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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

The aim of my thesis is to evaluate the impact of the use of Artificial Intelligence on consumers in order to be able to define whether the use of this new type of technology can be an advantage and to know the opportunities to improve the use of AI through customer service in different companies. The perfect example of companies that could use this thesis to improve their skills in the area of Artificial Intelligence related to customer behaviour are companies that have already started to use Artificial Intelligence or companies that want to use AI through different processes to obtain information and as a result are able to find a way to satisfy their customers by knowing their needs and expectations.

To achieve these objectives, I carried out a large amount of research, using qualitative methods in the form of a case study. The theoretical part focused on the basic information needed about Artificial Intelligence over the last few years up to now and for the future and the important knowledge to have to understand this specific subject. I then mention the importance of the consumer in today's businesses and propose a way of creating a real link between two key elements in 2023: consumers at the heart of businesses and artificial intelligence.

As a result of all this research, I've learnt and understood a lot about the impact of continued investment in artificial intelligence on consumer behaviour. First, artificial intelligence is a key technology in our society today, constantly evolving and enabling more and more things. It's a powerful tool with its own advantages and disadvantages, but one that is used by many people and businesses. Thanks to its speed and power, it allows users to save time on certain tasks and, for some, to save money. Then I understood the importance of customers and consumers in a company in 2023. They're not just someone who buys a product or a service, they're also a source of data and advertising.

In the end, this ongoing investment in artificial intelligence means that we can get to know the consumer better thanks to the data we collect using this technology, enabling companies to target their customers more effectively and thus improve customer satisfaction. As mentioned above, a satisfied customer is a source of advertising and money. However, we mustn't overlook the fact that it's complicated to create a real relationship with a customer through AI because, for the moment, it doesn't have feelings.

CONTENTS

1 INTRODUCTION

Artificial intelligence (AI) is one of the most influential technologies of our time, offering unprecedented possibilities in different fields. In our society, analyzing the impact of AI on consumer behavior is of crucial importance. That is why I think it is important to explore in this thesis the effects of AI on consumer buying habits, preferences, and expectations, aiming to better understand how businesses can use this technology to create added value for their customers.

As a student of marketing, business management, and international business, and someone really interested in everything related to innovation, this topic is highly relevant to me. Not only something aligns with my studies, but it also represents an incredibly interesting subject that I have extensively researched. Furthermore, considering my interest in digital marketing and my professional aspirations in the field, I believe that this thesis will allow me to improve my knowledge and enhance my expertise in this evolving domain.

I have decided to structure this thesis 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. In this part, I will also analyze different marketing tools using AI and used in today companies, highlighting their influence on consumer decision-making (behavior) and the way of AI tools is influencing and molding the future of digital marketing strategies.

Concerning the second part, I decided to concentrate specifically on consumers. In this way, I will try to understand the importance of customer service in today companies, consumers opinions regarding the use of AI by brands to understand if there is a way to create a real connection (loyalty) with customers through Artificial Intelligence. To achieve this, I will do different kinds of research, mostly on the Internet by reading articles and comments written by consumers, with the purpose of making professional and relevant recommendations to potential companies who might be interested in reading this thesis.

In conclusion, the impact of AI on consumer behavior is a deeply engaging topic that aligns a bit with my studies but mostly with my personal interests. This thesis has as objective to deeply understand the interaction between AI and consumers by providing professional and valuable insights to businesses to have an idea to forge relationships and enhance customer loyalty by using AI. By reading the following pages of my thesis, you will be invited to explore the diverse dimensions of this captivating relationship between AI and consumer behavior.

2 PURPOSE & OBJECTIVES

Through this chapter, I'd first like to highlight the purpose I'm trying to achieve through this thesis. To achieve the purpose of my thesis, I need to document myself on the different various points because I am not (yet) a professional in this field, which is also evolving every day and on which I am constantly documenting myself to learn as much information as I can. 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 my thesis is to analyze the impact of continued investment in artificial intelligence (AI) on consumer behavior. Through all the research I did, the objective is to clarify a timely topic that holds significant importance in contemporary society. The utilization of AI has become more than common in businesses and it's important to know that 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. What I want is to conduct a comprehensive analysis of the impact of the investment in 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 main goal of this thesis is to provide recommendations based on rigorous research that I did and all the analyses of the data I founded. I aim to assist companies, whether they are already utilizing AI or not, in understanding how to ethically and effectively use 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 goal of my 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 improve customer loyalty and their relationship with consumers. Through rigorous research and analysis of collected data that I did, this study has to identify the opportunities and challenges associated with AI usage.

As a researcher, I have to formulate 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 propose in this thesis are based on rigorous research and a comprehensive analysis of the data I have collected. I will focus on the ethics and effectiveness of using AI, highlighting the importance of respecting consumer privacy, and delivering relevant personalized experiences. All this while identifying opportunities for value creation and potential challenges, I will propose specific recommendations to guide companies in the responsible adoption and implementation of AI.

This thesis is not only a thesis that I have to write to conclude my bachelor's studies, but also a personal accomplishment because it will allow me to deepen my knowledge on a subject of a great interest. The results and conclusion of this research are beneficial both for my studies but also for my future professional life. By acquiring in-depth expertise on the impact of AI on consumer behavior, I believe I can be better prepared to address new challenges and seize opportunities in a rapidly changing world.

3 PROBLEM SETTING AND CONCEPTUAL FRAMEWORK

In this chapter, I will start with my primary research question, which serves as subject for my thesis. Regarding the sub-chapter questions, I formulated them during my review of the literature, guided by the identification of crucial elements. This approach has provided me a clear way of organizing the essential information I want to discuss throughout this thesis.

Subsequently, in this chapter of my thesis, you will observe that I have structured all the pertinent information into a conceptual framework, a schematic representation of the interrelation of my ideas.

Research problems:

Main research question:

A.   How using 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 the continued investment in Artificial Intelligence (AI) affects consumer behavior and satisfaction. I will

investigate the different ways in which AI is used in marketing and customer service, and how consumers perceive and interact with these kinds of technologies.

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

- Analyse the history of AI

- Examine the various types of AI used in business.

- 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 behaviour by identifying gaps in existing research and suggesting avenues for future studies.

Ultimately, by doing this thesis I have 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 and loyalty.

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:

- 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 other sectors, but that does not mean that my thesis cannot remain current and relevant for a long time.

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)
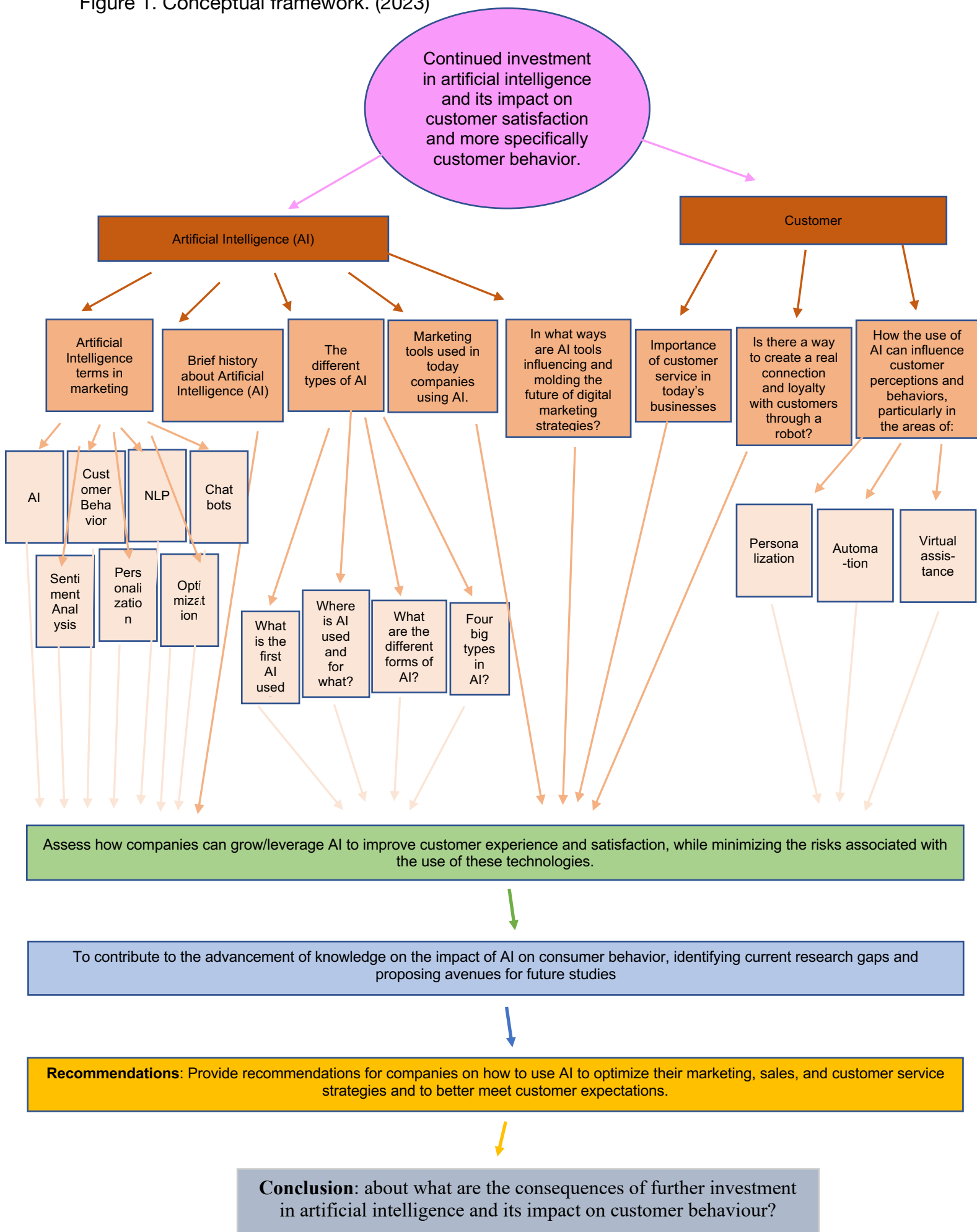
4 RESEARCH APPROACH, METHODOLOGY, AND IMPLEMENTATION

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 and Quantitative Research

In a thesis, qualitative and quantitative research are two different research methodologies that we can use to collect data and analyze it.

Qualitative research, we focus on exploring and understanding complex phenomena, such as people's thoughts, feelings, experiences, and perceptions, by using "words" data. Qualitative data can be collected through methods such as interviews, focus groups, observations, internet, and case studies. Qualitative analysis involves the interpretation of the data collected, and the researcher often uses their own subjective judgement and personal insights to make sense of the data. (Hämäläinen T., 2016). This research methodology will be the one that I will use mostly through my thesis.

Quantitative research, on the other hand, focuses on the collection and analysis of numerical data to test hypotheses and quantify relationships between variables. To use this type of research, we usually use surveys, experiments, and statistical analysis to collect and analyze "numbers" data. The objective of quantitative research is to provide measurable and objective evidence to support or refute a hypothesis. (Hämäläinen T., 2016)

It depends on what kind of thesis you write but in most of the cases, it's 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)

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. In this case, I will only do qualitative research for my thesis. (Bryman A., 2015)

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 plan to use. In the case of my thesis, it will be more a qualitative research method. The objective that I will reach by using these research methods is, of course, that at the end, this document will be a document that can help companies through my recommendation's conclusion and analyses. Therefore, it is important for me that I include good sources to write it in an academic and professional way.

I will start my thesis by doing a lot of research using search engines such as Google and Safari to obtain as much pertinent data as I can. After collecting all those data, I will filter each piece of information that's relevant to my writing according to its source.

Secondly, to improve my data, I will have a look to other past thesis concerning AI and customers written by students. By doing this, I will obtain additional information such as theoretical notions. In this case, it's not a problem by looking to past works because it's for information who didn't change during the past years. For this, I will base myself on Theseus platform recommended to me by my university, Satakunnan ammattikorkeakoulu (SAMK).

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, websites, etc. This will help to support the arguments in my chapter on the consumer, as well as in my recommendations.

Finally, to finish this part of my thesis, I'd like to point out that I'm going to use Chat-GPT sometimes to improve and obtain a sustained vocabulary in my thesis so it will be a more professional document. I'm doing this because I would like that this document 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.

5 ARTIFICIAL INTELLIGENCE (AI)

When approaching a subject such as the one I have chosen to cover in my thesis, I find it necessary to begin my chapter with the important and most used notions of artificial intelligence. It seems to me that it is important to understand this in order to be able to follow all the elements that I am going to discuss throughout this work. Then I'll briefly explain the history of artificial intelligence, which has been around for so long. And to finish this chapter, I'll talk about the different types of artificial intelligence that exist today in 2023 and the marketing tools using AI that are used in the marketing sectors of companies today.

5.1. Artificial Intelligence terms in marketing

In this first part of the chapter on artificial intelligence, I will explain the important terms related to artificial intelligence (AI) in the field of marketing. I think it is important to know and understand these concepts before starting to read a thesis on the subject of "The impact of continued investment in artificial intelligence on consumer behaviour":

Artificial Intelligence
Artificial intelligence (AI) is a field of computer science that focuses on the creation of machines capable of performing tasks that generally require the intervention of human intelligence, such as perception, reasoning, learning, decision-making and natural language processing. AI algorithms and systems can be designed to simulate cognitive functions associated with human intelligence, such as problem solving, pattern recognition and decision making. (Schroer, A, sd)

As a result of my research, I have managed to identify different types of AI, from basic rule-based systems to advanced machine learning and deep learning algorithms. Rule-based systems use pre-programmed rules and

decision trees to perform specific tasks. Machine learning involves training algorithms on large datasets to learn patterns and make predictions. Deep learning is part of machine learning that uses artificial neural networks. These neural networks are used to model and solve complex problems. (Schroer, A. sd)

AI technologies are used in many different ways, such as image, voice and natural language recognition, autonomous vehicles, robotics, virtual assistants, and predictive analytics. It also depends on the sector of activity. For example, in marketing, AI can be used to analyse customer data and behaviour to personalize marketing messages, customer engagement and conversion rates. In healthcare, AI can be used to diagnose diseases and develop personalized services. In finance, AI can be used to detect fraud and optimize investment strategies. In other words, AI is used everywhere in today's society and is a powerful tool for improving business performance. (Schroer, A. sd)

While AI has the potential to revolutionize many sectors and improve our lives in many ways, it also has some downsides and poses ethical and social challenges, such as job losses, prejudice, privacy, and liability. As we know, AI continues to advance every day, so it is important to know before and during its use, its potential benefits, and risks, and to develop ethical frameworks and regulations to ensure that it is used responsibly and beneficially. (Schroer, A. sd)

Customer behavior

Customer behaviour in marketing refers specifically to the actions and decisions that customers take when they interact with the products or services offered by a company. This includes two processes, both the cognitive and emotional processes that influence customers' decisions, as well as the physical actions they take when they decide to make a purchase or engage with a brand (Radu, V. 2023).

There are many different factors that influence customer behaviour, such as personal needs and preferences, social norms and values, cultural context, past experiences, marketing messages, etc. For all businesses, it is very important to understand the behaviour of their customers. It is by doing this that they can develop effective marketing strategies that resonate with their target audience and stimulate customer engagement and loyalty. (Radu, V. 2023). There are many ways in which companies can develop effective marketing strategies. I will also explain how a company can develop these skills through this thesis.

In marketing, customer behaviour is mainly analysed using market research methods, such as consumer surveys, focus groups or observational studies. By analyzing this data, marketers can gain insights into the motivations, preferences and needs of their customers, and use this information to develop their marketing campaigns and product offerings to improve the customer experience. In this case, one of the best ways to do this is to use personalization, as it specifically shows the customer that the company has understood what they are looking for or interested in, and therefore has a greater impact on the consumer. (Radu, V. 2023)

There are different types of consumer behaviour that are analysed in marketing, across these we find buying behaviour (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' buying decisions) and customer engagement (e.g. how customers interact with a brand, such as social media, customer service and advertising). (Radu, V. 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. (Indurkhya, N., & Damerau, F. 2010) & (OpenAI, 2023)

NLP performs many tasks. These include language translation, sentiment analysis, speech recognition, text summarization, question answering, etc. All these tasks are performed in a relatively similar way. All these tasks are performed in a relatively similar way, by analyzing and processing large quantities of linguistic data using various techniques (machine learning, deep learning, and statistical analysis). (Indurkhya, N., & Damerau , F. 2010)

The link between NLP and AI is very simple: NLP is a sub-field of AI that focuses specifically on natural language. NLP enables computers to understand and communicate in human language. It can therefore be said to play a crucial role in the development of AI systems capable of interacting with humans in a more natural and intuitive way. This has many applications in various fields, including health, finance, education, and customer service. (Indurkhya, N., & Damerau , F. 2010)

Chatbots

Simply defined, a chatbot is a computer programmer that acts like a human in a conversation. This tool understands and responds to written or spoken messages, enabling users to interact with computers or other digital devices as if they were talking to a real person. Chatbots can be very basic but at the same time complex, answering all types of questions (simple and advanced). These chatbots are virtual assistants that learn and improve over time to provide more personalized answers by collecting and analyzing information. (Oracle, sd)

As you now know, chatbots are computer programmers that use artificial intelligence to process and respond to different types of requests. There are different types of chatbots. I've decided to highlight the two main types:

- Task-oriented chatbots: These have a specific objective, such as answering common questions or managing simple transactions. They follow rules and some linguistic processing to provide automated responses. They are commonly used for support functions.

- Conversational chatbots: These are more advanced and personalized. They understand context, learn from interactions, and predict user needs. These virtual assistants can provide recommendations and enable more interactive conversations.

Advanced chatbots can connect different task-oriented chatbots and combine their information to perform tasks while maintaining context. (Oracle, sd) & (OpenAI, 2023)

Over the last few years, we've seen a marked improvement in chatbots. Every day, they are becoming more and more popular due to their ability to provide fast, personalized customer service, manage routine tasks and requests, and automate various business processes. (Sundstrom, A., 2023). During my research, I identified 4 sectors in which chatbots are used extensively: e-commerce, healthcare, banking, and travel.

Figure 2: Global ChatBot Market 2022-2032 (Market US)
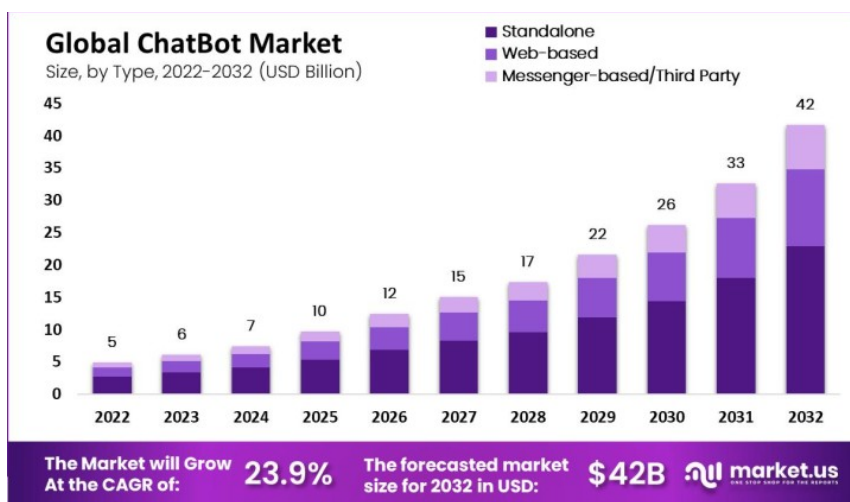
The importance of chatbots in AI is in their ability to improve human-computer interaction by providing a more intuitive and efficient means of communication. By taking advantage of NLP and machine learning, chatbots can learn from interactions made by users and thus improve their responses over time. This improves the customer experience and increases the efficiency of various business operations. (Brush, K., sd)

In addition, chatbots operate 24 hours a day, 7 days a week, reducing the need for human intervention and providing round-the-clock assistance to customers. Companies that use this tool save money while improving customer satisfaction. Many companies use it to provide optimum customer service or for questions about their website. If questions asked by customers are too complex or require a relationship with a human, the chatbot will redirect the person directly or later. (Brush, K., sd)

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)

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)

Sentiment analysis is used to determine whether a piece of text expresses a positive, negative, or neutral sentiment. This is done by analyzing various linguistic characteristics of the text, such as the use of words (positive or negative), the intensity of the emotions expressed and the context in which the words are used. (Iglesias, CA, Sánchez-Rada, JF., Vulcu . G., Buitelaar , P., 2017, p. 49, chapter 4)

Sentiment analysis is applied in many different areas, including marketing, customer service and product development. For example, companies use sentiment analysis to track customer feedback and opinions about the products or services they offer and use this information to improve their offerings and customer satisfaction. (Roldós, I., 2020)

Overall, sentiment analysis is an important application of AI as it allows businesses to better understand customer opinions and preferences and then make data-driven decisions based on this information.

Sentiment analysis is important for several reasons:

- Customer satisfaction: It is important to understand how customers feel about a product or service so that you can tailor your advertising campaigns to improve customer satisfaction. Sentiment analysis helps companies to identify areas where they need to make improvements, and to make the necessary improvements to their products or services to meet customer expectations.

- Reputation management: Sentiment analysis can be used to monitor sentiment towards a specific brand or topic on social networks and other online platforms. In addition, this tool offers the possibility of reacting quickly to negative sentiment and taking the necessary steps to protect their brand's reputation.

- Marketing: In terms of its use in corporate marketing, this tool enables companies to understand the preferences and opinions of their target audience and to create targeted marketing campaigns.

- Product development: Sentiment analysis can help companies collect and analyse customer feedback on their products or services and use this information to develop new products or improve existing ones.

- Competitive analysis: Sentiment analysis can be used to compare consumer sentiment towards different brands or products in the same market. By doing this, companies can identify areas where they can improve their offerings to remain competitive.

Overall, sentiment analysis is an important tool that can help businesses at many different levels. It allows them to better understand their customers and improve their products, services, and overall reputation. In addition, it enables companies to make data-driven decisions that are more likely to lead to increased customer satisfaction and business success. (Kanade, V., 2022)

Personalization

personalization in AI refers to the use of machine learning algorithms and data analysis techniques to deliver experiences and recommendations specific to individual users based on their preferences, behaviour, and interests. These are known as personalized campaigns. Another tool used to achieve good personalization is predictive analysis. Predictive analysis is a technique that

involves using statistical algorithms and machine learning techniques to analyse customer data and make predictions about future consumer behaviour.

personalization in AI is used by businesses to improve customer satisfaction, loyalty, and experience, but also to increase sales, revenues and gain competitive advantage. Through my research, I have identified a number of reasons why companies are using AI as a personalization tool:

- Improved customer experience: personalization allows businesses to deliver tailored experiences to individual customers, leading to improved customer satisfaction and loyalty.
- Increased engagement: This way of offering a personalized service such as personalized recommendations and/or experiences increases user engagement and encourages customers to spend more time on a company's website or app.
- Improved conversion rates: Using personalization to delight the customer is an investment on which a business can see a significant return as it increases the likelihood of customers making a purchase. This is because a company presents products or services that are better adapted to the interests and needs of their consumers.
- Better data insights: Personalization generates valuable information about the behaviour and preferences of individual users. All this information is then used to improve products, services, and marketing campaigns.
- Competitive advantage: Personalization gives businesses a competitive edge by creating a unique, personalized experience that sets them apart from their competitors.

In conclusion, personalization through AI is important. It is an effective way for businesses to increase customer satisfaction, experience, engagement rates and conversion. Taken together, these elements provide a competitive advantage. (Atul, J., 2022)

Optimization

As you may have guessed by now, artificial intelligence is not just a tool used to improve customer satisfaction or experience. It is also used to optimize advertising/marketing campaigns. Optimization is the use of AI algorithms to optimize marketing campaigns and improve customer engagement and conversion rates.

Machine learning optimization is the process of making a machine learning model more accurate by reducing its errors. The model is very simple, learning from training data to make predictions on new data. The aim is to minimize the difference between predicted production and actual production. (Castillo, D., 2021) & (OpenAI, 2023)

Artificial intelligence (AI) is revolutionizing marketing by offering innovative ways to optimize efforts and achieve better results. Here are some of the ways AI can be used in marketing that I identified in my research and thought important to highlight in this chapter:

- Predictive analytics: AI-powered tools analyse data to identify patterns and opportunities for targeted marketing campaigns based on customer behaviour.
- Personalization and recommendations: AI algorithms analyse user behaviour. The aim is to then provide personalized product recommendations and content suggestions.
- Social media monitoring and sentiment analysis: Some AI-enabled tools have the ability to track social media conversations, brand mentions and sentiment to support social listening and data-driven decision-making.
- A/B testing and optimization: AI-based A/B testing tools evaluate multiple variables simultaneously to optimize marketing campaigns to increase conversion rates.
- AI-powered visual content creation: AI-powered graphics tools facilitate simple design tasks, such as generating visuals based on collected data (from social networks, customer feedback, etc.), saving designers time.

- Email marketing optimization: AI tools analyse email marketing data to optimize campaigns, including subject lines, content, and delivery times.

- Chatbots for customer support: AI-based chatbots answer customer queries, provide instant assistance, and guide visitors through websites 24/7 without requiring the effort of a human. Of course, if the question is too complex and requires human intelligence, the AI will redirect the customer to a company employee.

In conclusion, the strategic use of AI can help companies to improve their effectiveness and efficiency and take advantage of these applications to enhance their brand image, remain competitive and optimize their marketing initiatives (Masson, T., sd). (OpenAI, 2023)

Understanding each of these terms is important if we are to explore the impact of AI on customer behaviour and its implications for marketing strategies. There are of course other terms that will need to be understood, these will be explained throughout my thesis if I find them necessary.

5.2.   Brief history about Artificial Intelligence (AI)

Artificial intelligence (AI) is a sixty-year-old discipline that aims to imitate the cognitive abilities of human beings. It was conceived in the aftermath of the Second World War and is closely linked to developments in computer science. It has enabled computers to perform complex tasks that could only be done by humans. However, some experts consider that current automation is far from being strictly human intelligence, which makes the term "artificial intelligence" open to criticism. The aim of AI research is to develop "strong" AI, capable of contextualizing specialized, complex, and very different problems in a totally autonomous way. Achieving this goal would require progress in fundamental research. Since 2010, the rise of AI has been driven by significant improvements in computing power and ease of access to huge amounts of data. The promises and concerns surrounding AI make it difficult to understand this phenomenon objectively, but a brief historical review can help to situate the discipline and shed light on current debates. (Council of Europe, sd) & (OpenAI , 2023)

Between 1940 and 1960, AI was strongly influenced by technological developments and the desire to understand how to make machines and organic beings work together. Norbert Wiener, a pioneer of cybernetics, wanted to combine mathematical theory, electronics, and automation into a "global theory of control and communication, both in the animal and in the machine". Subsequently, in 1943, Warren McCulloch and Walter Pitts had the idea of developing a first mathematical and computer model of the biological neuron. In 1950, Alan Turing and John Von Neumann demonstrated that our contemporary computers were universal machines, capable of executing whatever was programmed into them. In addition to his demonstration, Turing also raised the question of whether a machine could be intelligent (BootstrapLabs, 2017). The term "AI" is said to have been coined by John McCarthy of MIT, and Marvin Minsky of Carnegie-Mellon University. They are said to have defined the term artificial intelligence as "the construction of computer programs that perform tasks that are, for the time being, performed

more satisfactorily by human beings". In 1956, an event was held that has been dubbed the founding conference of the discipline of AI. (Council of Europe, sd)

5.3. The different types of AI

Throughout this chapter, I feel it is important to inform the reader that in recent years, artificial intelligence (AI) has become a revolutionary or at least key technology for many businesses. 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, offer new products and services, and enhance the user experience.

During my research, I realized that there are different types of AI that companies can use, each with their own advantages, disadvantages, and limitations. In this chapter, I'll explore and briefly explain the different types of AI most commonly used in business and look at how these technologies can be applied to solve real-world problems as well as the issues involved in 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 replace human intelligence for certain tasks. The first studies into 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., sd .)

b) Where is Artificial Intelligence used and for what?

AI is used in many fields, including health, finance, security, communication, environmental management, transport, marketing, and many others. Its role is to process large quantities of data, make complex predictions and analyses, optimize system performance, automate repetitive tasks and improve human-machine interaction. In other words, to perform the 'repetitive' tasks normally carried out by human intelligence. (Sansonetti, J., sd)

Machine learning is an evolution of AI. Unlike traditional AI, which could only reproduce repetitive tasks, machine learning allows the machine to learn like a human from the data it receives, to refine its responses and its areas of expertise. Learning algorithms are the key to this technology. (Sansonetti, J., sd)

Deep learning, on the other hand, is an even deeper part of machine learning, enabling the machine to analyse concepts more accurately. Deep learning is made up of multiple layers of data. By combining the data found in these different layers, the machine can propose a very precise response to the user. Deep learning is used in facial recognition, voice recognition, machine translation and many other fields (Sansonetti, J., sd).

In short, Artificial Intelligence is evolving daily, enabling machines to perform tasks normally reserved for human intelligence. There are many areas of application for AI, and these are not about to diminish as technologies evolve to enable increasingly precise and complex performance. Machine learning and deep learning are both technologies that enable 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., sd .) & (OpenAI , 2023)

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

Artificial Narrow Intelligence (ANI) is a form of AI that has been created to solve very specific tasks. These include technologies such as facial recognition and internet search. It is important to know that these machines have limits and are programmed to perform a specific category of actions. (Sansonetti, J., sd). Although these machines are highly intelligent, we are not yet at the point where they replace human intelligence. They simply imitate human behaviour (Escott, E., 2017).

Artificial general intelligence (AGI), or strong AI, is another form of AI that could mimic human intelligence and reproduce human thought and behaviour. This

technology has not yet been perfected, but scientists are working on it (Sansonetti, J., sd). To create a powerful AI that is as close as possible to a human being, scientists will have to succeed in creating software that enables the machine to be transformed into a conscious object via complex cognitive networks. The difference between ANI and AGI is that AGI would not simply be limited to a specific task but would be capable of learning and adapting to different types of tasks. In other words, it is no longer imitating the human brain, but understanding it and recreating it artificially. (Escott, E., 2017)

Artificial superintelligence (ASI) is a form of AI that currently only exists in science fiction films. This technology is presented as something superior to human knowledge and physical capabilities. While some see the idea as revolutionary, others see it as a danger to human survival. Research into ASI is limited because we do not have complete knowledge of human cognitive abilities and because unknown parameters could present major risks to humans if ASI were created (Escott, E., 2017) & (OpenAI, 2023)

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

Through my research, I have identified four main types of artificial intelligence. Each type is different in its level of sophistication and functionality.

Two AI that exist now:

1. Reactive AI is the first stage of artificial intelligence. Unlike machines with limited memory and "theory of mind" machines, their purpose is simply to repeat specific actions for which they have been programmed. (Marr. B., sd) These machines can respond to specific requests within a limited range with a minimum of intervention. Famous examples in this category are Deep Blue, the IBM supercomputer that plays chess, and the Netflix recommendation engine (Sansonetti, J., sd).

2. Limited memory AI is the second type I have identified and is undoubtedly the most prevalent type of AI today. This type of AI learns from past observations and experiences to make predictions and perform complex tasks. (Sansonetti, J., sd). A first example is

autonomous vehicles, which use AI with limited memory, they observe the speed and direction of other cars to make them safer on the roads. Another common example that uses this type of artificial intelligence is image recognition, where it can name objects and recognize them in an image that it analyses. It should be noted, however, that AI with limited memory is, as its name suggests, limited. This means that it is not capable of storing information in its long-term memory. (Marr. B., (nd))

Two AI that aim to arrive in the future:

1. The third is Theory of Mind AI, which is not yet on the market but is at the heart of the research and objectives of researchers and engineers today. (Sansonetti, J., sd). This AI would enable us to have a thought process like that of humans, because it would enable us to have feelings, innovative ideas and make decisions. In other words, it would be the equivalent of humans in terms of understanding and action. Although there are still challenges to be overcome to achieve this type of AI, we are making progress with robots such as Kismet and Sophia. (Marr, B., (nd))

2. The fourth type of AI, undoubtedly the most advanced, is self-aware AI. Its particularity is that it will have a level of consciousness and intelligence like or higher than that of human beings and will therefore be able to make deductions about their emotions and mental states, and will also have desires, needs and emotions. (Sansonetti, J., sd). This AI is, as mentioned above, a future AI because researchers have not yet developed the hardware or algorithms needed to support this type of Artificial Intelligence. It raises many ethical questions for researchers and scientists. Today, this type of AI is real science fiction, existing only in books and on screens. (Marr, B., (nd))

→ Pros & Cons of AI

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

- Availability: this is a key element because AI is a tool that works continuously, unlike humans, offering a constant quality of work. The good thing about this is that AI always guarantees high productivity, without requiring additional human resources or overtime. (Indeed editorial team, 2022)

- Accuracy: AI is automated, which means less chance of error, or high accuracy in assigned tasks, minimizing the risk of error. This is beneficial for all detail-oriented roles and even in medical applications, such as surgical simulations and radiosurgery. Once programmed, these machines operate with a high degree of consistency, and even more so for repetitive tasks. By performing these repetitive tasks, AI enables humans to save time by allowing them to concentrate on work that requires advanced thinking and collaboration. All this results in improved job satisfaction. (Indeed editorial team, 2022)

- Consistency: AI has an extreme facility for processing large volumes of data accurately and consistently in a very short space of time. AI is based on rational thought and can therefore analyse a situation quickly and objectively, using a large amount of data to determine the best possible solution. In addition, AI machines can contribute to missions that could prove dangerous and put human lives at risk (mine clearance, bomb defusing, space exploration, etc.), thereby increasing the chances of success (Indeed editorial team, 2022).

- Multitasking: One of the special features of AI is its ability to perform different tasks at the same time. While humans have limits in their ability to perform several tasks at once, AI machines can run many programs simultaneously and with great precision. This allows humans to concentrate on tasks that require human intervention, such as in-depth research and analysis, thus saving time (Indeed editorial team, 2022).

- A final advantage that I identified and wanted to highlight is that AI can adapt to each iteration, enabling new innovations in each sector that contribute to improving current work processes and solving complex problems. AI is a source of training in a number of areas. Importantly, it is driving change in the workplace, as advances in AI technology encourage working professionals to contribute in a more meaningful way. (Indeed editorial team, 2022)

In summary, the benefits of AI include availability, accuracy, consistency, efficiency, risk-taking, multitasking and scalability. Taken together, these benefits contribute to increased productivity, improved job satisfaction and the resolution of complex problems in a variety of sectors.

Disadvantages (Cons):

As we have seen above, AI has many advantages, but it is important to be aware of its disadvantages to ensure that it is used effectively and correctly. Businesses and professionals need to be aware of these drawbacks when thinking about maximizing the benefits of AI and getting ahead of their competitors. Here are some of the potential problems with AI that I have identified:

- Job losses: Because AI can automate repetitive tasks previously carried out by humans, we have seen considerable job losses in certain sectors and positions. If we were to think of a solution to this problem, it would undoubtedly be that working humans may have to acquire more advanced skills and knowledge to create and exploit AI. (Indeed editorial team, 2022)

- Functional limitations: digital assistants are not yet like humans; they lack certain things. Among these, emotional depth is one of the things they lack, and this can limit customer satisfaction. The intervention of a human is therefore often necessary in certain situations. What's more, today's AI can only react based on past learning and cannot deduce future actions, which limits its ability to perform random/unexpected tasks beyond its programming. (Indeed editorial team, 2022)

- Cost requirements: AI can be very expensive to develop and maintain due to its high complexity and the need for daily improvement. (Indeed editorial team, 2022)

- Data security: The use of AI requires the use of a lot of data, and even more so when AI is working on personalization to the customer. Like all software, computers, etc., these are at risk from external threats such as hacking and viruses, which could lead to the disclosure of private data, unauthorized access to personal information or even medical diagnostic errors. (Indeed editorial team, 2022)

In conclusion, AI is not particularly problematic; there are many benefits to be had. However, it is important to be aware of the potential pitfalls of AI, including job losses, functional limitations, cost requirements and data security issues to ensure its effective and correct use in the workplace. By addressing these potential issues, businesses and professionals can maximize the benefits of AI while minimizing its negative impacts.

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

In this part of my thesis, I will explain more about the era of technology, where companies are using AI marketing tools to revolutionize their strategies and stay one step ahead of their competitors. (IBM, sd). These sophisticated software applications mainly use machine learning algorithms to automate marketing tasks and analyse customer data from various sources such as social media and email. These tools provide a better understanding of customer behaviour, preferences, and trends, enabling them to create personalized marketing strategies that connect with their audience. (Question Pro, sd)

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

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 market data and trends. The aim of these tools is to create marketing strategies capable of predicting buyer behaviour and staying one step ahead of the competition. (Mileva, G., 2023)

In today's society, AI marketing tools have become increasingly popular in modern businesses, and for good reason - they can have a significant impact on a company's marketing strategies and overall business success. (Question Pro, sd). One of the most widely used AI marketing tools is the customer relationship management (CRM) system. This tool uses AI-based algorithms to analyse customer data to predict behaviour and personalize interactions. By analyzing data such as purchase history, browsing behaviour and customer feedback, CRM systems can provide companies with information on how best to interact with customers and personalize their interactions. (Sales Force, sd)

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

As you probably know, each of the tools mentioned above is a general term and many companies have created real working tools by creating applications and software with different characteristics. I would therefore like to mention below some examples of software/applications that companies use as tools.

Example of famous marketing tools used in companies:

A) The first known application is a planning application. Planning is one of the most important parts of a marketer's job. The application is called Trello. It's a digital tool that allows you to organize your tasks optimally by breaking them down into smaller steps and assigning them to different team members. It's not easy to use at first, but as you become more familiar with it, you'll discover its flexibility and capabilities. (Marketing tools: 5 essentials to make your life easier, (nd))

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.))

C) The next application I would like to highlight concerns display advertising tools. In this case, it's all about being able to publish

> advertising campaigns at the right time, in the right format, quickly but competently. The name of an example of software that does this is Bannerflow. It's an incredibly powerful tool, but easy to use. It's all in HTML5 and it only takes a few minutes to scale campaigns" (Bannerflow, sd)

D) The last software I'll be talking about in this part of my thesis is software that deals with marketing content. As you know, the basis of marketing is to highlight and present to others what a company does. In other words, it's about creating visibility. There are many ways of creating visibility, but these days, one of the major tools for doing this is social networking. An example of software to do this is the Contently application (Bannerflow, sd).

Working with AI in marketing offers significant benefits, such as the ability to quickly analyse data, personalize marketing efforts and automate repetitive tasks. This translates into efficiency, increased accuracy, savings in time and money, and better engagement and conversion rates. (Morris, O., n.d.) There are, however, disadvantages: it requires a significant initial investment, there may be problems with data confidentiality, and it is difficult to create emotional links with customers. Overall, AI marketing tools are essential for companies to optimize their marketing efforts and increase customer engagement, loyalty and revenue growth. (Question Pro, sd)

In conclusion, today many companies have integrated these kinds of tools into their way of working. It is certain that the use and improvement of these tools will continue to improve in the years to come, given the benefits they bring.

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 sectors, digital marketing being one of them. In recent years, AI tools have become increasingly popular in the world of digital marketing, with companies using them to better understand customer behaviour and preferences, automate tasks and optimize their campaigns. These various tools allow marketers to create more personalized and relevant experiences for their customers, leading to increased engagement and conversions. (Onpassif, 2021)

Artificial intelligence (AI) is rapidly transforming the world of work, with AI revolutionizing the way marketers approach digital campaigns, from leveraging predictive analytics to improve customer segmentation to using machine learning algorithms to optimize ad targeting. (IE Uncoverie, 2023)

The use of AI tools is becoming increasingly common in the digital marketing landscape and during my research I identified several benefits that I wanted to highlight in this work:

A) One of the main advantages is the ability to collect and analyse large amounts of data from a variety of sources. Thanks to this, it is possible to obtain valuable information about customer behaviour and preferences, which can be used to create personalized campaigns and target audiences more effectively by creating precise profiles and thus tailoring their campaigns more effectively. (Onpassif, 2021)

B) AI tools help companies to automate their marketing processes, such as advertising targeting, content creation and lead generation. This reduces the workload or at least allows marketers to focus on other elements that require human intelligence. (IE Uncoverie, 2023)

C) AI has changed digital marketing in two significant ways in recent years.

- Firstly, it has made chatbots and voice assistants more accessible. This is an important element in marketing because it enables better customer support/service. The result is greater customer satisfaction and loyalty. (Onpassif, 2021)

- Secondly, AI enables data to be analysed at different levels and on different platforms and then aggregated, providing a holistic view of the data, enabling marketers to gain a more complete understanding of their customers. Based on this, marketing teams make decisions and create more effective marketing campaigns. (Onpassif, 2021)

D) The last advantage I wanted to highlight is the semantic search that AI makes possible. Semantic search allows machines to understand the contextual meaning of a user's search expressions and patterns, while incorporating their search history into the results page. The aim is always the same: to present a set of personalized results better adapted to their needs, rather than a simple list of search results. (Onpassif, 2021)

As AI continues to advance and become more mainstream in the working world, it's clear that it will have an even more profound impact on digital marketing. Understanding and leveraging the use of AI are two very important things that businesses need to do to stay ahead of the competition and create successful campaigns for their organization. (IE Uncoverie, 2023)

In conclusion, all the tools using AI are having a huge impact on the evolution and improvement of marketing in companies, giving them a competitive advantage over those that won't. (Onpassive, 2021) & (IE Uncoverie, 2023)

6 CUSTOMER

In today's fast-paced society, I believe that the importance of customers cannot be overstated. Today more than ever, I believe that customers are the lifeblood of businesses and that understanding their needs, preferences and behaviors has become paramount to success. In this chapter, I will embark on a comprehensive exploration to answer two questions that I find crucial to analyse: are customers as important as is believed in today's businesses? And is it possible to establish a real link between consumers and the artificial intelligence deployed by companies?

6.1. Importance of customer service in today businesses

In this first section of my chapter on consumers, I'd like to look at the importance of consumers in business today. This is probably not a new concept, but it has certainly become more obvious in recent years. One of the major reasons for this increased importance is undoubtedly the growing number of competitors for every business.

Above all, the obvious reason for the importance of the customer at the center of today's businesses is that they are simply the ones who buy the products and, therefore, generate the company's revenue at the same time. To make them happy, it's important to listen to customer feedback, to know what they like, what they don't like, ... Without doing this, there are no sales and without sales, a company risks facing financial crises. (Olaniyan, 2022)

Secondly, customers play a role in a company's advertising efforts. A satisfied customer is more likely to spread the word (word of mouth) in a positive way than someone who has not found a solution to their needs. According to a Nielsen study, 92% of consumers trust a company based on recommendations from friends, family, and others. This study also shows that word-of-mouth is five times more effective for a company than paid advertising. This shows how important it is for a company to prioritize customer satisfaction. (Nielsen, 2012)

Thirdly, customers provide a convenient source of feedback, helping businesses understand their likes, dislikes, and specific desires. These feedback are a way of improving various aspects, in particular the services or products offered and the company's marketing strategies. In addition, it becomes possible to determine which types of messages have the greatest impact on customers and which information channels have the greatest influence on them. (Olaniyan, 2022)

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

After extensive research into my previous sub-chapter, I was able to agree with my hypothesis of the importance of customers in today's businesses, the customer is central. Companies rely on customer feedback to grow and develop. Following on from this, I wondered whether it was possible to combine customer satisfaction and the use of artificial intelligence. The reason for this question lies in the fact that artificial intelligence is a machine, a piece of software with no emotions. Is it therefore possible to establish a loyal relationship between these two elements?

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.)

In an era dominated by the digital business environment, the influence of AI on customer relationship management (CRM) has evolved considerably in recent years. One of the reasons for this is AI's role in making customer relationships more innovative, intuitive, and effective. (Gorman, K. 2023)

The revolutionary aspect of integrating AI into CRM is not just the management of static customer databases; it introduces dynamic AI assistants that learn, adapt, predict, and facilitate interactions between companies and their customers. This is achieved thanks to the analytical capabilities that AI possesses and through which it can draw relevant information from large quantities of data to then predict trends, offer personalized experiences, and formulate effective commercial strategies. (Gorman, K. 2023)

However, it is essential to realize that the aim is not to replace the intervention of human intelligence; the aim is to enable humans to save time and avoid doing repetitive tasks that a robot knows how to do. By automating routine tasks, AI frees up human resources to engage in more strategic, relationship-building efforts. Nevertheless, this approach comes with its share of

challenges. Integrating AI into CRM is a nuanced process, requiring careful planning and tailored approaches. (Gorman, K. 2023)

The key element that's important to mention is that artificial intelligence enables a better customer experience and, in my view, will contribute more and more to this in the future. This means greater customer satisfaction, a stronger link between the customer and the brand or company (Voxco , sd).

In summary, creating a real connection between a business and its consumers through AI is currently a difficult task. However, AI can improve the customer experience in a number of ways. When consumers perceive a better customer experience, they can achieve greater satisfaction and, as a result, develop a more loyal bond with the brand or company.

Finally, now that we've realized that improving customer experience through artificial intelligence is possible, I've analysed different aspects that AI can work on to improve it:

A. The first way is certainly to continue to process large quantities of data to extract relevant information: This is an asset that AI enables and this by extracting relevant and accurate information. AI enables the collection of information based on user behaviour and trends (Voxco, sd).

B. Improved personalization: by collecting personal and precise information, AI offers companies the possibility of working on all their data with the aim of ensuring that each user receives an individualized experience based on their desires, current research, interests, and various other factors. This personalization can be transmitted by companies in the form of e-mails, advertisements on social networks, marketing texts on a website, etc. (Voxco, sd).

C. Optimization of marketing strategies: AI makes it easier to understand consumer behaviour and thus to find the relevant segment to target for marketing communications. Relevant marketing messages are more

likely to engage customers and lead to higher conversion rates (Voxco, sd).

D. Streamlining tasks and workflows: AI can streamline certain tasks and processes within a company. These are mainly tasks that are often repeated, for example, chatbots manage simple and repetitive tasks, providing customers with basic answers 24 hours a day, 7 days a week (Voxco, sd).

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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