Mozilla Firefox stopped gathering third party data. For example, if you type something, you do some research on Google, for example, your data is somehow gathered. And then for example, you type, red shoes, Adidas shoes, I don't know. And then suddenly, on the social networks, you see this dedicated advertising. Okay, starting from 2023, it will not be possible. And Google Chrome is going through these as well. So at the moment, this is still working, but starting from next year, it will not be possible.

Maria: I think it's a big step.

X8: I think it's a huge step. Because this means that, for example, for doing advertising on Google ads, or Facebook, or Twitter or Instagram, you will not be able to use this kind of data anymore. So it will be super, super, super important to be able to gather good first party data, first party data, our data, let's say in your question, I read the internal data. Our first party data, and it will be crucial, all this kind of data, for example, data coming from customer care, so you're not happy and the customer care knows that. But also your behavioral data, for example, on the website. So being able to capture for example, if you checked some pages or you spent a lot of time on a particular product on an e-commerce website, or this kind of data will be super important. But also zero party data, which is, let's say a new definition, more or less brand new definition that is data that the customers communicate, share with the brands from their own. So they decide to share their data with the company. For example, I can still be Adidas, for example, and say: "Hey, Maria, if you share with me your favorite color, for example, your favorite sports, I will give you a 10% discount on the next purchase, for example. So you decide on your own, to share your own data, to have a discount and also to have a better personalized content and experience on the website and in the store for example. And zero party data will be super important as well, because this data has to be real, because customers are sharing on their own.

Maria: Yeah, on their own.

X8: So they decided to do that.

Maria: And is it already in use this zero party data, are companies already collecting?

X8: Yes, but I will say the adoption of this kind of data is in an early stage. Because usually companies will prefer to collect first party data. And this trend, zero party data is in an early stage, but it's very important.

Maria: It's clear, and…

X8: For example, a pet shop online. The first party data. For example, I have a cat, I buy cat foods and other stuff on a website. Of course, the data is my data, not the data of my cat, basically. They may know that I have a cat because I always buy food for cats, but I can share the name of my cat, the color of my cat, the fact that my cat has problems, I don't know with some kind of food. If I decide to share with them, these are zero party data and are crucial to drive personalization and customer experience. Because of my next purchase, I will not be suggested to buy for example, I don't know if my cat doesn't love fish, I will not be suggested to buy fish products.

Maria: That's very important, I should say.

X8: I will suggest that you try to find more information about this stuff. Especially the cookie apocalypse, you can type on Google. So you will find plenty of articles and this will be very important. Because you know, first party data, as I told you, is very important, for example, the gender, the geographical location, email address and all of this stuff. But there is plenty of very important data as well, based on preferences, behavioral data and all this stuff.

Maria: Yes, well, I will definitely look into that more. Especially because like all the articles that I was reading for my thesis, were concentrating mostly exactly on the first party data or third party data. And zero, no, nothing until now.

X8: It's a trend. And it's important because they drive personalization more than, for example, a cold email address. Or, for example, I am a male, I'm living in Milan. But you can imagine how many males living in Milan are here in Milan, but are different from me, for example, they don't have a cat. They don't like shirts, they like blue, and I like red and all this stuff. So all the other data are very important as well. And so the cookie apocalypse is super, super important.

Maria: For sure. And the data collected, is it structured, semi structured or unstructured data?

X8: With the help of AI, you can exploit basically every kind of data. Also AI, like strong AI capabilities can help you for example, understanding pictures and videos and all this stuff. But of course, at the moment, I will say I don't want to say a percentage, but 80% of data is structured because it's easier to manage them with traditional databases. So all of these kinds of data I spoke about was, of course, structured data. Because they are easier to manage, for sure. But of course, the most recent trends allow you to use semi-structured and unstructured data as well with the help of AI.

Maria: And well, what is the main source of external data?

X8: External data can be, yeah, third party data, but there is this fact that they will die but by external data, for example, data from agencies, for example, reports, or trends in marketing and all of this stuff. But it also, data coming from Google ads, Google Analytics, social network data, for sure. These are the main data sources I'm thinking about.

Maria: And do you think that they're very important or that internal data is enough in order to run a successful AI-powered digital marketing campaign?

X8: Nowadays. They are very important. They are important, they are used by marketers, but from next year, let's say in the future, considering also the privacy constraints, boundaries, GDPR boundaries, first party data will be definitely more important, because nobody knows your customer better than you.

Maria: For sure. Well, of course, we like…

X8: It will be like this, if you are able to gather all the kinds of data, first, zero party data and data coming from e-commerce, customer care, marketing. So you should know your customer better than anybody.

Maria: If not, that's a big problem, a big problem, I think.

X8: And you are going to lose your customer because I don't remember the precise data, but it was like 70% of customers. Yeah, they want to be treated, as I told you before, as a person and not as numbers. And kind of I think 50% of them will choose another company if the services and the overall customer experience is not as high as they are expecting. So they change brands, not only for the products, but for the customer experience. And this is very important.

Maria: Of course. And well. Moving to the ninth question, what does it mean reliable data in your opinion?

X8: Reliable data means data that can be verified. And from this point of view, first party data can be verified because you own them. So I will say data that can be verified.

Maria: And how can a company make sure that for example, external data is reliable data?

X8: You know, sometimes, of course, always talking about the GDPR. And all the privacy constraints you can ask your customer for information. Because of GDPR, you cannot do this kind of initiative a lot of time. But you can ask your customer to share data, for example. But also you can go through data quality processes. This is more, let's say technical stuff. In order to avoid some data to be old, or

to be not really reliable. For example, you can have plenty of telephone numbers, but maybe they will be put casually, randomly from the customer. And you can use AI but also technical initiatives to check if the data is good or not.

Maria: And do you think that in general, external data is reliable data?

X8: It really depends on where they are coming from. Because yeah, if talking about for example, data from agencies or from big players, big, for example, advertising companies or marketing advisors. They should be reliable. But it's always tricky,

Maria: For sure. And well, then the last question that is related to privacy, how do data privacy issues affect collection of data?

X8: Privacy strongly affects the collection of data. Data is a treasure. Probably data is the most important asset that a brand owns. It is important, super important to have a strong data strategy. And also to be compliant with the laws, with GDPR. Because otherwise, first of all, the fees are super high. If you don't respect the laws. You can check on the internet, you can see plenty of companies that had to pay fees, huge fees because of GDPR violation. And it's also very important, because due to these boundaries, you cannot gather all kinds of data easily. So I think privacy for marketers is a headache. You know, marketers want to do lots of activities, lots of initiatives, and they always need to knock at the legal door and say: “Hey, can I do this?”. And most of the time is no, you cannot do this. So privacy is super, super important. And you don't need to pay only fees, but also it's a loss of, let's say, you lose credibility. So if you use your customers data in, not in a proper way, then you will go through loss of image, loss of brand awareness. Because nowadays, maybe 10 years ago, 20 years ago, we didn't have to manage all of this kind of stuff. But now privacy is a point because we have two identities, the real, our real identity and our digital identity. And I think that in Europe, we are lucky, because if they really protect our data, and data is in a digital world, data is super important.

Maria: Yeah. Well, from the customer point of view, hopefully.

X8: Yes. But you know, also from the other side, I mean, I am happy to give my data to companies that really protect them. And if you see now, for example, in downtown Milan there is an advertisement for Apple. And usually, it's not about the product. It's not about the iPhone, it's not about Mac, it's only about protecting your data.

Maria: Really?

X8: Yeah. So it's the chance, I mean, they will win, brands in general will win my business. If they ensure that my data is protected.

Maria: Especially in the future, as you said before.

X8: I will also say in the present. So privacy is super important. But you can see it of course, as I told you, it's always a nightmare for marketers. But from my point of view, it can also be a game changer and an opportunity.

Maria: So they can also win in this.

X8: Yes. I'm trying, I'm always trying to be optimistic.

Maria: Well, that's better. Otherwise, you don't sleep, let's say. Well, would you like to add something else to this interview?

X8: No, I think I told you, I shared my experiences. As I told you not from the user, a marketer point of view, but a person who is trying to advise customers and help them be successful in this digital world in their digital activities. And I hope it will be helpful for you.

Maria: Yes, for sure, I got really so many good insights, and it will be super useful for the thesis. And well, like also, I think I got many ideas from the marketing like marketer point of view since you're working with them. And well. I think it will be very good. Thank you very much.

X8: You're welcome.

Maria: Now, it's like, I'm almost finishing the thesis. So let's say these are the last steps.

X8: Good luck. What's your plan for the future?

Interview 9

General information:
- Interviewer: Maria
- Interviewee: X9
- Company: Y
- Company where woking previously: Z

Maria: Can I record the interview if it's not a problem for you? The interview will be anonymous, so all the sensitive data will be deleted from the transcription.

X9: No, there is no problem, you can use my data and my answers.

Maria: Perfect, if it is not a problem for you, the interview will be in English language because all the interviews are in English in order to avoid misleading translations and so also misinterpretation.

X9: Yeah, we can proceed in English.

Maria: Perfect. So I'm writing my master's thesis about AI-powered digital marketing campaigns and the perspective of the research is the data. So what kind of data is needed, how it is captured, how it is managed. What are the sources of the data and so on. And that's why I prepared a couple of questions for the marketing specialists in order to investigate this topic and understand it better.

X9: Are you doing thesis work with a company or?

Maria: No, only the thesis without the company.

X9: And what's the name of the master's degree you're doing?

Maria: Communication strategies, path of multimedia and technologies.

X9: Very nice. University of Padua, you said.

Maria: Yes, yes. And that's why I decided to concentrate on this topic.

X9: Okay, so we can proceed whenever you want.

Maria: Perfect. And so the first question, what is your role in the company where you're working?

X9: So I am, by the way, can you hear me?

Maria: Yes.

X9: So I'm currently a Business Integration Architect Analyst in Y. And my role in the company is working for a client in which I have to study the business manufacturing business process, which happens in the plan. For example they produce food. So yeah, we have the production phase, the shipping phase. And what I do is that I study all the processes where there are employees. And the main goal is to standardize and integrate all the systems that they communicate all together. So there is a lot of pitch summarization going on. And basically, a lot of ERP integration. So I will give you an example. We have like the SAP system and so on, they interact with each other, but they speak different languages. And so what my role is is to allow these systems to communicate together efficiently.

Maria: That's interesting. And can you describe more specifically how the company is using AI in the digital marketing operations?

X9: So let's say, I do not do a lot of marketing in my current role. However, I am part of a marketing communication to the Y itself, as a hobby. You know what I mean?

Maria: Yes, of course.

X9: And also in my previous year, when I worked in Z. And when I did my master's thesis, my thesis was about artificial intelligence, and in customer review, and how companies could use artificial intelligence to improve the, you know, the review process. So I think this can be more helpful for you.

Maria: Yes, for sure. If you can answer using this perspective, that would be totally fine.

X9: So, for example, a company can use, for example, artificial intelligence out of the marketing scope. For example, to implement new sensors for example. So, using IoT, Internet of Things and artificial intelligence to improve processes, because they can collect data in real time, and in this way they can monitor in real time how the process is doing. And you know, where they have to improve for example, mechanical things, quality and so on. Generally AI can be used for these things. And the marketing side, and AI can be used to analyze… For example, on LinkedIn, they do marketing campaigns on LinkedIn and they are able to visually understand which are the profiles that are following that are part of the active, which profile are you reaching out and so, they get personalized content. Where can do an overview and understand which content is more interesting for which type of profile and so on. Another thing which was for the review was, for example, that with artificial intelligence and sentiment analysis. There is a tool that is called Medallia platform and with it you are able to analyze customer reviews and the artificial intelligence is able to predict which are being the topic that will be more talked about in the future and analyze, and understand better about the data. It is more for the perspective part that has to do with sentiment analysis, which is also really interesting. This type of approach, which is linked to artificial intelligence. They are able to understand, for example, the keywords that make reviews good for that. So for example, yeah, this product was excellent but, so even if the review has five stars, it is still able to detect with AI and sentiment analysis which are the keywords that are not reflecting the five star review.

Maria: Sure. And can you, well, I think you already named several, let's say benefits of AI. Can you just like shortly, maybe separate and bring them shortly up?

X9: Okay, the benefit of artificial intelligence is first that you can automatize a lot of processes and have precise results, as well as you can collect big amounts of data. Also, you can predict and that's why the keyword predicts what will happen in the future or based on the analysis of the data. So, the fact that artificial intelligence can be two things. It can be like a learning path that AI will follow or artificial intelligence creates their own path to learn from it. Another benefit is that artificial intelligence, as I said, improves the quality of whatever it is applied to, so if it's for marketing, for example, we can improve the quality of marketing, because of the content that you will publish and the target of the people that will be targeted, basically.

Maria: And what about challenges? Do you have any challenges in your mind?

X9: Challenges in artificial intelligence is that I think, there are developed tools that maybe if you are going to see a mechanism that is being discovered day by day. Also, that of course is created by humans so can be incorrect sometimes, I guess. And also I think that before implementing artificial intelligence, you will need to have to prepare your infrastructure, let's say.

Maria: So the company should be ready in order to implement AI in their activities, right? And what about like, when you are implementing AI? What kind of data do you need from your customers in order to have the most efficient results?

X9: That's a hot topic.

Maria: I think so.

X9: But the obvious answer will be all types of data. But that's also actually wrong, because what big data teaches us is not only about the quantity of data, but the quality of the data. So I will say that instead of collecting a huge amount of data, and that is it, would target, what's your market, what's your product or what's your service, and really collect only the data that are around the circle of the topic. And just consider a few that are more broader one. Like if I want to sell shoes, female shoes, it

is okay, targeting for example, length of the foot, season and color. I mean, why should I collect male data. So, I will say collect data that is really relevant for the product or service that I am focusing on.

Maria: And is this data mostly like structured, semi-structured or unstructured data?

X9: Oh, wow, I cannot wait. Can you refresh my mind? I think that the structured data is like…

Maria: Like structured data is mostly data that is divided into columns and rows and so on. So it has a structure and it is processed. Instead, unstructured data can be like, for example, an image or video, whatever. Instead, like semi-structured is the combination. So it might be processed, but not in the format that is very easy to implement.

X9: Well, I will say that it's actually semi-structured data, because nowadays, the generation will also really use a lot of pictures. You know, like memes, so I would semi-structured data.

Maria: So the companies are trying to implement that as well, that kind of type of data, right? And what are the main data sources a company might use in order to get the data?

X9: Well, of course, depends, again, on what you do. For example, I remember when I was in France, I was studying a product. And for a marketing campaign, they were using sensors that were connected to a screen, which was advertising something. And then this screen, there was a sensor to monitor the frequency of people that were stopping and passing by. So I think that's very interesting, because maybe you will think only about social media or, you know, browsing, chronology and so on in general. But I will also say that there is a huge part of the data that actually can be collected offline. So using sensors, for example, in a shopping mall. You know, if I put a really big poster, you know, so I can put a sensor there, in order to understand how many cars have passed by or stopped. I would say Internet of Things.

Maria: And so you were mentioning, let's say this kind of data, and do you think that internal data is useful as well for the companies?

X9: What do you mean by internal data?

Maria: So the first party data, so the data that is owned by the company, itself. So all the data for example, if a customer was purchasing something, and then this item didn't arrive to the customer, so…

X9: Absolutely, yes, it is. So because these ones actually are data of customers already owned by the company, why not actually use your own data. Like reviews. Because using reviews it is data already of your customer. Right? And that you understand, and especially how to transform. This is another theory, and that's really interesting. I don't remember exactly, but how to transform a customer that is nine to ten. So do you know that there is this chart from one to ten, when you do a questionnaire. So, how likely do you recommend for example a certain Bed and Breakfast. If you put nine, you should actually really take care about what I do, because I can be easily converted into not a follower but a promoter. Look at it, I think it is really interesting for your research.

Maria: Thank you very much, I will check it out.

X9: It's also like post-strategy. So as I said, when they ask you how likely you will recommend the Bed and Breakfast. If I put nine, and you Maria, put three, the effort that will take to put Maria to 10 or X9 to 10 is different.

Maria: Yes, definitely.

X9: So when I get 10, I'm not anymore a customer, I became a promoter, which means that I will push people to go to that specific Bed and Breakfast. I don't remember what the name of the theory is. But you can easily find it on Google if you Google a sentiment analysis questionnaire like from customer to promoter. Remember these words. You will find this research.

Maria: I will check it out, thank you.

X9: And you analyze the data that you collect with your own customer to understand. Same thing that I told you when you have a review that has five stars, and I will say the shipping was good, product quality is good. But the battery's low. If you collect like 10 reviews of five stars, you will only think like okay, my product is great. I don't have to change anything. But actually when sentiment analysis, do you realize that the process overall is five star, however, there is bad battery duration. And so you can just target the parody and improve only that aspect of your product.

Maria: That's interesting.

X9: I can send you if you need my thesis for any reference, I'm happy to send it to you.

Maria: Why not, thank you very much. Especially if you wrote on the same topic, well, not exactly, but still it is very related.

X9: Well, of course.

Maria: Then, moving forward with the questions. So, what are the advantages of using external data in your opinion? So third party data for example?

X9: But for third party data, you mean that I buy external data or like just get it from an external company?

Maria: Yeah, for example buying that.

X9: So, they can be already clean and organized. And you can already buy a packet of clean and ready data to be used that is relevant for what you do.

Maria: And do you think that external data is reliable data?

X9: Well, if you buy it from a good company, yes. Of course. I will always say to check the data type and how it was collected and not just blindly trust them.

Maria: And how can a company make sure that the data is reliable?

X9: Well, actually a very good question. If I have to think from the top of my mind, I will say that the data is reliable when, how can I say… For example, if I need, going back to the example of shoes, I will not accept for example, I don't know. You know, I will say that it really depends on the quality of the data that can be received from, again, the source of data. If it has been clean, reliable data, and it can be seen also from what I'm expecting to get.

Maria: Okay, perfect. And the last question very last about the data privacy issues. So how do they affect collection of data?

X9: Another hot topic.

Maria: I think so.

X9: I think that there are particular aspects of our personal data, which should not be relevant for a company. Because anyway, there should be a line which needs to be respected, and is low, basically. And there is something that a company cannot know, for example when I discovered that I got my period. Which I think is something that they're doing, and I don't think it's cool. Like very detailed things. So I think they should not be so public, I should still have my privacy.

Maria: Do you think that a company is having difficulties because of that or not? Like about privacy issues?

X9: No, I don't, probably because they are doing what they want. But let's be more realistic. Of course, they found a challenge. But you know, I mean, like, we are still human…

Maria: Well, they need at least like, if the customers benefit from that, then I think there's a reason behind this.

X9: It is another thing that I studied when I was in Turku university. It was about a trade off of big data, which basically was saying that, you know, let's take the example of period again. You know when I have my periods, so you're gonna sell me products for a period with a lot of discounts. That's the trade off, because I hope that you offer me some products with a great discount.

Maria: Yeah, at the right moment, at the right time, and with the great offer, let's say.

X9: But again, I think there should be a line.

Maria: So some kind of privacy is still needed. And well, I actually finished with the questions and just wanted to say that one interviewee was saying that from 2023 actually, Google is not going to collect anymore cookies online. So I think it will be a big challenge for the companies.

X9: Are you sure because they already have so much data? They can already predict what we will like with AI. Have you seen the famous movie?

Maria: Which one?

X9: They say that there is this iconic sentence that goes like, data, the data I already know how you will die. It is called, Don't look up.

Maria: No, I didn't see it. But then like companies I think have to then use alternative sources of the data. For example, the importance of internal data will grow much more. Or then the zero party data.

X9: It makes sense. It makes sense.

Maria: I think I am done with the questions.

X9: And if you need any other questions or you want me to clarify something, don't hesitate to contact me.

Maria: Well, I will now transcribe the interview and then see if something will not be clear or anything.

X9: Okay, perfect. Thank you. As I said, if you need anything, just let me know.

Maria: Thank you very much for participating. It's really important. Okay, I will not take more of your time.

X9: Ciao. Ciao.

Interview 10

General information:
- Interviewer: Maria
- Interviewee: X10
- Company: Y
- Business partner: Z

Maria: Hello!

X10: Hello Maria, good afternoon!

Maria: Nice to meet you and thank you very much for accepting my request to participate in the interview for my master's thesis.

X10: Nice to meet you too. I am very happy to help you.

Maria: Thank you, so I think we could start. So as I already told you, I am writing a master's thesis about AI-powered digital marketing operations and their importance nowadays thanks to the benefits they are creating for companies and their customers. In the thesis, the data perspective was selected in order to better understand its role and importance, more specifically what type of data is needed and how it is collected in order to run effective AI-powered digital marketing operations. So the questions are mostly related to the data perspective. This interview is going to be registered if this is not a problem for you.

X10: Yeah, very interesting. And yes, you can record.

Maria: Perfect, so first I would like to ask what is your role in the company?

X10: I am Salesforce Digital Project Manager.

Maria: Could you talk about your job a little bit?

X10: I work as a PMO regarding developments of sales forces for my multinational enterprise.

Maria: And how does your company adopt AI for digital marketing operations?

X10: We develop projects regarding AI in specific countries where legislation is helping us, especially local governments that are helping us, from an incentive point of view. For example, in the European Union, different countries were developed by the many projects regarding the standardization of the marketing process. So we try to centralize it, thanks to Salesforce and its models. And we try to have one center point of center where we try to make cost efficiency. And in this case, we procreate, Y center of expertise in Bratislava, in Slovakia, where we hire people in order to follow different countries remotely. Since this is very cost effective to have a marketing manager for each country, for example, in the EMEA region that include Europe, Middle East and Africa. So we started this procedure to make our organization more smoothly, thanks to technologies. Since ten years ago, where when I started to work, it would be impossible with the phone calls, connections and video calls, what were still very rave between colleagues what now are even more effective because we can decide the thanks to our ERP, Enterprise Resource Program, to control our marketing activities, see results, develop, even from a country to another one.

Maria: And what are the benefits? So what are the benefits of using AI in digital marketing operations?

X10: We automate everything that before was run by assistance. So early stage colleagues, in early stage careers. We try to centralize and try to have the same process in many countries, even though sometimes regulation is different. But still, in the end, since it is very new technology, we make a lot of projects with external consultants in order to empower our control of activities, especially to have a data driven approach which before was almost impossible. Because people who were in the country were designing and owning a budget, what now we do centralized. And this creates a lot, a lot of

efficiency, but especially we try to, with a lot of work, to create different projects in order to create a unique approach to our customers. So instead of before, when we had the different marketing activities, what in the end maybe because of the shortage of budget, because maybe in small countries it was not so effective. I think as we are having now results. Especially for example during the pandemy, we start to use different tools like Virbela. What is another tool to create cooperation between people from different countries. And we were making integrations between what is our modus on Salesforce especially with AI and new ways to meet people on a remote. So this Virbela for example. Sorry, maybe it's out of topic but it is a tool that looks like Sims, where we were making business activities.

Maria: And what are the challenges that you have faced during the implementation of AI in digital marketing activities?

X10: A lot of cultural challenges, especially from the top management. In the end, since we are a very aged engineering company, let's say, in a polite way. But still, when we look at the cost efficiency side of the project, we really got. Especially for example, when we look at ROI, so return on investment, with our partner Z, we had the possibility to follow our process, even from a local to regional point of view. Because we decided to meet a consultant that was present in the countries where we developed the models. Instead of having a consultant in headquarter that needed to go, and needed to face different cultures of the different countries where we are present. Since the market, we decided to make marketing with sales in the same department. So we divided the sales with the geography point of view, so the sales representative and so on. But we also tried to develop a central approach regarding sales. So having marketing and sales from an analytical point of view on the same page, it helped us to develop new products and new services that were close to our marketing research, instead of keeping marketing, just as advertising, promotion, as maybe it was in the past. But now with a centralized approach, we do not have marketers that are students in Communication and Digital Marketing, but we have marketers in the same team. As well, engineers that worked before in research and development. Because product and marketing in engineering point of view in business to business needed certain expertise that maybe are not part, yet, of the marketers that we met. So we try to make a multi-subject team in marketing in order to meet the overall metrics of the marketing, especially having in the team engineers and IT experts. AI projects were going much smoothly because they already had knowledge regarding the basics of how to run AI. Even though maybe when they started in that time, there was no this advanced technology from a practical point of view, but still the basics so IT might not be in the same cores of people who studied economics or even qualitative or social science. What may be far from a quantitative approach, what is the baseline to understand automatization, tools like Salesforce that run within a relational database. What is the source, as other tools like SAP or Oracle are using. So our idea is to try to have an ecosystem with a centralized approach. In fact, even for business controlling, we centralized everything in Romania. And we fired all other people in different countries in order to create cost efficienciency. For example, on our last finance, business transformation project, we had about 1,500,000 euros of salary that just left our company or just moved to another side of the organization in a central approach. So we left in each country, only the top management and the sales representative in order to centralize the marketing. And they have a more, one way of looking at the company and looking at our marketing, also analytics. Because we figured out that through AI, we can really understand what it means, the feedback of a customer, even for example, using tools like net promoter score, or even customer satisfaction surveys, through Qualtrics. What is another tool that we use to control the feedback of our customers. We use AI in order to develop new and customer based mailing lists, for example, to meet exactly the people that didn't like us in order to try to convince them that our idea is about continuous improvement and learning from mistakes that we can do, of course in our operations.

Maria: That’s all very interesting.

X10: Do you have any other questions for me?

Maria: Yes, what kind of customer data do you need in order to run AI successfully?

X10: We use customer base data. We use install base data, which is the list of the machines that we install. We even have, since we do not only sell a product, but we also servitize our business. We try to create some tools like for example apps that can use our preventive maintenance engineers that are splitted between Europe in order to catch even machines that are from our competitors and to sell

to the final customer as added value also the service for these machines that we get to know through install base data. So this is a new main type of database that we start to keep from the customer base and contract baseline. Recently we started to have a look at the commercial funnel, which is exactly the steps that we collect through Salesforce, the seven stages. So start from cultivating champions, which means just assigned lead to the sales guy till the signed contract is the seventh step of the commercial funnel of the Salesforce. So we try to develop to connect all this data in order to understand how close we are to our sales target. And we try to geo-localize and customize our marketing operations to reach the expectations of top management. Because you know, we develop in the beginning of the year a sales plan, the marketing plan of activities. And the marketing needs to be functionalized to reach the sales target of the company. And by sales target, of course, I mean in the end the budget that we need to reach to the target that our financial analyst needed to see at the end of the year.

Maria: And is this all data structured, semi-structured, unstructured data?

X10: They are all of time structured, I guess, if I understand the meaning. We don't use unstructured data, we try to have a look at data with a data mining approach. Especially quantitative data, but qualitative data, we try to still have a text data mining approach in order to catch the feedback with huge prospective because you know, we have a customer base which is around hundreds fifty thousand lines of customers. Of course, by that I mean that we have even more contacts with those customers because each customer can have multiple contracts with us, for multiple services that we offer. So we are not able to call them or have a qualitative approach to them. So unstructured approach, if not with our key account that they are attached to certain important customers we do have. So they have the customer satisfaction, or they look at unstructured data, the sales guy on field, they go knock the door, they could speak with our customers. But still, as a central marketing operation, as I told you, we have no idea of what is or how, what kind of words the guy, our customer would say. But we just look at everything we collect through our system. And that's why we spend a lot of CapEx for our Salesforce tool.

Maria: And are you using internal or external data?

X10: We use only internal data, mostly, but sometimes to defined the vision and the mission of our company what we review every six months. Since we are in the technological business where we need to be quick as the market is. We try to catch those main trends through Gartner analytics and World Economic Forum Analytics, where we are present as partners. So we are key accounts for Gartner, for those analytics and as well, we try to participate in our lobby of the World Economic Forum.

Maria: And do you think that internal data is enough?

X10: For sure they are not enough, but they are the ones that we are in control of. And especially when it comes to customer based customer analysis. We are sure that whatever it's in our systems, it can be true. But whatever is outside our system, we are not sure if it can be. So our trust goes especially down because there are also some competitors who try to deviate our understanding through external data, for example. So we don't really trust this kind of data. For example, communication channels, so our competitors, it might lead us to another page of our results. So it might not lead to our results, but we don't know yet.

Maria: Do you see any advantages in using external data?

X10: No, we don't see any advantage. Because we have no control.

Maria: Okay, and how can a company make sure that the data is reliable?

X10: That’s very hard. We have a team of 12 to 15 people that just work about Master Data Management. They have a structure, they look at the data almost daily, they try to control even though we try to develop controls on the field. And so it's, of course, an iterative process with multiple approaches to it. But for sure, it's very difficult to keep the database clean. But what we look at, it's about average, it's about trends. So we don't look at specific lines. So this team of 12 to 15 people, I

was mentioning to you what is based in Bratislava as well. They look at this data, and they try to have a look at them and try to keep them as linear as possible.

Maria: And the last question, how do data privacy issues affect collection of data?

X10: That's a nightmare. We try to deal with these with the legal office. We have a GDPR officer, because European law says that we need it. So that's a very difficult thing we deal with, we try to be careful as much as possible, you know, laws change in time. So that's very time consuming and expensive, because we need to change our ERP accordingly and our way of working accordingly. But we have, since we are a public company, we follow them. And that's not the cost, but it's a way to be still in the market.

Maria: So do you think that it might be an advantage for you as well?

X10: What?

Maria: Like privacy, the laws related and everything?

X10: For sure, no, because it is just a restriction and another thing to take care of. So it's not an advantage or disadvantage from a business point of view, but for sure, there's a customer is better.

Maria: Thank you very much for your time.

X10: Thank you to you, good luck with your thesis.

Maria: Thank you!