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Continued investment in artificial intelligence and its impact on customer satisfaction and more specifically customer behavior.

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ABSTRACT

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The objective of this thesis is for me to evaluate the impact of the use of artificial intelligence on the consumers to be able to define if the use of this new kind of technologies is a benefit or not and to know the opportunities to improve the use of this tool through customer service in different companies. The perfect example of companies who could use this thesis to improve their skills in the subject of Artificial Intelligence related to customer behavior are companies who are using Artificial Intelligence or companies who wants to use AI through different processes to get information and following this, are able to find a way to satisfy their customers by knowing their needs, their expectations, ...

The research I conducted through this thesis, was done as a case study and subsequently applied with qualitative methods. The theoretical part focused on the necessary background information about Artificial Intelligence during the past years but also today and for the future and the important knowledges to have to understand this specific topic. I then mention the importance of the consumer in today's businesses and propose a way to create a real connection between two key elements in 2023: the consumer at the heart of business, and artificial intelligence.

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1 INTRODUCTION

Artificial intelligence (AI) has emerged as one of the most influential technologies of our time, offering unprecedented possibilities in various fields, including consumer behavior. In a modern society like ours, analyzing the impact of AI on consumer behavior is of crucial importance. This thesis explores the effects of AI on consumer buying habits, preferences, and expectations, aiming to better understand how businesses can leverage this technology to create added value for their customers. (OpenAI, 2023)

As a student of marketing, business management, and international business, this topic is highly relevant to me. Not only does it align with my areas of study, but it also represents an incredibly intriguing subject that I have extensively researched. Furthermore, considering my interest in digital marketing and my professional aspirations in the field, I firmly believe that this thesis will allow me to deepen my knowledge and enhance my expertise in this ever-evolving domain. (OpenAI, 2023)

The thesis is structured into two main parts. The first part focuses on artificial intelligence, exploring key concepts, the history of AI, and different types of AI relevant to consumer behavior. I will also analyze different marketing tools used in today companies using AI, highlighting their influence on consumer decision-making (behavior) and the way of AI tools is influencing and molding the future of digital marketing strategies. (OpenAI, 2023)

The second part concentrates on the consumer themselves, aiming to fully understand the importance of customer service in today companies. I will examine consumer opinions regarding the use of AI by brands to understand if there is a way to create a real connection and loyalty with customers through a robot. To achieve this, I'm going to do some research on the Internet, reading articles and comments written by consumers, with the aim of making relevant recommendations to potential companies who might be interested in reading my thesis. (OpenAI, 2023)

In conclusion, the impact of AI on consumer behavior is a timely and deeply engaging topic that aligns with both my studies and personal interests. This thesis seeks to deepen our understanding of the interaction between AI and consumers by providing valuable insights to businesses aiming to forge lasting relationships and enhance customer loyalty. As readers delve into the following pages, they will be invited to explore the diverse dimensions of this intricate and captivating relationship between AI and consumer behavior. (OpenAI, 2023)

2 PURPOSE & OBJECTIVES

In this chapter, I'd first like to highlight the purpose I'm trying to achieve through this thesis. In order to achieve the purpose of my thesis, I need to work on/document myself on various points, as I am not (yet) a professional in this field, which is evolving every day and on which I am constantly documenting myself. In addition to this purpose that my thesis aims to fulfil, I have a main objective which is to be able to propose recommendations and a professional conclusion on this complex subject that I have chosen with the aim of helping companies in different fields.

2.1. Purpose

The purpose of this thesis is to analyze the impact of artificial intelligence (AI) on consumer behavior. Through this in-depth research, the objective is to clarify a timely topic that holds significant importance in contemporary society. The utilization of AI has become ubiquitous in businesses, yet its influence can be both positive and negative. (OpenAI, 2023)

Within this thesis, I will examine the various AI tools employed by companies and provide an explanation of essential AI-related terms, including its historical development. My aim is to conduct a comprehensive analysis of the impact of AI on consumer behavior. To achieve this, I will investigate how AI is employed in areas such as advertising, customer persuasion during the purchase decision process, post-sales service, and others. (OpenAI, 2023)

The ultimate goal of this thesis is to provide recommendations based on rigorous research and a thorough analysis of the gathered data. I aim to assist companies, whether they are already utilizing AI or not, in understanding how to ethically and effectively employ this technology to enhance their interactions with consumers. By identifying the opportunities and challenges associated with AI utilization, I will formulate strategic recommendations that enable

businesses to fully leverage this technology while meeting the expectations and needs of consumers. (OpenAI, 2023)

In conclusion, this thesis aims to shed light on the various aspects of AI's impact on consumer behavior. By combining in-depth research, an analysis of AI tools, and a study of consumer opinions, we aspire to contribute to a more thoughtful and beneficial use of AI within the realms of marketing and business interactions. (OpenAI, 2023)

2.2. Objective/ Goal

The ultimate goal of this thesis is to provide valuable recommendations to businesses, whether they already use artificial intelligence (AI) or not, to help them better understand how to ethically and effectively utilize AI to enhance their interactions with consumers. Through rigorous research and in-depth analysis of collected data, this study aims to identify the opportunities and challenges associated with AI usage. (OpenAI, 2023)

As a researcher, I am committed to formulating strategic recommendations based on a thorough understanding of the impact of AI on consumer behavior. My objective is to assist companies in fully leveraging this technology while meeting the expectations and needs of consumers. (OpenAI, 2023)

The recommendations I will propose will be grounded in rigorous research and comprehensive analysis of data collected from consumers. I will emphasize the ethics and effectiveness of AI usage, highlighting the importance of respecting consumers' privacy and providing relevant personalized experiences. By identifying value-creation opportunities and potential challenges, I will offer practical recommendations to guide companies in the responsible adoption and implementation of AI. (OpenAI, 2023)

This thesis also holds personal significance for me as it will deepen my knowledge on a subject of great interest. The findings and conclusions of this

research will benefit both my future studies and career. By acquiring in-depth expertise on the impact of AI on consumer behavior, I will be better prepared to navigate the evolving challenges and seize opportunities in a rapidly changing world. (OpenAI, 2023)

3 PROBLEM SETTING AND CONCEPTUAL FRAMEWORK

In this chapter, I will start by articulating my primary research question, which serves as subject for my thesis. As I delved into the literature, I encountered a plethora of significant inquiries. While many of these were deemed important, I carefully distilled them to three key aspects, which will form the basis for the ensuing chapters of my thesis. Regarding the sub-chapter questions, these were formulated during my review of the literature, guided by the identification of crucial elements. This approach has provided me with a clear blueprint for organizing the essential information I intend to convey throughout this thesis. Subsequently, you will observe that I have structured all the pertinent information into a conceptual framework, a schematic representation of the interrelation of my ideas. (OpenAI, 2023)

Research problems

Main research question:

- A. How the use of AI can affect consumer behaviour and customer satisfaction.

First research question:

- A. The different types of Artificial Intelligence used in companies

Sub-Problems:

- What are the most common types of Artificial Intelligence used in companies to improve the customer experience?
- What are the advantages and disadvantages of each type of Artificial Intelligence for the customer experience?
- How can the different types of Artificial Intelligence be combined to improve the customer experience?

Second Research question:

- B. The impact of Artificial Intelligence on the personalisation of the customer experience

Sub-Problems:

- How can Artificial Intelligence help companies better understand customer needs and preferences?
- What are the pros and cons of using Artificial Intelligence to personalise the customer experience?
- How do customers perceive the personalisation of the customer experience with Artificial Intelligence?
- Is there a way to create a real connection and loyalty with customers through a robot (AI)?

Third Research question:

- C. The impact of AI on customer loyalty

Sub-problems:

- How do customers perceive AI-based personalised loyalty programmes?
- How can companies use AI to anticipate customer needs and build loyalty?
- How can AI be used to improve customer loyalty?

Fourth Research question:

- D. Automating customer service tasks with AI

Sub-problems:

- How can companies combine automation with human interaction to provide optimal customer service?
- How are companies using AI to automate customer service tasks?
- What are the advantages and disadvantages of using AI to automate customer service tasks?

3.1. Research objectives

The research purpose of my thesis is to study how artificial intelligence (AI) affects consumer behavior and satisfaction. I will investigate the different ways in which AI is used in marketing, sales, and customer service, and how consumers perceive and interact with these technologies. To gather relevant information, I plan to conduct interviews or surveys with consumers. (OpenAI, 2023)

In particular, my thesis will aim to achieve the following objectives:

- Examine the various types of AI used in business, and advantages and challenges associated with their use.
- Explore how the use of AI can impact consumer attitudes and actions
- Evaluate how companies can use AI to enhance the customer experience while minimizing the potential risks.
- Provide recommendations to companies on how to leverage AI to optimize customer service strategies, and meet customer expectations.
- Contribute to the advancement of knowledge on the impact of AI on consumer behavior by identifying gaps in existing research and suggesting avenues for future studies.

Ultimately, my thesis seeks to provide a comprehensive understanding of how AI affects consumers and to offer insights to help companies use these technologies effectively to enhance customer satisfaction. (OpenAI, 2023)

3.2. Boundaries of the research

□ What are the issues related to the topic that will not be handled in the thesis?

It is certainly a very interesting topic or at least for me it is. So I could talk about it a lot and go in all directions. But that's not the point, it has to be as synthetic as possible but also as relevant as possible. That is why I have decided not to deal with various subjects such as (OpenAI, 2023):

- What are the marketing alternatives used in fashion in today's economy?
- What are the forecasts for the European economy of tomorrow?
- How to create an AI?
- Is it difficult to create an AI?

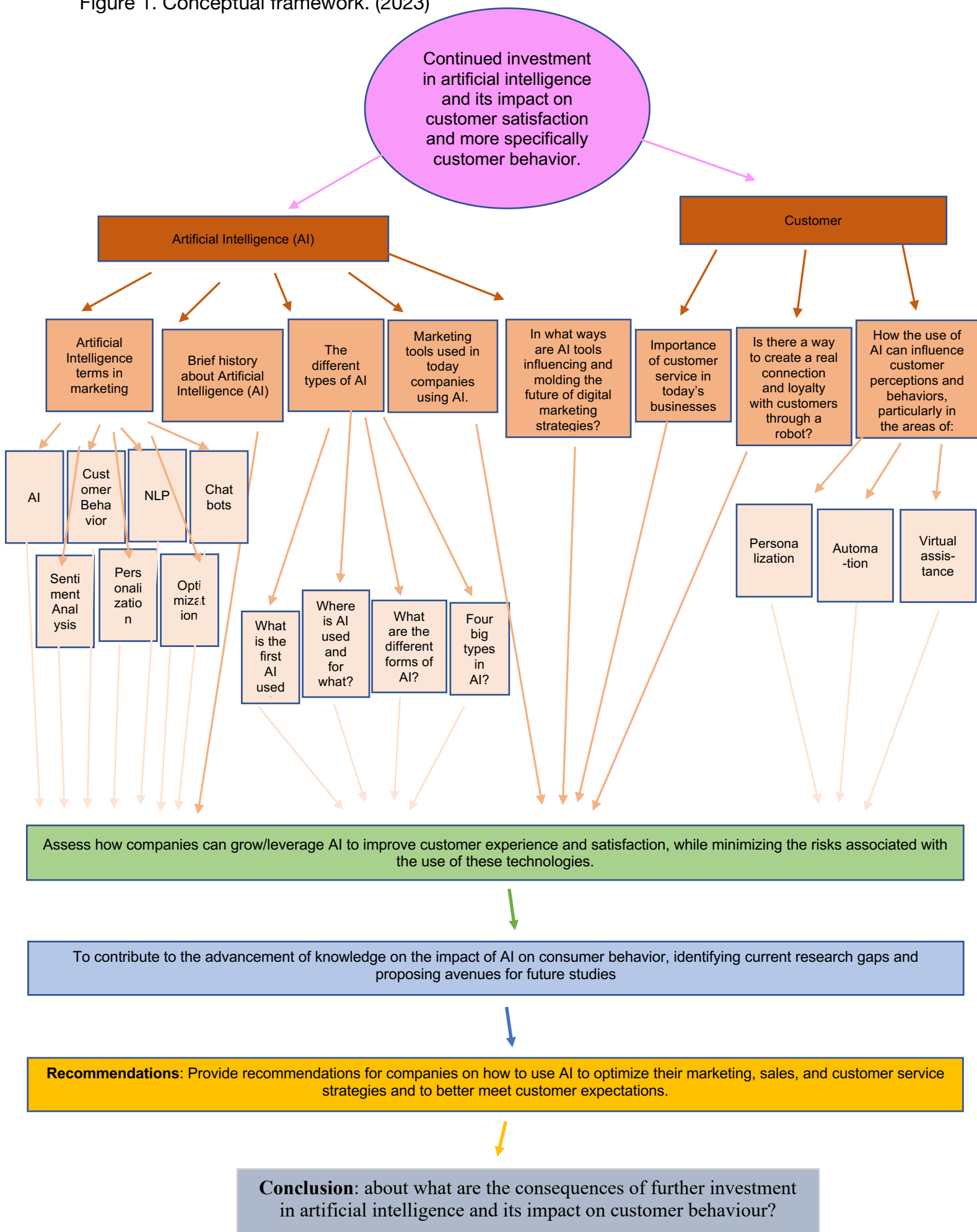
Why have you defined the boundaries this way?

I have decided not to discuss the above mentioned topics as I believe they do not belong in an analysis and thesis. They are either personal topics and opinions, or information that in the long run will not be useful to the person who will use my thesis. My aim is to produce a thesis that can be used for many years, not just now. Artificial intelligence is certainly something that evolves as well as marketing and fashion, but that does not mean that my thesis cannot remain current and relevant for a long time. (OpenAI, 2023)

3.3. Conceptual framework

Make a graphic illustration, in which you present the main concepts that will be handled in the thesis and show how they are related to each other.

Figure 1. Conceptual framework. (2023)



4 RESEARCH APPROACH, METHODOLOGY, AND IMPLEMENTATION

The purpose of this chapter is to discuss my methodology for writing my thesis and achieving my main objective, which is to answer the question: How continued investment in Artificial Intelligence impacts customer behavior and customer satisfaction, and then to write a conclusion and relevant recommendations. Through this methodology, I will mainly do qualitative research through internet data, books, artificial intelligence but also articles written by consumers about their experiences, wishes, ...

4.1. Qualitative Research

In a thesis, qualitative and quantitative research are two different types of research methodologies that can be used to collect data and analyze it. (OpenAI, 2023)

Qualitative research focuses on exploring and understanding complex phenomena, such as people's thoughts, feelings, experiences, and perceptions, using non-numerical data (often referred to as 'words' and often more theoretical). Qualitative data can be collected through methods such as interviews, focus groups, observations, and case studies. Qualitative analysis involves the interpretation of the data collected, and the researcher often uses subjective judgement and personal insights to make sense of the data. (Hämäläinen T., 2016) & (OpenAI, 2023)

Quantitative research, on the other hand, focuses on the collection and analysis of numerical data to test hypotheses and quantify relationships between variables. This type of research usually involves the use of surveys, experiments, and statistical analysis to collect and analyze data. The objective of quantitative research is to provide measurable and objective evidence to support or refute a hypothesis. Through this thesis, in addition to a qualitative study, I plan to make a questionnaire to get data on the importance according

to them of the use of artificial intelligence in customer service, for or against the use of artificial intelligence to answer consumers' questions on a website, ... (Hämäläinen T., 2016) & (OpenAI, 2023)

It is important to consider both qualitative and quantitative research in a thesis, as they each have unique advantages and disadvantages. Qualitative research can provide in-depth information about complex phenomena that cannot be measured quantitatively, and it can also help generate hypotheses that can be tested quantitatively. Quantitative research, on the other hand, provides statistical evidence that can be used to support or reject hypotheses, and it can also help to identify causal relationships between variables. (Bryman A., 2015) & (OpenAI, 2023)

Combining the two types of research in a thesis can contribute to a more complete understanding of the topic under study and ensure that the research results are both valid and reliable. The choice of research methodology will depend on the research questions, the nature of the research problem and the resources available. (Bryman A., 2015) & (OpenAI, 2023)

4.2. Applied Research methods and implementation of this study.

Through this part of my chapter on the research approach that I will use to write my thesis, I will explain the method(s) that I wish to use. In this case it will be more a qualitative research method. The aim of these research methods is, of course, that at the end of my thesis, this document will be a document that can help companies through my recommendations and analyses. It is therefore important that it is written in an academic and professional manner and that it includes reliable sources. (OpenAI, 2023)

To begin with my thesis, I'll be doing a lot of research using search engines such as Google and Safari in order to obtain as much data as possible. Through all this data, I'll filter each piece of information that's relevant to my writing according to its source. (OpenAI, 2023)

Secondly, I'm going to continue my research based on theses written by former students in previous years. Through this, I will obtain theoretical notions that will always be correct over time. For this, I will base myself on Theseus platform recommended to me by my university, SAMK - Satakunnan ammattikorkeakoulu. (OpenAI, 2023)

Thirdly, given that my thesis is about the impact of artificial intelligence on consumer behavior, it's important that I read up on the customer experience. To do this, I'm going to base myself on blogs, articles written by consumers on LinkedIn, etc. This will help to support the arguments in my chapter on the consumer, as well as in my recommendations. (OpenAI, 2023)

Finally, to finish this part of my thesis, I'd like to point out that I'm going to use Chat-GPT to translate various parts of my thesis from French into English in order to use a more sustained vocabulary than the one I have and thus have a more professional document. All this so that my thesis can be used by companies that want to apply artificial intelligence to their brand, business or even those who have already decided to implement this tool in their company. (OpenAI, 2023)

5 ARTIFICIAL INTELLIGENCE (AI)

When tackling a subject such as the one I've chosen for my thesis, I find it necessary to begin my chapter with the notions of artificial intelligence, which are important to understand to be able to follow all the elements I'm going to explain throughout this thesis. Next, I'll give you a brief history of artificial intelligence, which has been around for so long. Then, I'll talk about the different types of Artificial Intelligence that exist today in 2023 and the marketing tools that are used in marketing sectors in today's companies using AI.

5.1. Artificial Intelligence terms in marketing

Here are some important terms related to artificial intelligence (AI) in the field of marketing that I feel it is important to know and understand before starting my thesis on the topic of "The impact of Artificial Intelligence on consumer behavior" (OpenAI, 2023):

Artificial Intelligence

Artificial Intelligence (AI) is a branch of computer science that focuses on creating machines that can perform tasks that typically require human intelligence, such as perception, reasoning, learning, decision-making, and natural language processing. AI algorithms and systems can be designed to simulate cognitive functions that are associated with human intelligence, such as problem-solving, pattern recognition, and decision-making. (Schroer, A, n.d.) & (OpenAI, 2023)

There are different types of AI, ranging from basic rule-based systems to advanced machine learning and deep learning algorithms. Rule-based systems involve using pre-programmed rules and decision trees to perform specific tasks. Machine learning, on the other hand, involves training algorithms on large datasets to learn patterns and make predictions without

being explicitly programmed. Deep learning is a subset of machine learning that uses artificial neural networks to model and solve complex problems. (Schroer, A. n.d.) & (OpenAI, 2023)

AI technologies are used in a variety of applications, such as image and speech recognition, natural language processing, autonomous vehicles, robotics, virtual assistants, and predictive analytics. In marketing, AI can be used to analyze customer data and behavior to personalize marketing messages and improve customer engagement and conversion rates. In healthcare, AI can be used to diagnose diseases and develop personalized treatment plans. In finance, AI can be used to detect fraud and optimize investment strategies. (Schroer, A. n.d.) & (OpenAI, 2023)

While AI has the potential to revolutionize many industries and improve our lives in many ways, it also poses ethical and social challenges, such as job displacement, bias, privacy, and accountability. As AI continues to advance, it is important to consider its potential benefits and risks and to develop ethical frameworks and regulations to ensure that it is used in a responsible and beneficial way. (Schroer, A. n.d.) & (OpenAI, 2023)

Customer behavior

Customer behavior in marketing refers to the actions and decisions that customers make when they interact with products or services offered by a company. It includes both the cognitive and emotional processes that influence customers' decisions, as well as the physical actions they take when making a purchase or engaging with a brand. (Radu, V. 2023) & (OpenAI, 2023)

Customer behavior is influenced by a variety of factors, such as personal needs and preferences, social norms and values, cultural background, past experiences, and marketing messages. Understanding customer behavior is crucial for companies to develop effective marketing strategies that resonate with their target audience and drive customer engagement and loyalty. (Radu, V. 2023) & (OpenAI, 2023)

In marketing, customer behavior is often analyzed through market research methods, such as surveys, focus groups, and observational studies. By analyzing customer behavior data, marketers can gain insights into customers' motivations, preferences, and pain points, and use this information to develop targeted marketing campaigns, product offerings, and customer experiences. (Radu, V. 2023) & (OpenAI, 2023)

Some common types of customer behavior that are studied in marketing include purchase behavior (e.g. what products or services customers buy, how often they buy them, and how much they spend), decision-making processes (e.g. the factors that influence customers' purchasing decisions), and customer engagement (e.g. how customers interact with a brand through various touchpoints, such as social media, customer service, and advertising). (Radu, V. 2023) & (OpenAI, 2023)

Natural Language Processing (NLP)

Natural Language Processing (NLP) is a branch of artificial intelligence (AI) that deals with the interaction between computers and humans using natural language. It involves the development of algorithms and computational models that enable computers to understand, interpret, and generate human language. (Indurkha, N., & Damerau, F. 2010) & (OpenAI, 2023)

NLP encompasses a wide range of tasks, including language translation, sentiment analysis, speech recognition, text summarization, question-answering, and many others. These tasks are performed by analyzing and processing large amounts of language data using various techniques such as machine learning, deep learning, and statistical analysis. (Indurkha, N., & Damerau, F. 2010) & (OpenAI, 2023)

The link between NLP and AI is that NLP is a subfield of AI that focuses specifically on natural language. By enabling computers to understand and communicate in human language, NLP plays a crucial role in the development of AI systems that can interact with humans in a more natural and intuitive way. This has many applications in various fields, including

healthcare, finance, education, and customer service. (Indurkha, N., & Damerau, F. 2010) & (OpenAI, 2023)

Chatbots

In simple terms, a chatbot is a computer program that acts like a human during a conversation. It can understand and respond to written or spoken messages, making it possible for people to interact with computers or other digital devices as if they were talking to a real person. Chatbots can be basic, giving simple answers to straightforward questions, or advanced, like virtual assistants that learn and improve over time to provide more personalized responses by gathering and analyzing information. (Oracle, n.d.) & (OpenAI, 2023)

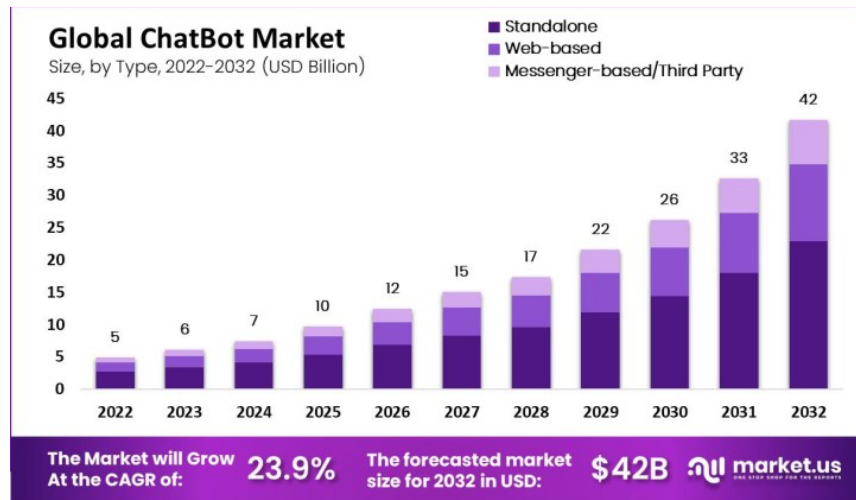
As you know chatbots are computer programs that use artificial intelligence to process and respond to different types of requests. There are two main types of chatbots:

- Task-oriented chatbots: These chatbots have a specific purpose, like answering common questions or handling simple transactions. They use rules and some language processing to provide automated responses. They are commonly used for support functions. (OpenAI, 2023)
- Conversational chatbots: These chatbots are more advanced and personalized. They can understand context, learn from interactions, and even predict user needs. They are like virtual assistants that can provide recommendations and have more interactive conversations. (OpenAI, 2023)

Advanced chatbots can connect different task-oriented chatbots and combine information from them to perform tasks while maintaining the context. (Oracle, n.d.) & (OpenAI, 2023)

Chatbots have become increasingly popular in recent years due to their ability to provide fast and personalized customer service, handle routine tasks and requests and automate various business processes. (Sundstrom, A., 2023). They are widely used in sectors such as e-commerce, healthcare, banking, and travel. (OpenAI, 2023)

Figure 2: Global ChatBot Market 2022-2032 (Market US)



The importance of chatbots in AI lies in their ability to improve human-computer interaction by providing a more intuitive and efficient means of communication. By leveraging NLP and machine learning, chatbots can learn from user interactions and improve their responses over time, thereby improving the customer experience and increasing the efficiency of various business operations. (Brush, K., n.d.) & (OpenAI, 2023)

In addition, chatbots can operate 24/7, reducing the need for human intervention and enabling round-the-clock support for customers. This allows companies to save money while improving customer satisfaction. Many companies use this to provide optimal customer service or for questions about their website. If of course the question is too complex or requires a relationship with a human, the chatbot will redirect the person directly or later. (Brush, K., n.d.) & (OpenAI, 2023)

Overall, chatbots are an important application of AI that has the potential to transform the way businesses interact with customers and manage various processes. (Tegmark, M., 2018) & (OpenAI, 2023)

Sentiment analysis

Sentiment analysis in AI is the process of using natural language processing (NLP) and machine learning algorithms to analyze and classify the emotional

tone of a piece of text, typically social media posts, customer reviews, or feedback. (Barney, N., 2023) & (OpenAI, 2023)

The goal of sentiment analysis is to determine whether a piece of text expresses a positive, negative, or neutral sentiment. This is done by analyzing various linguistic features of the text, such as the use of positive or negative words, the intensity of the emotions expressed, and the context in which the words are used. (Iglesias, C.A., Sánchez-Rada, J-F., Vulcu. G., Buitelaar, P., 2017, p. 49, Chapter 4) & (OpenAI, 2023)

Sentiment analysis has many applications in various fields, including marketing, customer service, and product development. For example, companies can use sentiment analysis to track customer feedback and opinions about their products or services and use this information to improve their offerings and customer satisfaction. (Roldós, I., 2020) & (OpenAI, 2023)

Overall, sentiment analysis is an important application of AI that enables businesses to better understand customer opinions and preferences and make data-driven decisions based on this information. (OpenAI, 2023)

Sentiment analysis is important for several reasons:

- Customer satisfaction: Understanding the sentiment of customers towards a product or service is critical for improving customer satisfaction. Sentiment analysis can help businesses identify areas where their customers are happy or dissatisfied and make necessary improvements to their products or services to meet customer expectations. (OpenAI, 2023)
- Reputation management: Sentiment analysis can be used to monitor the sentiment towards a brand or a specific topic on social media and other online platforms. This can help businesses to quickly respond to negative sentiment and take necessary actions to protect their brand reputation. (OpenAI, 2023)
- Marketing: Sentiment analysis can help businesses understand the preferences and opinions of their target audience and create targeted

marketing campaigns that are more likely to resonate with them. (OpenAI, 2023)

- Product development: Sentiment analysis can help businesses gather feedback from customers about their products or services and use this information to develop new products or improve existing ones. (OpenAI, 2023)
- Competitive analysis: Sentiment analysis can be used to compare the sentiment towards different brands or products in the same market. This can help businesses identify areas where they can improve their offerings to stay competitive. (OpenAI, 2023)

Overall, sentiment analysis is an important tool for businesses to better understand their customers and improve their products, services, and overall reputation. It enables businesses to make data-driven decisions that are more likely to result in increased customer satisfaction and business success. (Kanade, V., 2022) & (OpenAI, 2023)

Personalization

Personalization in AI refers to the use of machine learning algorithms and data analysis techniques to deliver personalized experiences and recommendations to individual users based on their preferences, behavior, and interests. This is why they also use predictive analysis to make a good personalization. The predictive analysis is the use of statistical algorithms and machine learning techniques to analyze customer data and make predictions about future behavior. (OpenAI, 2023)

Personalization in AI is used by companies to improve customer satisfaction and loyalty, increase sales and revenue, and gain a competitive advantage. Here are some reasons why companies use personalization in AI that I found:

- Enhanced customer experience: Personalization enables companies to deliver tailored experiences to individual customers, which can help improve customer satisfaction and loyalty. (OpenAI, 2023)
- Increased engagement: Personalized recommendations and experiences can increase user engagement and encourage customers to spend more time on a company's website or app. (OpenAI, 2023)

- Improved conversion rates: Personalization can increase the likelihood of customers making a purchase by presenting them with products or services that are more relevant to their interests and needs. (OpenAI, 2023)
- Better data insights: Personalization generates valuable data insights about individual users' behavior and preferences, which can be used to improve products, services, and marketing campaigns. (OpenAI, 2023)
- Competitive advantage: Personalization can give companies a competitive advantage by creating a unique and personalized experience that sets them apart from competitors. (OpenAI, 2023)

In conclusion, personalization in AI is important it's an effective way for companies to improve customer satisfaction, increase engagement and conversion rates, and gain a competitive advantage. (Atul, J., 2022) & (OpenAI, 2023)

Optimization

As you probably know, artificial intelligence is not only used for customer satisfaction or customer experiences. It is also used in advertising/marketing campaigns. Optimization is the use of AI algorithms to optimize marketing campaigns and improve customer engagement and conversion rates. (OpenAI, 2023)

Machine learning optimization is the process of making a machine learning model more accurate by reducing errors. The model learns from training data to make predictions on new data. It does this by approximating the relationship between input and output data. The aim is to minimize the difference between the predicted output and the actual output. (Castillo, D., 2021) & (OpenAI, 2023)

Artificial intelligence (AI) is revolutionizing marketing by providing innovative ways to optimize efforts and achieve better results. Here are some ways AI can be used in marketing that I have found important to highlight (OpenAI, 2023):

- Predictive Analytics: AI-driven tools analyze data to identify patterns and opportunities for targeted marketing campaigns based on customer behavior. (OpenAI, 2023)
- Personalization and Recommendations: AI algorithms analyze user behavior to provide personalized product recommendations and content suggestions. (OpenAI, 2023)
- Social Media Monitoring and Sentiment Analysis: AI tools track social media conversations, brand mentions, and sentiment to support social listening and data-driven decision-making. (OpenAI, 2023)
- A/B Testing and Optimization: AI-powered A/B testing tools evaluate multiple variables simultaneously to optimize marketing campaigns for increased conversions. (OpenAI, 2023)
- AI-driven Visual Content Creation: AI graphics tools assist with simple design tasks, like generating visuals based on prompts, saving time for designers. (OpenAI, 2023)
- Email Marketing Optimization: AI tools analyze email marketing data to optimize campaigns, including subject lines, content, and send times. (OpenAI, 2023)
- Chatbots for Customer Support: AI-powered chatbots assist with customer inquiries, providing instant support, and guiding visitors through websites. (OpenAI, 2023)

To conclude, Using AI strategically, can help companies improve the effectiveness and efficiency, can leverage these applications to enhance their brand image, stay competitive, and optimize marketing initiatives. (Masson, T., n.d.). (OpenAI, 2023)

Understanding these terms will be useful in exploring the impact of AI on customer behavior and its implications for marketing strategies. No doubt I will continue to explain/define theoretical terms throughout the rest of this thesis, but these are the ones that will come up the most or at least will be important to know to understand the whole thesis. (OpenAI, 2023)

5.2. Brief history about Artificial Intelligence (AI)

Artificial intelligence (AI) is a sixty-year-old discipline that aims to mimic the cognitive abilities of humans. Initially conceived in the aftermath of World War II, it is closely linked to developments in computer science and has led to computers performing complex tasks that could only be done by humans. However, some experts consider that today's automation is far from strict human intelligence, which makes the term 'artificial intelligence' open to criticism. The goal of AI research is to develop 'strong' AI, capable of contextualizing very different specialized problems in a fully autonomous way, but this would require advances in basic research. Since 2010, the rise of AI has been driven by vast improvements in computer processing power and access to massive amounts of data. The promises and concerns surrounding AI make objective understanding of this phenomenon complex, but a brief historical review can help situate the discipline and shed light on current debates. (Council of Europe, n.d.) & (OpenAI, 2023)

Between 1940 and 1960, AI was strongly marked by the conjunction of technological developments and the desire to understand how to make machines and organic beings' function together. Norbert Wiener, a pioneer of cybernetics, aimed to unify mathematical theory, electronics, and automation as a "whole theory of control and communication, both in the animal and in the machine". A first mathematical and computer model of the biological neuron had been developed by Warren McCulloch and Walter Pitts as early as 1943. In 1950, John Von Neumann and Alan Turing formalized the architecture of our contemporary computers and demonstrated that this was a universal machine, capable of executing what was programmed into it. Turing also raised the question of whether a machine could be intelligent in his famous 1950 paper "Computing Machinery and Intelligence" and described an "imitation game", where a human would have to distinguish whether he was conversing with a human or a machine. (BootstrapLabs, 2017). The term "AI" is said to have been coined by John McCarthy of MIT, and Marvin Minsky of Carnegie-Mellon University defined it as "the construction of computer

programs that engage in tasks that are, for the time being, more satisfactorily performed by human beings". The 1956 conference at Dartmouth College is considered the founding conference of the discipline. Only six people, including McCarthy and Minsky, remained after the first week of the six-week conference. (Council of Europe, n.d.) & (OpenAI, 2023)

5.3. The different types of AI

Through this chapter, I find it important to inform the reader that in recent years, artificial intelligence (AI) has become a key technology for many companies. Recent advances in areas such as machine learning, computer vision and natural language processing have enabled companies to implement AI systems to automate repetitive tasks, improve productivity, deliver new products and services and enhance the user experience.

There are several types of AI that companies can use, each with its own advantages, disadvantages and limitations. In this chapter, I will explore and briefly explain the different types of AI most commonly used in business and examine how these technologies can be applied to solve real-world problems. I will then outline the advantages and disadvantages of these technologies for companies that want to use them or are already using them, as well as the challenges of using them to improve the customer experience.

a) What was the first AI used?

Artificial intelligence (AI) is a field of technology that enables machines to perform tasks normally reserved for human intelligence. The first studies in artificial intelligence began in the 1940s and led to the creation of the first computer with a neural network, Snarc, in 1950. Since then, AI technologies have evolved to the present day. (Sansonetti, J., n.d.) & (OpenAI, 2023)

b) Where is Artificial Intelligence used and for what?

AI is used in many fields, such as health, finance, security, communication, environmental management, transportation, and many others. AI is used to process large amounts of data, to perform complex predictions and analysis, to optimize the performance of systems, to automate repetitive tasks and to improve human-computer interaction. (Sansonetti, J., n.d.) & (OpenAI, 2023)

Machine learning is an evolution of AI based on machine learning. Unlike traditional AI, which could only reproduce repetitive tasks, machine learning

allows the machine to learn from the data it receives, to refine its answers and fields of competence. Learning algorithms are the key to this technology. (Sansonetti, J., n.d.) & (OpenAI, 2023)

Deep learning, on the other hand, takes machine learning a step further. This deep learning technology allows the machine to analyze concepts more accurately. Deep learning is based on a neural network built up in successive layers of data. By combining the data from its successive layers, the machine can propose a very precise response to the user. Deep learning is used in facial recognition, speech recognition, machine translation and many other areas. (Sansonetti, J., n.d.) & (OpenAI, 2023)

To summarize, AI is a constantly evolving field that allows machines to perform tasks normally reserved for human intelligence. The application areas of AI are numerous, and the technologies are evolving to enable increasingly accurate and complex performance. Machine learning and deep learning are machine learning technologies that allow the machine to improve its responses and skills based on data. Deep learning goes even further in analyzing complex concepts by using a neural network in successive layers of data. (Sansonetti, J., n.d.) & (OpenAI, 2023)

c) What are the different forms of AI (3 types of AI)?

Artificial Narrow Intelligence (ANI) is a form of AI that is created to perform specific tasks. For example, technologies such as facial recognition and internet search are examples of ANI. ANI machines have limitations and are programmed to perform a specific category of actions. (Sansonetti, J., n.d.). Although these machines are highly intelligent, they do not replicate human intelligence, but simply mimic human behavior. (Escott, E., 2017) & (OpenAI, 2023)

Artificial General Intelligence (AGI), or strong AI, is a form of AI that could mimic human intelligence and reproduce human thinking and behavior. Scientists have not yet succeeded in creating this class of machine (Sansonetti, J., n.d.). To create a strong AI, scientists would have to create

software to transform the machine into a conscious object through complex cognitive networks. Unlike the ANI, the AGI would not be limited to a specific task but would be able to learn and adapt to different types of tasks. The aim is therefore no longer to imitate the human brain, but to understand it and recreate it in an artificial way. (Escott, E., 2017) & (OpenAI, 2023)

Artificial Superintelligence (ASI) is a form of AI that currently exists only in science fiction. This technology is said to be superior to human knowledge and physical capabilities. Although some consider this idea to be a utopia, others consider it to be a danger to human survival. Research on ASI is limited because we do not have full knowledge of human cognitive abilities and unknown parameters could pose major risks to humans if ASI is created. (Escott, E., 2017) & (OpenAI, 2023)

d) Four big types in Artificial Intelligence (AI):

→ What?

There are four main types of artificial intelligence. Each type differs in its level of sophistication and functionality.

Two AI that exist now:

1. Reactive AI are considered the first steps in artificial intelligence. Unlike memory-limited machines and "theory of mind" machines, they cannot learn or adapt, but rather repeat specific actions for which they have been programmed. (Marr. B., n.d.) These machines can respond to specific requests within a limited range with minimal input. The famous example of this category is Deep Blue, the chess-playing IBM supercomputer, and the Netflix recommendation engine. (Sansonetti, J., n.d.) & (OpenAI, 2023)
2. Limited memory AI is the second type and is the most widely used type of AI today. This type of AI learns from past observations and experiences to make predictions and perform complex tasks. (Sansonetti, J., n.d.). Autonomous vehicles use limited memory AI to observe other cars' speed and direction, making them safer on the

roads. Another common example of this category is image recognition, where artificial intelligence can name objects and recognize them in an image it analyses. However, limited memory AI is still limited and not able to store information in its long-term memory. (Marr. B., (n.d.)) & (OpenAI, 2023)

Two AI that aim to arrive in the future:

1. Theory-of-mind AI are not yet on the market but are at the heart of the research and goals of researchers and engineers. (Sansonetti, J., n.d.). They would be able to have a thought process like that of humans, allowing them to have feelings, innovative ideas and make decisions. They would be the equal of humans in terms of understanding and action. Although there are still challenges in achieving this type of AI, we are making progress with robots such as Kismet and Sophia. (Marr, B., (n.d.)) & (OpenAI, 2023)

2. The fourth and most advanced type of AI is self-aware AI, which will have a level of consciousness and intelligence similar or more to human beings. This type of AI will be able to make inferences about their emotions and mental states, and will have desires, needs, and emotions as well. (Sansonetti, J., n.d.). However, we have not yet developed the hardware or algorithms to support this type of AI. This raises important ethical questions for researchers and scientists, as well as for science fiction and the collective imagination. For the time being, this type of artificial intelligence exists only in books and on screens. (Marr, B., (n.d.)) & (OpenAI, 2023)

→ Pros & Cons of AI

Artificial intelligence (AI) has many benefits. Advantages (Pros):

- Availability: Unlike humans, machines can work continuously without any breaks or distractions, providing consistent quality of work. This always ensures high productivity, without requiring additional human

resources and people to work overtime. (Indeed Editorial Team, 2022) & (OpenAI, 2023)

- Precision: AI can achieve high accuracy in assigned tasks, keeping the likelihood of errors to a minimum. This increased accuracy is useful in detail-oriented roles and even in medical applications, such as surgical simulations and radiosurgery, which can cleanly remove tumours without damaging surrounding tissue. Once programmed, these machines function at high consistency, especially for repetitive tasks. By doing these tedious tasks, AI can free up the time for working professionals to focus on work that requires advanced thinking and collaboration, thereby improving their job satisfaction. (Indeed, Editorial Team. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- Consistency: AI can process large volumes of data with accuracy and consistency within a very short time, beyond what any human can do. Based on rational thinking, it can analyse a situation quickly and objectively using a wide range of data to determine the best possible solution. In addition, AI machines can assist in dangerous missions that may risk human lives, such as minesweeping, defusing a bomb and even space explorations, increasing the probability of success. (Indeed, Editorial Team. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- Another advantage of AI is its ability to multitask. While humans have limits on their capacity to multitask, AI machines can carry out multiple programmes simultaneously and with high accuracy. This allows working professionals to expedite the completion of menial tasks and paperwork to focus on in-depth research and analysis. (Indeed, Editorial Team. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- The brilliance of AI is its ability to constantly improve with every iteration, enabling new innovations among every industry that help to enhance current working processes and resolve complex issues. AI brings about the evolution of the workplace, as the advancement of AI technology

encourages working professionals to contribute in more significant ways. (Indeed Editorial Team, 2022) & (OpenAI, 2023)

In summary, the benefits of AI include availability, accuracy, consistency, efficiency, risk-taking, multitasking and evolution, which all contribute to increased productivity, improved job satisfaction and the resolution of complex issues across various industries. (OpenAI, 2023)

Disadvantages (Cons):

Although the use of AI has many benefits, it is important to be aware of its drawbacks to ensure that it is used effectively and correctly. Businesses and professionals need to be mindful of these drawbacks when planning to maximize the benefits of AI and get ahead of their competitors. Here are some of the potential problems with AI that I have identified (OpenAI, 2023):

- Job displacement: Since the advent of AI, it has been noted that it can automate repetitive tasks previously performed by humans, leading to redundancy in some roles. To avoid being replaced, working professionals may need to acquire more advanced skills and knowledge to build and operate AI. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- Functional limitations: Digital assistants lack emotional depth, which can limit customer satisfaction, so human intervention is still needed in some situations. In addition, AI can only react based on past learning and cannot infer future actions, which limits its ability to perform impromptu tasks beyond its programming. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- Cost requirements: AI can be very expensive to develop and maintain due to its high complexity and the need for constant improvement. (Indeed Editorial Team, 2022) & (OpenAI, 2023)
- Data security: The use of AI for data processing can make the system vulnerable to external threats such as hacking and viruses, which could lead to data compromise, unauthorized access to personal information,

or even medical diagnostic errors due to errors in the code. (Indeed, Editorial Team. (Indeed Editorial Team, 2022) & (OpenAI, 2023)

To conclude, the potential pitfalls of AI include job displacement, functional limitations, cost requirements, and data security concerns. While AI offers numerous benefits to businesses, it's important to be aware of these cons to ensure that AI is effectively and correctly used in the workplace. By addressing these potential issues, companies and working professionals can maximize the benefits of AI while minimizing its negative impacts. (OpenAI, 2023)

5.4. Marketing tools used in today companies using artificial intelligence.

In this part of my thesis, I will explain you more about the age of technology, where businesses are using marketing tools in which they use Artificial Intelligence to revolutionize their strategies and stay ahead of their competition. (IBM, n.d.). These sophisticated software applications use machine learning algorithms to automate marketing tasks and analyze customer data from diverse sources like social media and email. This helps businesses to understand customer behavior, preferences, and trends, enabling them to create customized marketing strategies that connect with their audience. (Question Pro, n.d.) & (OpenAI, 2023)

Before discussing the benefits, potential problems, and different types of AI marketing tools, it is important to understand the concept of AI marketing tools. (OpenAI, 2023)

What mean AI Marketing Tools?

These tools are software or platforms that use artificial intelligence technology to make automated decisions based on the analysis and interpretation of data and market trends. Their goal is to create marketing strategies that can predict buyer behavior and stay ahead of the competition. (Mileva, G., 2023) & (OpenAI, 2023)

AI marketing tools have become increasingly popular in modern-day companies, and for good reason. They can have a significant impact on a company's marketing strategies and overall business success. (Question Pro, n.d.). One of the most used AI marketing tools is the Customer Relationship Management (CRM) system, which uses AI-powered algorithms to analyze customer data, predict behavior, and personalize interactions. By analyzing data such as purchase history, browsing behavior, and customer feedback, CRM systems can provide businesses with insights on how to best engage with customers and personalize their interactions. (Sales Force, n.d.) & (OpenAI, 2023)

Chatbots and virtual assistants are also popular AI marketing tools that use machine learning algorithms to communicate with customers, provide support, and answer their questions in real-time. (Hogan, M., 2023). Predictive analytics is another AI marketing tool that has become increasingly popular in recent years. Predictive analytics tools use machine learning algorithms to analyze customer data, identify patterns, and predict future behavior. (Mileva, G., 2023) Personalization engines are also an important AI marketing tool that uses machine learning algorithms to analyze customer data and provide personalized content and recommendations. (RetailRocket, n.d.) Content optimization tools are another essential AI marketing tool that uses machine learning algorithms to analyze content performance and provide insights that help businesses optimize their content for better engagement and conversion rates. (OpenAI, 2023)

As you probably know, each of the above-mentioned tools is a general term and many companies have created real working tools by creating applications and software with different characteristics. So, I wanted to mention below some of the software/apps that companies use as tools. (OpenAI, 2023)

Example of famous marketing tools used in companies:

- A) The first known application is a planning application because as you probably know, an important part of a marketer is planning. The application is called Trello. Trello is a digital tool that helps you organize your tasks by breaking them down into smaller steps and assigning them to different team members. It is easy to use, but as you become more familiar with it, you will discover its flexibility and capabilities. One of its major advantages is that it allows you to simplify complex tasks by breaking them down into smaller parts and delegating them to different team members. (Marketing tools: 5 essential ones to make your life easier, (n.d.)) & (OpenAI, 2023)
- B) The second known application is an application that deals with social media advertising. Nowadays, it is important for companies to use this kind of software to be able to impact the right audience according to

their advertisements. Depending on what the company sells or wants to promote, there are social networks to use and others not. (Marketing tools: 5 essential ones to make your life easier, (n.d.)) (OpenAI, 2023)

- C) The second to last application I will mention is the display advertising tools. In this case, it is intended to be able to make advertising campaigns published at the right time in the right format in a fast but competent way. The name of an example of software that does this is: Bannerflow. "It's an incredibly powerful tool, but one that's easy to use. Everything is in HTML5, and scaling up campaigns takes a matter of minutes." (Bannerflow, n.d.) & (OpenAI, 2023)
- D) The last software I will talk about in this part of my thesis concerns a software that deals with marketing content. As we know, the basis of marketing is to present to others what a company does, it is to create visibility. In this case, social networks are indeed a way to do it, it's a branch of marketing but there are many other ways to do it. The name of the application is Contently. (Bannerflow, n.d.) & (OpenAI, 2023)

The use of AI in marketing offers significant advantages, such as the ability to quickly analyze data, personalize marketing efforts, and automate repetitive tasks. This results in increased efficiency, accuracy, cost savings, and better engagement and conversion rates. (Morris, O., n.d.) However, potential drawbacks include the need for a significant initial investment, data privacy concerns, and the difficulty in creating emotional connections with customers. Overall, AI marketing tools are essential for businesses to optimize their marketing efforts, increase customer engagement, loyalty, and revenue growth. (Question Pro, n.d.) & (OpenAI, 2023)

In conclusion, nowadays, many companies have integrated each of these tools into their way of working. There are many positive points for this to continue to increase in the years to come. In the next section I will discuss how AI tools are influencing and shaping the future of digital marketing strategies. (OpenAI, 2023)

5.5. In what ways are AI tools influencing and molding the future of digital marketing strategies?

The emergence of Artificial Intelligence (AI) has had a significant impact on various industries, and digital marketing is no exception. In recent years, AI tools have become increasingly popular in the world of digital marketing, with companies using them to gain insights into customer behavior and preferences, automate tasks, and optimize their campaigns. The use of AI tools has enabled digital marketers to create more personalized and relevant experiences for their customers, resulting in increased engagement and conversions. (Onpassive, 2021) & (OpenAI, 2023)

Artificial intelligence (AI) is rapidly transforming the world of work, and digital marketing is no exception. AI is revolutionizing the way marketers' approach digital campaigns, from leveraging predictive analytics to improve customer segmentation to using machine learning algorithms to optimize ad targeting. The benefits of AI in digital marketing are numerous, including more accurate customer profiling, better ad targeting, and increased automation of mundane tasks. (IE Uncoverie, 2023) & (OpenAI, 2023)

The use of AI tools is becoming increasingly common in the digital marketing landscape, and it is bringing about several benefits:

- A) One of the key benefits of the role of AI-powered tools in digital marketing is their ability to collect and analyze large volumes of data from various sources. By doing so, marketers can gain valuable insights into customer behavior and preferences, which can be used to create personalized and targeted campaigns that are more effective in reaching their intended audience. AI can provide data-driven insights into consumer behavior by collecting and storing all kinds of analytics, allowing marketers to analyze customer behavior more closely and record consumer ideas, preferences, and previous searches. This enables marketers to create more accurate customer profiles and tailor their campaigns more effectively. (Onpassive, 2021) & (OpenAI, 2023)

- B) AI tools are helping to automate various marketing processes, such as ad targeting, content creation, and lead generation, thereby reducing the workload of marketers. (IE Uncoverie, 2023) & (OpenAI, 2023)
- C) AI is changing digital marketing in two significant ways.
- Firstly, AI is making chatbots and voice assistants more accessible, leading to better customer service and support. This results in higher customer satisfaction and loyalty. (Onpassive, 2021) & (OpenAI, 2023)
 - Secondly, AI is facilitating the integration of insights from various data sets, enabling marketers to gain a more comprehensive understanding of their customers. This allows them to make data-driven decisions and create more effective marketing campaigns. (Onpassive, 2021) & (OpenAI, 2023)
- D) Another way AI is transforming digital marketing is through semantic searching. Semantic searching allows machines to understand the contextual meaning of a user's search phrases and patterns and incorporate their search history into the results page. This means that users are presented with a set of customized results that better fit their needs, rather than a simple list of search results. (Onpassive, 2021) & (OpenAI, 2023)

As AI continues to advance and become more widespread in the world of work, it's clear that it will have a profound impact on digital marketing. By understanding and leveraging AI technologies, marketers can stay ahead of the competition and create successful campaigns for their organizations. (IE Uncoverie, 2023) & (OpenAI, 2023)

In conclusion, AI tools are revolutionizing the digital marketing landscape, and businesses that embrace these technologies are likely to have a competitive advantage over those that do not. (Onpassive, 2021) & (IE Uncoverie, 2023)

6 CUSTOMER

In our rapidly evolving society, I believe that the significance of customers cannot be overstated. Now more than ever, I hold the view that customers are the lifeblood of businesses, and understanding their needs, preferences, and behaviors has become of paramount importance for achieving success. In this chapter, I will embark on a comprehensive exploration to address two pivotal questions I have posited: Is there a genuine customer-centric obsession within today's business landscape? And is it feasible to establish a bona fide connection between consumers and the artificial intelligence deployed by businesses?

6.1. Importance of customer service in today businesses

In this first section of my chapter on consumers, I would like to underscore the significance of consumers in today's businesses. While this may not be a novel concept, it has certainly become more evident in recent years, partly due to the increasing number of competitors in today's business landscape. (OpenAI, 2023)

First and foremost, the evident reason for the importance of customers in today's businesses is that customers are the ones who purchase products and, consequently, generate a company's revenue. Disregarding customer feedback makes it impossible to address their diverse needs, thus hindering the sales process. Without sales, a business risks facing financial turmoil. (Olaniyan, 2022) & (OpenAI, 2023)

Secondly, customers play a less direct but essential role in a company's advertising efforts. A satisfied customer is more likely to spread positive word-of-mouth about a company compared to someone who did not find a solution to their needs. According to a study by Nielsen, 92% of consumers trust a company based on recommendations they receive from friends, family members, and others. This study also highlights that word-of-mouth is five

times more effective for a company than paid advertisements. This underscores the importance for a company to prioritize customer satisfaction. (Nielsen, 2012) & (OpenAI, 2023)

Thirdly, customers provide a convenient source of feedback, helping businesses understand their likes, dislikes, and specific desires. This feedback is instrumental in improving various aspects, including the services or products offered and the company's marketing strategies. Through marketing, it becomes possible to determine which types of messages resonate more with customers and which information channels wield the most influence over them. (Olaniyan, 2022) & (OpenAI, 2023)

6.2. Is there a way to create a real connection and loyalty with customers through a robot (AI)?

After extensive research on my previous subchapter, I have observed that in today's business world, the customer is a central element. Companies rely on customer feedback to grow and develop. This leads me to question whether it is possible to combine customer satisfaction with the use of artificial intelligence. The reason for this question arises from the fact that artificial intelligence is a machine, a software that lacks emotions. Therefore, is it possible to establish a loyal relationship between these two elements? (OpenAI, 2023)

In a society like the one we live in today, it is challenging to fully trust artificial intelligence or feel entirely comfortable with it because, as mentioned above, AI lacks emotions. (Voxco, n.d.) & (OpenAI, 2023)

In an era dominated by the digital business environment, the influence of AI on Customer Relationship Management (CRM) has evolved significantly in recent years. This evolution is primarily due to AI's role in making consumer relationships more innovative, intuitive, and effective. (Gorman, K. 2023) & (OpenAI, 2023)

The revolutionary aspect of integrating AI into CRM goes beyond merely managing static customer databases; it introduces dynamic AI assistants that learn, adapt, predict, and facilitate interactions between businesses and customers. This is achieved through AI's analytical capabilities, enabling the extraction of insights from customer data, prediction of trends, personalization of experiences, and the formulation of effective business strategies. (Gorman, K. 2023) & (OpenAI, 2023)

However, it is essential to emphasize that this is not about replacing human interaction. Instead, by automating routine tasks, AI liberates human resources to engage in more strategic, relationship-building endeavors. The advantages of embracing AI in CRM are substantial, particularly for early adopters striving

to distinguish themselves in their respective industries. Nevertheless, this approach does come with its share of challenges. Integrating AI into CRM is a nuanced process, necessitating thorough planning and personalized approaches. (Gorman, K. 2023) & (OpenAI, 2023)

The key element important to mention is that artificial intelligence contribute today to a better customer experience and will contribute for me, more and more in the future. That means a better customer satisfaction, a stronger connection between the customer and the brand or company (Voxco, n.d.). (OpenAI, 2023)

In summary, creating a genuine connection between a business and its consumers through AI is currently a challenging task. However, it is evident that AI can enhance the customer experience in various ways. When consumers perceive a better customer experience, they can attain higher satisfaction and consequently, develop a more loyal connection with the brand or company. (OpenAI, 2023)

Finally, now that we have realized that improving the customer experience through artificial intelligence is possible, I have analyzed various aspects on which AI can work to enhance this:

- A. Processing Vast Amounts of Data to Extract Relevant Information:
Companies are increasingly leveraging AI to process extensive data and extract precise information. AI enables the collection of information based on user behavior and trends (Voxco, n.d.). (OpenAI, 2023)

- B. Enhancing Personalization: AI offers each user an individualized experience based on their desires, current searches, interests, and various other factors. This personalization can take the form of emails, social media ads, marketing texts on a website, and more (Voxco, n.d.). (OpenAI, 2023)

- C. **Optimizing Marketing Strategies:** AI makes it easier to understand consumer behavior and find the right segment to target for marketing communication. Relevant marketing messages are more likely to engage customers and lead to higher conversion rates (Voxco, n.d.). (OpenAI, 2023)

- D. **Streamlining Tasks and Workflows:** AI can streamline various tasks and processes within a company. For example, chatbots handle easy and repetitive tasks, providing customers with answers 24/7 (Voxco, n.d.). (OpenAI, 2023)

7 RESEARCH FINDINGS

In order to finish my thesis in the best possible way, I must give my opinion on the research I carried out during the writing of this thesis, but also on the limits and gaps I encountered, with the aim of making people who will read my thesis understand that artificial intelligence is a very global subject which evolves every day, and about which you shouldn't believe everything you see and read.

- 7.1. Assess how companies can grow/leverage AI to improve customer experience and satisfaction, while minimizing the risks associated with the use of these technologies.

For this part of my thesis, I think it's important to understand how companies can use AI to improve customer satisfaction and experience while managing risk. It's important to address this point in this thesis because we mustn't overlook the fact that a trend-setting tool is not without its risks. There are several ways to manage risk:

Firstly, an easy way is certainly to be transparent with consumers. It's important to make everyone understand why AI is being used and what the purpose of this kind of tool is. Explain that the data we get from this tool will enable us to better understand their needs, their limits, etc.

Secondly, involving customers helps to reduce any risks. By involving customers, I'm thinking of doing satisfaction surveys or surveys to get their opinion on how tools like AI work, so that we can learn from them and then adapt our use of them.

Thirdly, I think data confidentiality and security are very important. It's important for companies to ensure that all data is properly stored and not divulged. To reduce any risk, it's important to draw up a confidentiality document so that consumers who have any doubts can find out for sure.

Finally, I think it's important to make it clear to customers/consumers when they are in contact with an artificial intelligence. For this, a simple message or notification on the website is essential.

- 7.2. To contribute to the advancement of knowledge on the impact of AI on consumer behaviour, identifying current research gaps and proposing avenues for future studies.

At this point in my thesis, I would like to mention the shortcomings that I have identified through my research on the impact of artificial intelligence on consumer behavior and make proposals to improve future research.

Regarding the possible gaps that I have identified through my research, I have identified two major problems that did not make my task any easier throughout the writing of my thesis.

Firstly, the most important shortcoming I encountered was undoubtedly that artificial intelligence is a relatively new and very trendy subject, so you must read up on it on a daily basis in order to:

- Check your sources, because a lot of people write articles thinking they know everything there is to know about AI, but they don't.
- Know everything that's new, inventions, rules, changes, etc.

Secondly, a relatively new subject also means that there is little precise relevant information. At the beginning of my thesis, I thought of different questions to define my sub-chapters, thinking I could answer them easily, but it was harder than expected for some points. As far as the theory is concerned (concepts, history of AI, etc.) I didn't have any problems, but anything to do with the consumer was more complicated because, first, it's more information that is kept internally in companies. This means that the little relevant information that is written is very general, without any real figures or diagrams to demonstrate the ideas expressed. What's more, in the consumer section, most of the articles and websites I found were written by consumers based on

their own experiences and thoughts, in other words, unreliable and transparent information.

If I were to suggest possible avenues for future research on the impact of Artificial Intelligence on consumer behavior, I would propose two alternatives:

Firstly, to define a subject that is probably a little more precise by working with a company to have concrete data and information to support the arguments and research carried out during the writing of the thesis.

Secondly, if the aim is to keep the same subject, I would expect a little more development in artificial intelligence to have more reliable sources to write about and thus waste less time having to go into depth in analyses and articles to differentiate information written by professionals from the personal opinions of consumers on their own experiences through artificial intelligence.

In conclusion, it's a subject that's very interesting to analyze, that's very trendy and that I think is very much analyzed by companies today, but now it's not the easiest to find good, accurate, relevant information to be able to write an essay with complete peace of mind.

8 RECOMMENDATIONS

Throughout this thesis, I explored in depth the impact of artificial intelligence on consumer behaviour. Starting with the theoretical part on artificial intelligence and then combining AI and customers. It is now important to move on to the analysis of action. Throughout this chapter, I will mention various practical and strategic recommendations for companies that have introduced or wish to introduce artificial intelligence, so that they can learn from this thesis.

The recommendations that I am going to put forward in this chapter are the result of a long process of research and questioning, with the aim of providing as much relevant and professional information as possible. My aim is to transform all the research I have done during this thesis into various concrete actions that companies could use to improve their knowledge of the impact of the use of artificial intelligence on consumer behavior at different levels.

Firstly, introducing the use of AI in businesses saves a considerable amount of time. I put this forward because AI is the cause of an acceleration in customer data collection. By using artificial intelligence in a company, it can collect reliable and relevant data quickly on consumer behavior. This can be done in a few ways: by analyzing consumer comments, by using a chatbot on the company's website to answer basic questions, and by recording more complex questions that require human intelligence to answer.

Secondly, knowing your customers better thanks to AI undoubtedly means better targeting. When a company knows its customers (needs, limitations, preferences, etc.), it is easier to target prospective consumers or at least to satisfy its current customers by responding to their desires through personalization. We can personalize each message for each consumer according to their data, desires, and personal interests. By doing this, you can adopt a customer-centric strategy using artificial intelligence.

Thirdly, once AI has been used in these two ways, it is important to analyze the results obtained thanks to artificial intelligence. Thanks to AI, it is possible to analyze a wide range of data, such as customer feelings through surveys, customer satisfaction with ad targeting for example, etc. Each of these results is a way of getting to know consumers even better and thus enabling better targeting, more views on the site, more sales, etc.

To conclude, I'm convinced that each of the recommendations I've mentioned above will be of great benefit to any company wishing to use artificial intelligence to better understand and target its consumers. Each of them can be adapted to different business contexts depending on the resources available. They save time, money, and visibility, but must be used transparently across the customer experience, while respecting the limits of customer data collection. I'm certain that by applying each of these recommendations, many companies will experience a springboard in this field, which has been constantly evolving over the last few years.

9 SUMMARY AND CONCLUSIONS

In this conclusion, I will summarise the important elements mentioned in each of the chapters following extensive research to provide an overview of my thesis, which deals with the impact of artificial intelligence on consumer behavior.

First, to begin writing my thesis, I decided to tackle the theoretical elements of Artificial Intelligence. It was important for me to cover the various important concepts when talking about Artificial Intelligence so that everyone who wants to read this thesis can understand and get as much information out of it as possible. I then looked at the history of artificial intelligence because today, in 2023, AI is a trendy field that we hear about every day, but do you know how it was created, by whom, for what reason, etc.? ... Then, given that I want to turn this thesis into a professional tool for people who are interested in this subject or companies that want to or have already introduced the use of artificial intelligence to enhance the customer experience, I wanted to tackle the subject of the different types of artificial intelligence that exist today because each of them is relevant for very specific uses. I continued this chapter by analyzing the different marketing tools that use AI and that are used by companies today. There are of course other sectors besides marketing that use AI, but I thought it was relevant to use this sector as it is undoubtedly one of the sectors that has the greatest impact on consumers. There are so many ways of using artificial intelligence in marketing, but through this thesis, I wanted to develop the important ways of using it in the process of understanding customer needs, customer satisfaction and so on.

I then turned to a major new chapter, that of the consumer. In 2023, the consumer is a very important element in today's businesses. Through this part of my thesis, we can see that the consumer is at the center of today's businesses, because it is the consumer who drives the whole brand/company. A satisfied consumer is someone who creates income for the company, someone who advertises, someone who has needs and these needs must be

satisfied by a company, etc. Given the importance of the customer in 2023, I decided to research how it is possible to use artificial intelligence to satisfy this very important customer in companies. Through artificial intelligence, I understood the need to use such a powerful tool to get to know consumers and target them in the best possible way. Using this tool, which is AI, companies save time, money, visibility, etc. without having to make a huge effort, which allows them to work on other areas that require human intelligence to be achieved.

Thirdly, I decided to assess how today's businesses can use artificial intelligence to improve customer experience and satisfaction, and also to target potential customers. Nevertheless, I had to address the subject of the gaps I encountered during my research, documentation, etc., because AI is still a recent subject, but it's certainly a tool that's evolving every day. There is a lot of information out there, but not all of it is relevant, either because of its source or because of its lack of detail. Following on from this part of my work, I've decided to offer some pointers/advice for people or companies wishing to carry out a study on this subject in the future.

Finally, to finish this thesis, I have defined specific and strategic recommendations with practical actions following all my research, analysis, questioning, reading, etc. I am convinced that each of these recommendations will be of benefit to all companies wishing to introduce the use of artificial intelligence to better understand and target their consumers, as well as to anyone interested in this subject.

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